Department
for Environment,
Food & Rural Affairs

Offshore Wind Environmental Standards – Impact Assessment

Outlined in National Policy Statement EN-3

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Any enquiries regarding this publication should be sent to us at lisa.irwin@defra.gov.uk and jade.buttifant@defra.gov.uk

Executive summary

This impact assessment considers delivering the publication of the Offshore Wind Environmental Standards (OWES) guidance, to set minimum common standards for mitigating the environmental impacts of offshore wind (OFW) farms in English and Welsh waters. This intervention is necessary to take action to support the Government's Clean Power by 2030 Action Plan and deliver part of the Offshore Wind Environmental Improvement Package (OWEIP) which aims to speed up planning and consenting times for OFW developments whilst protecting the marine environment. The OWES guidance aims to reduce extended discussion time between Statutory Nature Conservation Bodies (SNCBs) and OFW developers throughout the planning and consenting process, by providing a standardised approach to considering and applying mitigation measures which seek to avoid and reduce environmental impacts of OFW developments before they occur.

The preferred option is to introduce OWES through leasing round (LR)-specific guidance linked to the National Policy Statement for Renewable Energy (NPS EN-3). This will include a list of standardised mitigation measures targeted towards specific risks in each LR, with the first publication in 2026 targeting LR5, alongside some additional recommended best practice measures (targeted to LR5). Linking OWES guidance to the NPS EN-3 will mean that project developers will be expected to apply OWES in their Development Consent Order (DCO) applications. The Secretary of State will consider DCO applications in accordance with the OWES guidance. The OWES guidance will provide developers with a list of standards that are relevant and feasible for their projects to adhere to, whilst allowing for innovation and acceptable deviations. By doing so, the guidance will aim to embed within and support the planning and consenting process whilst ensuring the most sensitive receptors are protected in the marine environment.

Strategic case for proposed regulation

Policy background

The government has a mission to make Britain a clean energy superpower with aims to cut bills, create jobs and deliver energy security with cheaper, zero-carbon electricity by 2030, accelerating towards net zero 2050 targets. With the electricity supply responsible for 10% of the United Kingdom's (UK) greenhouse gas emissions in 2024, decarbonising the energy system is vital to deliver on the net zero objective. Decarbonisation will be delivered, in part, by radically increasing the UK's OFW capacity to meet our Clean Power by 2030 Action Plan.

The government has domestic and international commitments relating to the marine environment. These include the UK Marine Strategy (UKMS) and the Marine Protected Areas (MPA) target. The MPA target, set out by the Environmental Targets (MPAs) Regulations 2023, requires that at least 70% of protected features in relevant MPAs in

England are in a favourable condition by 31 December 2042, with the remaining features in a recovering condition.

Internationally, the UK is also a signatory to the Convention on Biological Diversity (CBD) an international treaty to ensure the conservation and sustainable use of biodiversity. The Global Biodiversity Framework of the CBD sets the 30by30 target, which includes the aim for 30% of land and sea to be effectively conserved and managed by 2030.

External and economic context

The need to deliver OFW faster, to ensure long-term domestic energy security, has been demonstrated through recent external events. The invasion of Ukraine and subsequent sanctions on Russia led to a rapid restriction in the availability of oil and gas and resulted in the increase in energy prices in the UK. The impact of these restrictions was exacerbated by the scaling back of production during the COVID-19 pandemic and the lag in scaling up once demand returned to pre-pandemic levels. This has had a significant impact on the UK economy, contributing towards rising inflation, which alongside falling real wages, has placed substantial pressures on household budgets. Conflict in the Middle East has also had an impact on energy prices. Any escalation of the conflict could exacerbate the situation, increase uncertainty, and harm gross domestic product (GDP). These external shocks have illustrated a need for greater energy security within the UK, including through the expansion of domestic OFW capacity, to mitigate the impact of any future external events on to the global energy supply.

The Planning and Infrastructure Act (2025) is part of the government's Plan for Change which includes making 150 planning decisions on major economic infrastructure projects by the end of this parliament. The Act will support delivery of the government's Clean Power 2030 target by ensuring that key clean energy infrastructure, including OFW, is built as quickly as possible.

At the same time, the importance of the environment and biodiversity agenda continues to grow. The Environment Act 2021 places a legal duty on Ministers of the Crown to have due regard to the Environmental Principles Policy Statement when making policy. Additionally, the UK's Trade and Cooperation Agreement with the European Union (EU) requires that the UK's environmental or climate levels of protection are not weakened or reduced below the levels in place at the end of the transition period in a manner that would affect trade or investment between the UK and the EU.

In recognition of the importance of nature, 196 countries from around the world came together at the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) in Montreal in 2022, to agree the Kunming-Montreal Global Biodiversity Framework. This framework, an ambitious set of goals and targets to halt and reverse biodiversity loss by 2030 and sets out a shared pathway towards the vision of a world living in harmony with nature by 2050. In England, we have set a world-leading, legally binding target to halt the decline in species abundance by 2030 and to tackle some of the biggest pressures on our environment. Our revised Environmental Improvement

Plan sets out action to meet these targets and other key commitments. The government is continuing to take action, including by ensuring the proper management of the network of 181 MPAs covering 40% of English waters.

Having hosted the UN Climate Change Conference of the Parties (COP26) in 2021, there is a strong ambition from government to demonstrate and implement solutions to the environmental and climate crisis. This has been reinforced in subsequent conferences, including COP29 in 2024, where an agreement was reached on carbon markets which will help countries delivery their climate plans more quickly and cheaply and make faster progress in halving global emissions this decade. The government used the conference to announce its new commitments to transition the UK to a net zero economy by 2035 by reducing emissions by 81%. The government published the Clean Power Action Plan in December 2024 to outline and fortify its position. OFW developments will be an instrumental subset to these commitments. However, they can also remove and/or disturb habitats, disrupt food webs and harm protected species such as seabirds and marine mammals, making it essential to consider the marine environment when expanding deployment capacity.

Offshore wind in the UK

The UK offshore wind (OFW) market has grown exponentially in the last 20 years and now hosts 41% of all European OFW capacity. 45 operating farms comprising of 2,766 turbines generate 16GW of grid-connected OFW capacity. The UK OFW pipeline remains healthy and continues to grow. However, accelerated deployment is needed to meet ambitious 2030 clean energy and 2050 net zero targets. OFW policy is wide-reaching across government, with different departments such as Department for Energy Security and Net Zero (DESNZ), Ministry for Housing, Communities and Local Government (MHCLG) and Department for Environment, Food, and Rural Affairs (Defra), working together under the Clean Power Mission to accelerate offshore wind. For example, DESNZ have been making reforms to the Contracts for Difference (CfD) scheme. The scheme is the UK government's main mechanism for supporting low-carbon electricity generation. It works by giving renewable energy developers a stable, long-term price for the electricity they produce, protecting them from volatile wholesale energy markets while also protecting consumers from overpaying. In 2025, DESNZ led on reforms to Allocation Round 7 in the CfD scheme, such as relaxing eligibility requirements, increasing the length of new CfD contracts and other contract changes to increase the uptake in the scheme. By securing investment in renewable energy at competitive prices, the reforms support wider government ambition to increase energy independence, protect billpayers, create good jobs and drive growth around the country.

OFW planning and consenting has differences across the United Kingdom, underpinned by different legislation. In Scotland, the Marine Directorate Licensing Operations Team carries out the statutory consultations processes under Section 36 of the Electricity Act 1989 through the Section 36 consenting process. In England and Wales, this statutory requirement is set out in The Planning Act (2008) and occurs through the DCO process for

Nationally Significant Infrastructure Projects (NSIP). Initiatives such as that by the Scottish Offshore Wind Energy Council (SOWEC) have been exploring how developers could go beyond existing mitigations in Scotland to maximise opportunities for nature while developing green infrastructure projects. The Collaboration for Environmental Mitigation & Nature Inclusive Design (CEMNID) project, a collaboration between OFW developers and Scottish regulators, has produced a new set of tools for the Scottish OFW sector including a 'Good Practice Mitigation Library' and a suitability review of Nature Inclusive Design measures. These offer a framework for the OFW sector to deliver projects with minimal impact and to benefit the marine environment. The report aims to provide OFW developments in Scotland with a framework to make informed decisions regarding:

- applicability of the mitigation hierarchy and good practice mitigation measures to be adopted for projects, as demonstrated by the Good Practice Library; and
- initial advice, and a framework for consideration of nature inclusive design (NID) approaches, that can be implemented by individual offshore wind projects

The Offshore Wind Environmental Improvement Package (OWEIP)

The Offshore Wind Environmental Improvement Package (OWEIP) was introduced to help deliver a significant expansion in capacity, whilst continuing to protect the marine environment. The OWEIP intends to:

- broaden the available compensatory measures for the unavoidable adverse impacts of OFW activities on MPAs through Environmental Compensatory Measure Reforms (ECMR)
- enable measures to compensate for the adverse environmental effects of OFW to be taken at a strategic level across multiple projects (rather than individual project by individual project)
- set up one or more Marine Recovery Funds (MRF) to deliver these strategic measures on behalf of developers
- take measures to support mitigation of environmental impacts, including developing OWES to set minimum standards for designing OFW projects to reduce discussion time between applicants and Statutory Nature Conservation Bodies (SNCBs) in agreeing suitable mitigation
- develop a strategic approach to environmental monitoring

Through the delivery of the OWEIP, Defra will support OFW project developers and plan promoters to avoid, reduce, mitigate, and where necessary compensate for, the environmental impacts of OFW, balancing accelerated deployment with environmental objectives.

This impact assessment considers setting minimum mitigation standards for OFW in English and Welsh waters by publishing OWES guidance, which will support the achievement of the overarching OWEIP objectives by:

- creating a set of achievable, minimum environmental standards to ensure our most vulnerable marine receptors are protected. By putting avoidance, reduction, and mitigation of environmental impacts of OFW developments at the forefront of the planning and consenting process, OWES aims to greater protect the marine environment, which could reduce the amount of compensation needed
- reducing the discussion time between applicants and SNCBs. By standardising mitigation measures through OWES guidance early on in the planning and consenting process, on issues that have historically been contentious and debated repetitively for individual projects, OWES should contribute to a smoother planning and consenting process

Offshore wind development timeline

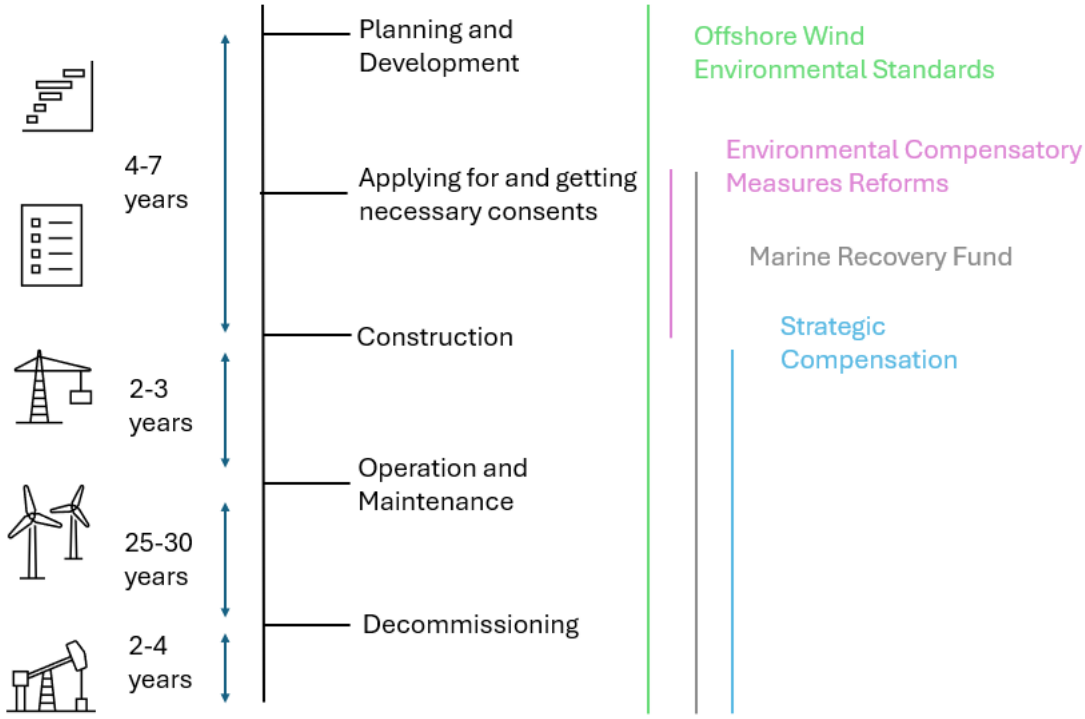
The development of OFW farms comprises multiple phases, each requiring careful planning, investment, and regulatory approvals. These stages include Planning and Early Development, Consenting and Licencing, Construction, Operation and Maintenance, and Decommissioning. A range of different regulatory bodies and stakeholders are involved in the process to ensure both the construction and operation of the OFW farm meet the requirements to avoid, reduce, mitigate and, ultimately, compensate for environmental impacts where required. The process is outlined below alongside an explanation of where the relevant regulations and policies fit in. The figures presented below are based on a report published on behalf of The Crown Estate (TCE) in June 2025. They reflect current industry assumptions for a 1GW OFW farm using 15MW turbines and updated supply chain data.

Table 1 the OFW development timeline and relevant regulations and policies.

Phase	Duration	Estimated costs (for a 1GW wind farm)	Main Activities
Planning, Development, Consenting and Licensing	4 to 7 years	£155 million	Site selection, preliminary environmental surveys, leasing, regulatory approvals, environmental impact assessment, habitat regulations assessment.
Construction	2 to 3 years	£3.3 billion	Turbine cost, turbine, installation, cable laying, grid connection, balance of plant.
Operation and Maintenance	25 to 30 years	£85 million per annum	Maintaining infrastructure, minor repairs.

Decommissioning	2 to 4 years	£426 million	Turbine dismantling, seabed restoration.[1]

Figure 1 shows the OFW project lifecycle, highlighting where OWEIP policies align with different project stages. It shows that the OWES are intended to support projects from planning through to decommissioning, whilst compensation and restoration mechanisms impact offshore wind at later stages including construction and operation:



OWEIP policies

Offshore Wind Environmental Standards (OWES)

OWES sets baseline environmental standards focussed on reducing the environmental impacts of OFW projects, streamlining early SNCB consultations and potentially reducing compensation needs. Applying OWES can reduce delays in early planning and development and applying for and getting the necessary consents.

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[1] Figures from previous 2019 guide to offshore wind report
Planning & Development: £120M
Consenting & Licensing: £150M
Construction: £650M
O&M: £71M per annum
Decommissioning: £150M

Environmental Compensatory Measures Reforms (ECMR)

ECMR is intended to create more opportunities for developers to secure environmental compensation. This will increase access to a broader range of compensatory measures including measures that benefit the overall MPA Network, also known as wider compensatory measures (WCM). ECMR will contribute towards saving time in the process of applying for and getting necessary consents, as a broader range of compensatory measures will be available.

Strategic compensation

A strategic approach to compensation enables measures that target pressures on the MPA network and supports larger-scale actions that may previously have been out of scope, including those that cannot be delivered by industry alone. The MRF has been established for England and Wales to help deliver Strategic Compensatory Measures (SCMs). At present, there are three approved SCMs: extension or creation of MPAs, construction of Offshore Artificial Nesting Structures for Kittiwakes, and Predator Reduction for ornithological compensation.

Marine Recovery Funds (MRF)

The MRF will be an optional mechanism developers can use to discharge their compensation obligation. Developers will be able to pay into the MRF, and the MRF operator (MRFO) will deliver compensation on their behalf. This will streamline the process of finding and delivering compensation, which is currently decentralised and fragmented, and contribute to speeding up the planning and consenting process. The MRFO will also be responsible for any ‘adaptive management’ if compensation does not have the expected environmental outcomes.

Problem under consideration

OFW development can have negative environmental impacts, such as through the destruction of benthic habitat from cable laying, bottom turbine foundations and anchors, or through introducing new artificial habitat to the area. Anchors, mooring lines, and inter-array cables associated with floating offshore wind (FLOW) developments also represent potential sources of seabed disturbance and associated benthic impacts throughout the construction, operation, maintenance, and decommissioning of FLOW. Seabirds are also impacted by OFW due to disturbance to their usual activity, displacement, and collision by causing a barrier to their free movement and migration. Turbine collisions form one of the most well-known impacts of OFW turbine developments (in general) on seabirds. Many seabird species are also attracted to artificial lights, which can lead to increased collision risks with the structures. The primary impact of both FLOW and fixed OFW development on marine mammals is from impulsive underwater noise. In addition, marine mammals and megafauna may be subject to entanglement related risks because of the extensive underwater mooring and cable system of FLOW. Whilst the likelihood of entanglement risks is unknown due to a lack of sufficient evidence and data, it is considered that

secondary entanglement poses the greatest potential risk to marine mammals and megafauna, especially from ghost fishing gear.

There are growing spatial constraints and competing priorities between marine users in UK waters, including balancing demands for fishing, energy security and environmental protections within the marine space. OFW farms are increasingly being developed within or around areas designated for environmental protection, which often results in environmental damage and delays to projects being consented. With the drive for more OFW development, the cumulative negative impacts of construction and operation on the marine environment will continue to increase and put further pressure on vulnerable receptors.[2] Energy infrastructure should be built in a way that protects the natural environment by following a mitigation hierarchy. The mitigation hierarchy is a framework that prioritises actions to avoid harm to biodiversity and the environment in the first instance during development of projects, only moving to delivering compensation as a last resort when damage is impossible to avoid.

It is becoming increasingly difficult to identify and agree suitable avoidance, reduction, and mitigation due to the size, cost, and cumulative impact of OFW projects. Through stakeholder engagement with the OFW industry, SNCBs and environmental non-government organisations (eNGOs), we have found that often, there are disagreements between project developers about expected environmental impacts and the most appropriate avoidance, reduction, or mitigation technique to overcome them.

In assessing all likely significant effects of a proposed development, OFW developers typically present maximum 'worst-case' design envelopes (Project Design Envelopes (PDE)). The PDE is a planning approach in which developers specify a range of design parameters, rather than a final, fixed design. The PDE are progressively restricted through the Environmental Impact Assessment (EIA) process and through consultations with other stakeholders to reduce impacts on the environment and other industries. The PDE allows for uncertainties in the design of proposed developments, such as precise turbine placement and construction methods, to be determined post-consent where flexibility may be required. However, this flexibility does not allow developers to provide inadequate descriptions of their projects. If planning authorities consider that an unnecessary degree of flexibility, and therefore uncertainty of the likely significant effect have been included in the PDE, it can lead to requests for more detail or refused consent. The more design options/methods included the PDE, the longer it takes during examination to work through the appropriateness and impacts of each proposed method/design. The Marine Management Organisation (MMO) has also identified that an overly broad PDE and over

[2] A receptor refers to an organism population or ecosystem which may be exposed to and potentially negatively affected by offshore wind development through construction, operation or decommissioning https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

precautionary assessments throughout the pre-application and pre-construction stages can act as barriers to progress.

Due to broad design envelopes combining worst-case scenarios from multiple design options, impact assessments can become overly cautious. This increases demands on regulators, complicates assessments, and leads to increased monitoring requirements. The issue is especially relevant to new technologies like FLOW (Leasing Round 5 will be the first commercial FLOW round in English and Welsh waters), where designs are very broad, varied and untested. This issue has been raised in instances where applicants have disagreed with the relevant SNCB on the impacts to a certain feature, for example fish or birds.

To date, many of the recent OFW developers constructing in UK waters have seen long extensions to the examination period and additional consent decision timeframes while mitigation and compensation is developed and agreed. There have been increasingly frequent occasions where the Planning Inspectorate (PINS)[3] and SNCBs have not been able to provide an unequivocal view of a project's approvability. In these cases, additional evidence gathering, and scrutiny has been needed by the government, extending the determination phase of the planning and consenting process. These issues have often been compounded by the parties debating adverse effects throughout the examination stage and therefore only aligning on compensation measures late in the DCO process. Notwithstanding the UK's world-leading experience in deploying offshore wind at scale, for three of the last offshore wind farms to be granted a DCO in England, the DESNZ Secretary of State has been required to conduct extensive consultations after receiving the PINS's recommendations in order to proceed with the DCO decision. This is leading to overall delays to OFW being constructed and operational and impeding the delivery of 2030 and 2050 targets for renewable energy.

In addition, under the previous government, OFW champion Tim Pick produced an independent report which notes that as the number and complexity of OFW farm applications has increased, resourcing, skills, and funding of PINS and SNCBs has not kept pace, and digitalisation of the process has been slow, further inhibiting processing speeds. The net result is that timelines from submission of a DCO application to a DCO being granted have ballooned, going significantly beyond the statutory timeframe of 18 months. No OFW DCO application has been approved within the statutory timetable (of 18 months) since January 2019.Typical timeframes from the grant of an agreement or award of a seabed lease to the Final Investment Decision (which comes after all required consents are in place and the developer is ready to start construction) have increased from approximately 5 years in the early 2000s, to over 10 years today. Whilst much of this increase can be attributed to private sector impacts, rather than just regulatory processes

[3] The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England.

related to environmental impacts, reforming OFW environmental mitigation offers an opportunity to shorten this period.

Government intervention is needed to reduce unnecessary planning and consenting delays caused by extensive discussions and disagreements over appropriate mitigation. These processes are expected to become even more strained as OFW developments increase in number, scale and complexity, with the drive to meet 2030 targets.

Rationale for intervention

A market failure occurs when the market is not operating in a way that maximises social welfare, as stated in the Green Book. Government intervention is required to address the following market failures:

Negative externalities

Negative externalities occur when the environmental costs of OFW development are not fully borne by developers and are instead experienced by wider society. Environmental impacts from OFW development can reduce the ecosystem services provided by the marine environment, including biodiversity provision, ecosystem resilience and carbon sequestration. The costs associated with these impacts are dispersed across society rather than falling directly on individual developers, meaning the full social costs of environmental damage may not be reflected in development decisions.

OFW developers are expected to follow the mitigation hierarchy by avoiding, reducing, mitigating and, where necessary, compensating for environmental impacts. However, where impacts cannot be fully avoided or effectively mitigated, residual environmental effects may remain. These impacts can affect the condition of marine habitats and species and reduce the benefits that healthy marine ecosystems provide to society.

Government intervention through OWES is therefore required to support the identification and implementation of effective mitigation measures at earlier stages of the mitigation hierarchy, helping to minimise environmental impacts and reduce harm to the marine environment and the ecosystem services it provides.

Information failure

OFW developers are aware that their activities have environmental impacts and follow the mitigation hierarchy as part of the environmental assessment process. However, developing effective mitigation measures for adverse effects in the marine environment remains challenging. Mitigation measures are often site-specific and not always based on widely tested approaches, creating uncertainty regarding which measures are most effective and what will be considered acceptable by regulators.

Inconsistent monitoring approaches and differences in the quality and availability of environmental evidence can further increase uncertainty when assessing environmental impacts. Knowledge sharing between developers is also limited by commercial confidentiality and the complexity of assessing environmental impacts across different

OFW projects, meaning information on effective mitigation approaches is not always readily available.

Government intervention is needed to improve the evidence base and provide greater consistency in mitigation, monitoring and survey requirements, enabling more informed decision-making across the sector.

Coordination failure

Effective mitigation of offshore wind environmental impacts requires coordination between developers, SNCBs, regulators and other stakeholders throughout the planning and consenting process. In the absence of a common set of environmental standards and agreed approaches to mitigation, stakeholders may have different expectations regarding mitigation measures, baseline survey requirements and monitoring approaches.

This can result in lengthy discussions and repeated negotiation on a project-by-project basis to reach agreement on acceptable approaches during the planning and consenting process. Evidence presented in the problem under consideration section demonstrates that these issues can contribute to delays and inefficiencies in examination and decision-making.

While all parties may benefit from greater consistency and common standards, no individual organisation has sufficient incentive, authority or ability to develop and implement these standards across the sector. As a result, coordination failures can persist even where stakeholders recognise the benefits of a more streamlined and consistent approach.

Government intervention through OWES would provide a common framework and shared expectations for mitigation, supporting better coordination between stakeholders and reducing the need for repeated negotiation.

Transaction costs

The information and coordination failures described above create additional transaction costs for developers, regulators and SNCBs. Significant time and resources can be required to gather evidence, assess environmental impacts, identify mitigation options and negotiate acceptable approaches on a project-by-project basis.

The absence of standardised approaches to mitigation, baseline surveys and monitoring can increase the costs associated with planning and consenting by requiring stakeholders to repeatedly assess similar issues and develop bespoke solutions for individual projects. Uncertainty regarding mitigation effectiveness and regulatory expectations can further increase the resources required to progress projects through the planning and consenting process.

Government intervention through OWES would help reduce these transaction costs by improving access to information, increasing consistency across projects and providing greater clarity regarding mitigation expectations and requirements. This would support a

more efficient planning and consenting process while maintaining environmental protections

In addition to addressing the above market failures, there is a strong rationale for intervention in order to meet strategic government objectives:

- a timely planning and consenting process is necessary to accelerate OFW projects to support the government's Clean Power 2030 mission, to meet the UK government's commitments to meet net zero ambitions and to boost energy security and domestic supply in response to global instability and rising prices
- the government has committed to balancing energy security needs with sustainable development that protects biodiversity, meaning the marine environment must be protected in the accelerated deployment of OFW. The Clean Power 2030 Action Plan sets out the importance of integrating clean power and the natural environment in the delivery of energy infrastructure

SMART objectives for intervention

SMART policy objectives

The policy objectives are to:

1. **Accelerate the deployment of OFW to meet government targets**

Allow OFW construction to continue at pace by encouraging OFW developers to effectively avoid, reduce and mitigate their environmental impacts in order to minimise the overall impact of OFW construction and as a result reduce the amount of compensation that may be required from Leasing Round 5 onwards. This should result in a smoother planning and consenting process by minimising extended discussion periods between SNCBs and OFW developers in the pre-consent stage of each OFW project. By supporting a smoother planning and consenting process, this will allow OFW developments to become operational sooner to contribute to government commitments on OFW, 2030 Clean Power Action Plan, and net zero.

2. **Protect biodiversity and the marine environment**

By supporting OFW developers to better avoid, reduce and mitigate for the environmental impacts of their projects, this will contribute to meeting the UK's environmental domestic and international commitments on the environment and climate change, including the statutory MPA target in England for 70% of protected features to be in favourable condition, with the remainder in recovering condition by the end of 2042. Environmental outcomes will be measured as part of the SNCB's MPA network reports, as well as through monitoring over the lifecycle of OFW developments. Environmental outcomes could be looked at for both plan/site level for a whole leasing round or considered on a project-by-project basis. A way of looking at

this on the project level could also be to assess the levels of compensation required for projects to offset impacts compared (using assumptions) to if standardised mitigations weren't in place. This would be assessed by looking at project applications once OWES are in place.

Indicators of success

If the policy intervention is successful it will lead to:

- a more consistent approach to the avoidance, reduction and mitigation of impacts from OFW developments for each leasing round (assessed by comparing approaches taken across projects)
- the use of mitigation measures that are effective and well evidenced, to ensure the impact on the environment is minimised and reducing compensation requirements (assessed through environmental monitoring and demand for compensation)
- DCO applications with mitigation approaches that align with government guidance and best practice.
- an improved experience for developers and SNCBs by simplifying the planning and consenting process through minimising discussion to agree mitigation measures (measured by stakeholder feedback)
- streamlined and reduced timeframes in the planning and consenting process (proven by qualitative evidence from those working on the applications)
- improved energy security, contributing to government commitments on OFW, 2030 Clean Power Action Plan, net zero and the environment
- support from key stakeholders (measured through stakeholder feedback), including the OFW industry, SNCBs and regulators

Policy objectives alignment with wider HMG objectives

Standardising mitigation to provide earlier certainty and reduce delays in the planning and consenting process for OFW developments will contribute to the government's Clean Power by 2030 Action Plan, which sets a target for OFW capacity and highlights how infrastructure can be built in collaboration with nature.

OWES will also support the government's growth mission, as potential time savings over the planning and consenting period will lead to capital and resource savings for the OFW industry and allow industry to start generating revenue sooner than they otherwise would. OWES as part of OWEIP will contribute to growth by accelerating OFW deployment, which in turn will boost employment, attract investment, improve productivity, and deliver household benefits. It will also enhance energy security and economic resilience by expanding OFW capacity, increasing domestic energy supply and reducing reliance on imports.

Description of proposed intervention and explanation of the logical change process whereby this achieves SMART objectives

Preferred policy option (Option 5) – Leasing Round (LR) specific guidance linked to the National Policy Statement for renewable energy (NPS EN-3)

Our preferred option is to publish tranches of OWES targeted to each OFW LR NPS EN-3. This will give proportionate weight to OWES in a DCO application, without stifling innovation. By linking the OWES guidance document to the NPS EN-3, whether an application conforms to the guidance is likely to be material to the DCO decision by the Department for Energy Security and Net Zero (DESNZ) Secretary of State (SoS) who will expect project developers to include consideration of OWES in their Environmental Impact Assessments (EIA), Habitats Regulations Assessments (HRAs) and Marine Conservation Zone (MCZ) assessments as part of their DCO.

Under the Planning Act 2008, the SoS must have regard to the NPS EN-3 when deciding whether to grant development consent for renewable energy infrastructure Nationally Significant Infrastructure Projects (NSIP). As OWES will be referenced within the NPS EN-3 which is statutory (under the Planning Act 2008), we are treating it, for the purposes of this IA, as a regulatory provision. The scope includes OFW farms in England that produce over 100MW of power, and OFW farms in Wales that produce over 350MW of power. The NPS EN-3 details the government's objectives for the delivery of NSIP related to renewable energy, including frameworks and policies which project developers are expected to take into consideration when applying for a DCO.

Publishing separate guidance documents for each LR will ensure guidance is easy for developers to follow and adhere to, as each set of standards will target issues relevant to that project development area and geographic region. This could include standards addressing design elements of the proposed windfarm or targeting vulnerable receptors present in the project development area. As each tranche of guidance will only apply to projects within a specific LR, time savings and environmental protection aims can be evaluated with a clear time limit for each tranche, as opposed to publishing general guidance which would apply to all future OFW projects and therefore require updating or amending with emerging evidence and innovation. Government will specify individual OWES within the guidance document, with Defra updating as often as deemed appropriate and when new LRs emerge. The government is aiming to publish the first iteration of guidance in 2026, targeted towards Leasing Round 5 (LR5) which will have commercial scale FLOW projects in the Celtic Sea. The guidance will introduce a small number of OWES for implementation in LR5, alongside some additional advice on LR5-specific recommended best practice measures to complement the OWES.

The preferred option will meet the policy objectives by:

- providing clear guidance outlining LR-specific mitigation standards which target expected impacts to sensitive species and habitats, therefore supporting the aim of protecting biodiversity and the marine environment. All project developers will be expected to explain how their proposals comply with the OWES or, alternatively, the grounds on which a departure from them is justified. The first tranche of guidance will be targeted towards LR5, which will lease seabed located within the Celtic Sea for the development of FLOW farms. Standards will therefore feature design recommendations for FLOW farms based on environmental impacts present within the Celtic Sea area
- establishing the OWES implementation process into existing planning and consenting mechanisms through the DCO process (for example, the EIA and HRA). This will minimise additional administrative burdens for developers in showing how they have taken OWES into account and will support consenting by having pre-agreement with relevant stakeholders (SNCBs and developers) on a selection of mitigation standards that will minimise the time project developers and SNCBs spend discussing proposals for avoiding, reducing, and mitigating for a development's impact, therefore leading to reduced planning and consenting delays overall and supporting the aim of OWES to allow OFW construction to continue at pace. By adhering to the OWES, it could also result in less compensation being required, by ensuring that the mitigation hierarchy has been followed thoroughly with the focus being on reducing the impact before compensation is considered as a last resort

The OWES and additional best practice measures for LR5 have been shaped through engagement with all interested stakeholders including SNCBs, regulators, eNGOs, the OFW industry, The Crown Estate, Devolved Governments and other government departments over a period of 18 months. Through an Opportunity for Comment in summer 2022, stakeholders identified several priority impacts, including benthic habitat loss or change, seabird collision risk and displacement, and impacts on marine mammals and fish. These priority impacts were identified as areas in which OWES should focus, as they were thought to most likely cause extended discussion times and delays during the examination period. Once Leasing Round 5 was announced to be in the Celtic Sea and with a focus on FLOW, we reviewed the impacts against both the geographic and technical factors to identify the species and habitats most at risk.

Throughout engagement, an initial longlist of OWES was gathered through reviewing existing evidence, commissioning research and development projects, stakeholder workshops and targeted commissions to develop and refine the standards. Through further engagement, OWES were refined to produce a shortlist for LR5, addressing the priority areas and impacts to receptors as identified above. For the shortlist of OWES, commercial viability and industry feedback were considered to create the final list of OWES. At the time of writing, the final list has approximately seven OWES as well as some additional best practice measures and work is ongoing to assess any additional OWES to add to this list.

Defra has engaged closely with LR5 developers, giving them the opportunity to provide feedback and input into OWES development. In addition, Defra has aligned timelines to ensure lead in time from publication of the guidance to until DCO applications are expected to go in, to ensure deliverability and achievability within the sector and suppliers.

The guidance will outline the final OWES and the implementation approach developers should follow, within the DCO process. All final OWES will be based on the best available evidence and evaluated against their ecological impact and potential to reduce delays in the planning and consenting process. To allow for further flexibility and innovation for OFW developers, the guidance will also provide advice on a number of recommended best practice measures which developers can choose to follow in addition to the OWES if they wish.

Work will continue to identify OWES for future LRs to be added into future versions of the OWES guidance. The second publication of guidance will target impacts of Leasing Round 6 (LR6) and policy development is due to begin, following The Crown Estate's latest announcement on LR6. Developers are responsible for monitoring the environmental impacts of their own OFW farms, and this data could be used to assess the effectiveness of OWES and inform future mitigation design. The OWES policy is also being developed alongside Defra's Strategic Monitoring work (part of the OWEIP) to understand the wider strategic context around monitoring, which will strengthen the evidence base of the environmental impacts of OFW and support the long-term development of future OWES.

Proposed OWES for LR5 (at time of writing this impact assessment)

Table 2 is the proposed OWES for LR5

OWES for LR5	How the mitigation measure would work in practice
Export cable burial to reduce electromagnetic field (EMF) effects to sensitive species	EMF is identified as an environmental stressor for many marine species, including benthic fauna, marine mammals and fish, with impacts on survival, migration, and reproductive success. EMF strength dissipates quickly, and burial of cables increases distance between source and species receptors, lowering the likelihood of these effects. Developers will need to undertake a cable burial risk assessment to confirm whether this OWES can be applied. Where it is not possible, such as due to engineering constraints or seabed type, a deviation process will be available.

Adoption of Vessel Traffic Management Plans to avoid disturbance to seabirds and marine mammals in sensitive or higher-density areas	Whilst specific mitigations within the vessel traffic management plan will need to be agreed between developers and Statutory Nature Conservation Bodies (SNCBs) for each project, a commitment to the plan through OWES will ensure that the risk of collisions and disturbance to marine mammals and seabirds is addressed and subsequently reduced during construction and operation.
Avoidance of excess lighting to protect seabirds, whilst ensuring compliance with aviation and navigation regulatory requirements	Artificial lighting can attract seabirds, especially in poor weather conditions, leading to increased collision risks and disorientation. These disruptive effects pose risks to known species within the Celtic Sea area. For example, Manx shearwater (Puffinus puffinus) are vulnerable to light-induced disorientation, attraction and collision risk, especially during poor visibility conditions. By reducing excessive lighting, this measure is expected to reduce seabird collisions.
Adherence to published SNCB and regulator best practice advice, providing justification and referencing alternative advice if deviated from	This measure reinforces the expectation that developers follow all statutory consultee and regulator guidance on environmental considerations and data standards throughout the offshore wind development planning and consenting process. The guidance offers a clear framework for using environmental evidence across all stages of offshore wind development from baseline surveys and early engagement to application assessment and post-consent monitoring, so that potential environmental impacts are identified and effectively mitigated.
Use of Natural England's Offshore Wind Seabird Assessment Tool (OWSAT) to support the developer's Preliminary Environmental Information Reports (PEIRs) during pre-application, and final submissions at application	Historically applications have contained numerous lengthy documents presenting ornithology data which have required re-writing throughout the application process as adjustments are made to parameters. This is time consuming for the applicant and any reviewers. The use of OWSAT will streamline

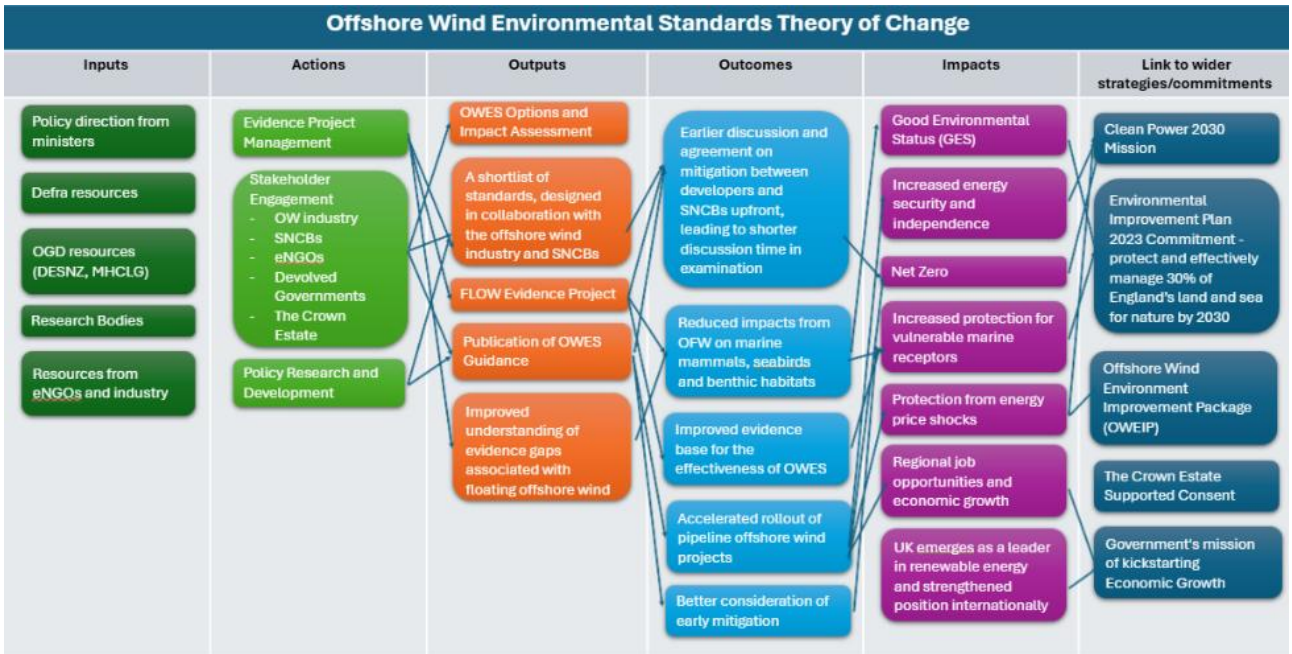
	the assessment process and reduce the volume of documents being submitted and therefore the time and resource of creating and reviewing application material.
Agreement of an Archaeological Written Scheme of Investigation (WSI) with the MMO (in consultation with Historic England) in English Waters and NRW (in consultation with RCAHMW and Cadw) in Welsh Waters, and a commitment to submitting all heritage information to the Marine Data Exchange (MDE) according to the timetable set out in the WSI	This OWES ensures that marine archaeological assets, such as wrecks, submerged landscapes, and other culturally significant seabed features, are properly identified, protected, and managed throughout offshore wind development. By requiring an agreed WSI, which is the formal plan setting out the methods, standards, and procedures for archaeological investigation and mitigation across all stages of the project, it establishes consistent standards for survey, assessment, exclusion zones, and chance-find procedures, preventing accidental damage to heritage sites during construction and operations. While the use of a WSI is not a new requirement, strengthening and providing greater detail within this framework offers clear benefits in ensuring consistency and improving clarity of expectations, whilst supporting more effective implementation.
Following a benthic impact framework for cable routing, avoiding sensitive areas or mitigating impacts to benthic habitats where avoidance is not possible	This OWES aims to reduce physical and ecological disturbance and water quality effects from offshore cable routing and installation by reinforcing the principles of the mitigation hierarchy, particularly in sensitive seabed habitats. This OWES reflects the approach set out in relevant Marine Plans, whereby proposals that may have adverse impacts on the conservation objectives of MPAs should demonstrate that they have applied the mitigation hierarchy in order or preference (avoiding impacts in the first instance, then minimising impacts, and mitigating any remaining impacts where avoidance is not possible).

Whilst they won't be implemented as OWES, the best practice advice in the guidance will focus on the following to provide additional opportunities for OFW developers to reduce the environmental impacts of their projects. Feedback from industry noted that they did not feel these measures would be best placed as standards through OWES, however they will be included in the guidance as best practice recommendations and their uptake strongly encouraged. These recommendations have also been developed and tailored to focus on the expected risks associated with projects in the Celtic Sea and are expected to be effective mitigation measures for LR5:

1. To monitor mooring lines and inter-array cables for any entanglement of marine species and entanglement risks, and to remove any entanglement risks such as marine debris.
2. Minimum turbine air gap of 25m to reduce seabird collisions.
3. Adoption of Site Integrity Plans (SIP) for array areas within 20km of the Bristol Channel Approaches/Dynesfeydd Môr Hafren SAC to protect Harbour Porpoise from underwater noise.

OWES Theory of Change

Figure 2 shows a theory of change diagram demonstrating how evidence generation, stakeholder collaboration and policy development for OWES are intended to lead to improved environmental assessments, standardised mitigation measures, and decision making, supporting both offshore wind deployment and environmental outcomes.



Summary of long-list and alternatives

Options considered

To address the problem under consideration and meet the objectives of accelerating the deployment of OFW to meet government targets whilst protecting the marine environment, the following options were considered. The options focused on reducing time in the planning and consenting process by reducing discussion time between applicants and SNCBs in agreeing suitable mitigation. Achieving a smoother consenting process would require a cross-government approach to tackle the challenge from all angles including environmental issues, grid connections, CfD scheme and ports/supply chain issues. As previously noted, some of these reforms sit under the responsibility of different government departments, such as DESNZ work on reforming the CfD process. Defra in collaboration with DESNZ have taken responsibility to address the environmental issues which arise during OFW consenting and are doing so by the implementation of the OWEIP.

During early policy development, various stakeholder engagement activities were undertaken to understand how OWEIP may play a part in addressing the current problems in planning and consenting. This included an Opportunity for Comment, undertaken in summer 2022, to help shape the development of the OWEIP where it was proposed that OWES would set a minimum common standard for designing offshore wind projects so that developers don't need to negotiate these individually. The 3-stage Opportunity to Comment included 2 engagement and question and answer sessions with key stakeholders, a policy paper outlining the OWEIP proposals; and an online survey to gather stakeholders' input. Defra received 33 responses from a varied stakeholder group including: offshore wind developers, offshore wind advisory groups, government agencies and arms-length bodies (ALBs), seabed users and ports associations, eNGOs, fisheries organisations, and environmental consultancies who provided opinions on the content of OWEIP.

Responses to the Opportunity for Comment supported the introduction of OWES to address issues with mitigation, noting they should be evidence-based, proportionate and focused on addressing the right impacts in appropriate locations. Stakeholders identified several priority impacts, including benthic habitat loss or change, seabird collision risk and displacement, and impacts on marine mammals and fish.

The shortlisted options were then considered in more detail to identify a preferred way forward.

Longlist

- **Option 1: Do nothing**, with no publication of a guidance document. This will result in no OWES being put in place, and current DCO considerations will remain unchanged for project developers.

- **Option 2: 'Voluntary' LR-specific OWES (do minimum option) with no link to NPS EN-3** to give project developers the option to apply Defra published OWES guidance, which is targeted towards specific LR. This option would involve designing and publishing separate guidance targeted to mitigate the environmental impacts of each of TCE's LRs. This would encourage adherence to the standards, however, without linking OWES to the NPS EN-3, conformity with OWES may not be material consideration to the DCO decision and Government would run the risk of non-uptake.
- **Option 3: Generic OWES linked to the NPS EN-3** would mean SoS will expect project developers to include consideration of OWES in their applications. This would encourage adherence to the principles of minimum environmental standards. Under the Planning Act 2008, the DESNZ SoS must have regard to the NPS EN-3 when deciding whether to grant development consent for renewable energy infrastructure NSIPs. In England, this is OFW farms that produce over 100MW of power, and in Wales, OFW farms that produce over 350MW of power. By linking the OWES Guidance document to the NPS EN-3, whether an application conforms to the OWES (or any justification for departing from it) is likely to be material to the DCO application decision by the DESNZ SoS. The NPS EN-3 details the government's objectives for the delivery of NSIPs related to renewable energy, including frameworks and policies which project developers are expected to take into consideration when applying for a DCO.
- **Option 4: Generic and LR-specific OWES linked to the NPS EN-3** to publish guidance which is applicable to all wind farms generally and including some OWES which are targeted towards specific LRs. By publishing iterations including both generic and LR-specific guidance, OWES will outline generic proposed standards for OFW, whilst also including standards for specific LRs. Linking OWES Guidance to the NPS EN-3 would mean that project developers will be expected to include consideration of OWES in their applications, as is outlined in Option 3 and whether an application conforms to the OWES (or any justification for departing from them) is likely to be material to the DCO application decision by the DESNZ SoS. The government will specify individual OWES within the guidance document, with updates as often as deemed appropriate. This will ensure that the guidance best reflects the latest updates in innovation and scientific understanding.
- **Option 5: LR-specific OWES linked to the NPS EN-3 (preferred)** to publish guidance with a shortlist of OWES targeted towards each specific LR, with the first publication of guidance targeting LR5. Linking OWES guidance to the NPS EN-3 would mean project developers will be expected to include consideration of OWES in their applications, as is outlined in option 3 and whether an application conforms to the OWES (or any justification for departing from it) is likely to be material to the DCO application decision by the DESNZ SoS. The government will specify individual OWES within the guidance document, with updates as often as deemed appropriate. This will ensure that the guidance best reflects the latest updates in innovation and scientific understanding. Under this

option, each publication of OWES guidance would provide developers with a list of standards which are relevant and feasible for their projects to adhere to in specific LR, whilst allowing for innovation and acceptable deviations.

Critical Success Factors

Critical Success Factors (CSFs) are the attributes that a proposal must have to achieve the successful delivery of its objectives. This IA applies the 5 standard CSFs in line with the Green Book guidance to assess the options presented. The CSFs are given equal importance. The CSFs are used as part of the long list appraisal to help determine which options should be carried through to the short list.

Table 3 shows the critical success factors used to assess the OWES policy

Critical Success Factor	Description	Measurement criteria
CSF1- Strategic fit and meets business needs	The proposed option should: • receive consensus from SNCBs that it is highly likely to deliver sufficient environmental protection to vulnerable receptors. • streamline the planning and consenting process and reduce the likelihood of extended examination periods and additional delays. It should not put unnecessary burden on developers which may not be realised in environmental benefits • have a clear implementation so SNCBs can develop a standard practice of assessing adherence • support the delivery of the Clean Power by 2030 Mission by enabling faster deployment of offshore wind and support the government's mission to radically increase the OFW	**Red:** This option does not meet any of the criteria outlined in the description. **Amber:** This option meets at least 2 of the criteria outlined in the description. **Green:** This option meets all criteria outlined in the description.

	capacity in UK waters as well as net zero 2050 targets • support progress towards environmental targets and objectives	
CSF2- Potential value for money	How well the option optimises social value (social, economic, and environmental) in terms of potential costs, benefits, and risks. To provide value, the option should be an improvement on the current planning and consenting process, through reducing the likelihood of extended examination and additional delays times for key stakeholders in the planning and consenting process including: • OFW developers • government • other stakeholders (SNCBs regulators, etc) The option should also provide value to: • the environment (by reducing negative impacts of offshore wind development towards vulnerable receptors and reducing the likelihood of having to source compensation measures). • businesses (through allowing innovation and flexibility within the supply chain).	**Red:** The option is not an improvement on the current state for any of the identified stakeholders. **Amber:** The option is an improvement on the current state for one or more of the identified stakeholders. **Green:** The option is an improvement on the current state for all identified stakeholders.

	• other key stakeholders including the public and businesses (by supporting the accelerated rollout of offshore wind and therefore net zero goals and energy security)	
CSF3 - Supplier capacity and capability	The proposed option should: • be an efficient use of current industry and government resource and expertise • provide flexibility and support innovation in supply chains • have flexibility to adapt to changing industry and environmental requirements	**Red:** The option does not meet any of the criteria in the description. **Amber:** The option meets at least one of the criteria outlined in the description or has the potential to meet all criteria but with some uncertainty around one or more. **Green:** The option meets all criteria outlined in the description.
CSF4 - Potential affordability	The proposed option should: • not have disproportionate costs across OFW developers • have minimal up-front cost implications for developers and SNCBs to align with sourcing constraints • can be financed from available funds, without requiring additional Government funding beyond existing commitments	**Red:** This option does not meet any of the criteria to be a cost-effective approach for government. **Amber:** This option meets at least one of the criteria to be a cost-effective approach for government. **Green:** This option meets all the criteria to be a cost-effective approach by utilising developer funding effectively and ensuring efficient use of government resource.

CSF5 - Potential Achievability	The proposed option should: • be easily implementable for developers • allow OFW construction to continue at pace to contribute to addressing the targets of Clean Power by 2030 • minimise delays to OFW construction	**Red:** This option will not support effective implementation of the policy and therefore will not help achieve government targets and ambitions. **Amber:** There is uncertainty around whether this would support effective implementation of the policy and achievement of government targets and ambitions. **Green:** This option will support effective implementation of the policy and achievement of government targets and ambitions.

Tables 4 - appraises the policy options against the CSFs

Key Critical Success Factor	**RAG rating for Option 1** (Do nothing, business as usual (BAU))	**RAG rating for Option 2** (Do minimum, 'voluntary' LR-specific OWES)	**RAG rating for Option 3** (Generic OWES including justification for departure from them, linked to NPS EN-3)	**RAG rating for Option 4** (Generic and LR-specific OWES linked to the NPS EN-3)	**RAG rating for Option 5** (LR-specific OWES linked to the NPS EN-3) **(preferred)**
CSF1 - Strategic fit and meets	Red	Red	Red	Amber	Green

business needs.					
CSF2 - Potential Value for Money	Red	Amber	Green	Amber	Green
CSF 3 - Supplier capacity and capability	Red	Amber	Amber	Amber	Green
CSF 4 - Potential affordability	Green	Amber	Amber	Amber	Amber
CSF 5 - Potential achievability	Red	Green	Amber	Amber	Green
Carried through to shortlist – yes or no	Yes (baseline)	No	No	Yes	Yes

CSF rating reason

Option 1: Do nothing

Red rated CSFs

CSF01: Option 1, Do nothing, would lead to continuing delays in the planning and consenting process, inhibiting the rollout OFW and creating a risk to supporting the government's OFW ambitions/target and net zero by 2050 target. It would not provide any

additional environmental protection compared with the current planning and consenting process where environmental impacts and appropriate compensation requirements are agreed between SNCBs and developers in the examination period. This option would not support the delivery of OWEIP as adverse impacts would not be effectively mitigated at the earliest stage of the mitigation hierarchy, resulting in a high reliance on environmental compensation.

CSF02: This option would not be an improvement on the current state for any of the identified stakeholders.

CSF03: This option is not an efficient use of government expertise by not implementing any mitigation measures. It also does not provide additional flexibility to suppliers, support innovation, or adapt to changing industry and environmental requirements by continuing with business as usual.

CSF05: This option does not address current delays experienced in the consenting process for OFW and therefore does not allow for OFW construction to continue at pace or contribute to addressing the targets of the Clean Power by 2030 MissionAction Plan.

Amber rated CSFs

None.

Green rated CSFs

CSF04: BAU has no additional costs to developers or the government.

Option 2: Do minimum (‘voluntary’ leasing round specific OWES)

Red rated CSFs

CSF01: Whilst this option is likely to provide standards that would deliver environmental protection to vulnerable receptors, whether it would meet any of the other criteria outlined for CSF01 is highly dependent on uptake. If there was high uptake of mitigation standards, this option would lead to time savings over the planning and consenting process, improved environmental outcomes, and support delivery of the Clean Power by 2030 mission, as well as wider environmental targets and objectives. As it is not linked to the NPS, there is less of an incentive to adhere to the OWES, which means these benefits may not materialise. Therefore, we cannot confidently say that the criteria under CSF01 will be met.

Amber rated CSFs

CSF02: Option 2 would be an improvement on the current state for developers as it would give developers a clear approach to finding effective mitigation measures relevant to that leasing round. If there is uptake amongst developers, it would also be an improvement on the current process for SNCBs as it would save them time in agreeing mitigation measures on a project-by-project basis. This option could also be an improvement on the current

process if there is uptake as it would result in better environmental outcomes and government meeting targets/commitments through effective mitigation and time savings in the planning and consenting process. This option has therefore been rated Amber as there is a clear benefit to developers, but the benefit to other stakeholders is dependent on uptake.

CSF03: As the OWES would be LR-specific, there would be flexibility to adapt to changing industry and environmental requirements for each LR. However, there is the risk that by not linking it to the NPS, only a few developers will adhere to each standard. If this was the case, it may not be an efficient use of Government resources and could carry the risk that due to the limited demand, supply chains may be unwilling or unable to support it.

CSF04: As Option 2 has no NPS EN-3 link it would likely incur costs unevenly across developers, as developers may choose not to implement some or all of the OWES. If only some of OWES were followed this would also lead to uneven cost as some are expected to have higher up-front costs than others. We would assume that industry would only choose OWES and therefore costs that they could afford. There would also be a cost to Defra to design the standards which we would expect to be within available funding.

Green rated CSFs

CSF05: Option 2 would be industry led, and having LR-specific guidance would increase ease of implementation, as all OWES would be applicable for a specific leasing round, compared to generic OWES. Any OWES that are implemented are expected to speed up the planning and consenting process and minimise delays to OFW construction, contributing toward the Clean Power by 2030 mission.

Option 3: Generic OWES linked to NPS EN-3

Red rated CSFs

CSF01: OWES linked to the NPS would help ensure best environmental practice is followed when developing OFW. It would streamline the planning and consenting process, however, if the guidance is generic, and not specific to each LR, the mitigation measures may not be the most effective for each of the LR areas. By only providing generic guidance, there is a risk that the OWES won’t be relevant to some projects and therefore cannot be adhered to, resulting in developers providing justifications for departure from certain OWES. It may also cause confusion about which OWES need to be followed for which projects, which could cause further delays. In these cases, OWES would not support a smoother planning and consenting process. Therefore due to this risk, this option has been red rated against CSF01, as there is a risk it would add to timelines, which would not support delivery of the Clean Power by 2030 mission/ net zero targets, not streamline the process for some developers and if guidance was generic and not specific to areas being leased, it may not provide sufficient environmental protection to vulnerable receptors, or do enough in supporting progress towards environmental targets and objectives as impacts are likely to differ across LRs and project areas.

Amber rated CSFs

CSF02: This option would be an improvement on the current state for the government and SCNBs, as it would bolster the framework where developers are required to consider mitigation of impacts as part of the DCO process. This could lead to benefits to the environment. It is unclear whether it would be a benefit to developers, as it would provide them with an approach to mitigation, but with generic guidance, where standards are not targeted at impacts of specific LR areas, there is a considerable likelihood that standards are not appropriate for some projects.

CSF03: This option would require government to create one set of generic guidance based on latest research and engagement with stakeholders including industry at the time of implementation. It would be an efficient use of resource and expertise, but it does not provide much flexibility as guidance will not be expected to be update regularly based on new information and insights, therefore it would not adapt to changing industry and environmental requirements. Standards would support innovation in supply chains, where suppliers would adapt to deliver OWES.

CSF04: The cost to Defra of designing the standards would be expected to fall within available funding. The cost to developers is not expected to be disproportionate for delivering OWES, as standards would be the same across developers. There may only be deviations where generic standards are not appropriate for some leasing areas/projects, and developers have to spend time and money justifying their departure from certain OWES. Standards would be designed to consider cost for developers. Therefore, this option is rated Amber against CSF04, to accommodate for the risk that all developers would have to consider standards when some may not be relevant to them.

CSF05: It is uncertain whether this option would be easily implementable as the same guidance would be used for all LRs, and how easily implementable OWES would be in different LR areas which have different needs/characteristics is difficult to say. This option would support a quicker planning and consenting process for projects where the standards are applicable but wouldn’t for projects where they are not. Therefore, due to the uncertainty around how well the option meets the achievability criteria, this option has been rated Amber for CSF05.

Green rated CSFs

None.

Option 4: A mix of generic and leasing round specific OWES linked to NPS EN-3

Red rated CSFs

None.

Amber rated CSFs

CS01: NPS linked OWES would encourage best environmental practice is followed when building OFW, aligning with Defra's environmental objectives. It would likely reduce delays in the planning and consenting process, speeding up the rollout of OFW and supporting the government's OFW ambitions and net zZero by 2050 target. By including OWES within the shortlist which specifically address environmental impacts of projects in the LR they are targeting, this option ensures each tranche of guidance will directly address environmental impacts and potential issues faced by developers which could reduce extended discussion time and delays. However, the inclusion of generic OWES could cause confusion for developers and an increase in time spent providing justifications for departure for those standards not relevant to their LR.

CSF02: This option would be an improvement on the current state for the government and SCNBs, as it would provide a framework where developers are will be expected to consider mitigation of impacts as part of the DCO process. This could lead to benefits to the environment. This option would have some benefits to developers, as it would provide them with an approach to mitigation. The LR specific OWES would be particularly beneficial to developers, giving them options for mitigations specific to their LR area. But with the generic OWES, where standards are not targeted at impacts of specific LR areas, there is a considerable likelihood that standards would not be appropriate for some projects.

CSF04: The cost to Defra of designing the OWES would be expected to fall within available funding. The cost to developers is not expected to be disproportionate for delivering OWES, as standards would be the same across developers. There may only be deviations where generic standards are not appropriate for some leasing areas/projects, and developers have to spend time and money justifying their departure from certain standards, or if there are differences in costs of OWES between LRs. OWES would be designed to consider cost for developers. Overall, this option is rated amber against CSF04, to accommodate for the risk that all developers would have to consider OWES when some may not be relevant to them.

CSF05: The LR-specific OWES would be easily implementable as these would have standards specific to LR areas. It is uncertain whether generic OWES would be as easy to implement for developers as it would apply to all LRs, and different LR areas have different needs/characteristic, so generic OWES may not always be applicable. This option would support a quicker planning and consenting process for projects where the standards are applicable but wouldn't for projects where they are not. Therefore, due to the uncertainty around how well the option meets the achievability criteria, this option has been rated Amber for CSF05.

Green rated CSFs

CS03: Through publishing both targeted and generic OWES linked to the NPS, this would provide flexibility to adapt to changing industry and environmental requirements. It would support supply chains through certainty that developers will be expected to consider OWES, allowing suppliers to plan accordingly in how they deliver these standards on

behalf of developers. It would also be an efficient use of industry and government resource and expertise, where OWES will reflect the latest advice/insights.

Option 5: Leasing Round-specific OWES linked to NPS EN-3

Red rated CSFs

None.

Amber CSFs

CSF04: The cost to Defra of designing the OWES would be expected to fall within available funding. The cost to developers is not expected to be disproportionate for delivering OWES, as standards would be the same across developers in each LR. Costs to developers may however differ when compared between each leasing round as OWES will be specific to the characteristics of each LR area and expected impacts. OWES would however be designed with cost to developer considered. Therefore, overall, this option is rated amber against CSF04, to accommodate for the risk that developers may face different costs across LRs.

Green rated CSFs

CSF01: This option involves publishing targeted OWES, where all standards are directly relevant to projects within the LR it targets. This ensures the OWES are streamlined and should remove confusion over the applicability of individual standards to specific projects, as could be the case when the OWES includes both generic OWES and those specific to the LR it targets (as with Option 4). This should result in a streamlined planning and consenting process, positive environmental outcomes, and clear implementation for each LR, which would support progress towards government targets and the delivery of the Clean Power by 2030 Action Plan. Whilst there may be a risk of non-uptake of the additional recommended best practice which would impact the benefits associated to those recommendations, there are a greater number of OWES in comparison which will balance the risk to provide an overall benefit.

CSF02: This option would be an improvement on the current state for the government and SNCBs, as it would provide a framework where developers are expected to consider mitigation of impacts as part of the DCO process. This option would lead to benefits to the environment, where OWES would be targeted towards the environmental impacts from OFW development in each LR area. This option would be beneficial to developers, as it would provide them with a clear approach to mitigation, and reduce their need for compensation in comparison to the ‘do nothing’ scenario (Option 1). This should support a smoother planning and consenting period by reducing the likelihood of delays.

CSF03: Option 5 is an efficient use of current industry and government resource and expertise, where both will be used to produce OWES based on latest information. This option provides flexibility to adapt to changing industry and environmental requirements as guidance will be provided for each LR to produce standards relevant to specific LR areas and impacts, this will mean standards are more likely to be relevant to developers for each

LR. Due to the long lead time, suppliers and developers will have sufficient time to plan for the implementation of standards, providing flexibility and supporting innovation. The inclusion of additional best practice recommendations will provide further flexibility around OWES which didn't gain industry consensus.

CSF05: LR-specific OWES will be targeted to each LR and the area it is in. This means standards can be designed in a way to ensure they are easily implementable for developers and are effective through consultation with stakeholders for each LR. This should minimise delays to OFW construction by saving time over the planning and consenting process and contribute to government targets including Clean Power by 2030.

Changes to CSF ratings since the Options Assessment

Based on feedback from the Regulatory Policy Committee (RPC), additional clarity was added to the CSF descriptions and measurement criteria. For each option, the CSF ratings and reasoning were also re-visited and updated where appropriate. Although there have been some amendments, this did not change the options taken forward to the shortlist.

The options taken forward to the shortlist were:

- **Option 1: Do nothing**
- **Option 4: Publish generic and LR specific OWES linked to the NPS EN-3**
- **Option 5: Publish LR specific OWES linked to the NPS EN-3**

Options 2 and 3 were discounted as they scored red against one or more critical success factors in the long list appraisal.

Options 4 and 5 didn't score red on any of the CSF criteria. Stakeholder feedback also shows support for LR specific OWES, especially for LR5 (the first LR for which OWES will be applicable) as LR5 is for FLOW projects in the Celtic Sea and existing SNCB best practice guidance was developed in order to mitigate the environmental impacts of fixed OFW on vulnerable receptors present in the North Sea. LR specific OWES are expected to give greater clarity, and links to the NPS EN-3 are likely to ensure even uptake across developers.

Option 1 (Do nothing), although scored red against more than one CSF, has been carried forward to the shortlist to use as a baseline against which the other options will be evaluated.

Description of shortlisted policy options carried forward

Option 1: Do nothing

This option would result in no OWES being enacted, and current DCO considerations will remain unchanged for project developers. There would be no standardised guidance for developers to mitigate environmental impacts for projects. Each project would have a high likelihood of encountering an extended examination period, due to the need for extended discussion time between developers and SNCBs to agree on environmental impact and effective mitigation of a specific project, before developers may source compensation measures which are likely to become more scarce and costly as there is an increase in projects requiring them. Planning and consenting delays will impact the achievement of the government's Clean Power by 2030 Mission and Net Zero by 2050 targets. Without effective avoidance, reduction and mitigation of environmental impacts, this is likely to have an increased burden on other measures being delivered within the OWEIP and impact progress on the delivery of the package. As the rollout of offshore wind accelerates to meet government targets, without appropriate mitigation and compensation, the negative environmental impacts will compound and are likely impact good environmental status of UK waters and achievement of the UK's environmental commitments.

Option 4: Publish generic and LR-specific OWES linked to the NPS EN-3

This option would publish guidance as a shortlist of generic OWES based on existing best practice guidance from SNCBs for OFW farms alongside standards designed to target specific impacts associated with the LR which the guidance targets. By providing developers with a shortlist of standards applicable to future projects, this would create common standards for the design of all future OFW farms. The aim of this approach would be to create a set of achievable standards that all developers can follow and familiarise themselves with the process. By including OWES within the guidance which are designed to mitigate specific impacts of the LR, this option will also ensure that each publication of guidance supports the most relevant and effective mitigation. Once developers have become familiar with implementing the standards after the first publication of guidance, future iterations of guidance would build upon this iteration to create further standards. Any generic OWES would remain within all versions of guidance and would be applicable to future OFW projects, with a view to review them between each LR to set out any necessary parameters or to add any new generic OWES, alongside the new LR-specific OWES for future iterations of the guidance.

By linking the OWES guidance document to the NPS EN-3, whether an application conforms to the OWES (or any justification for departing from them) is likely to be material to the DCO application decision by the DESNZ SoS. The government will specify individual OWES within the guidance document, with Defra updating as often as deemed

appropriate. This will ensure that the guidance best reflects the latest updates in innovation and scientific understanding. The government would aim to publish the first iteration in summer to autumn 2026.

Option 5: Publish LR-specific OWES linked to the NPS EN-3

Option 5 is described in detail in Section 4 of this IA. this option involves designing and publishing separate guidance targeted to mitigate the environmental impacts of each of LR. LR-specific guidance will be linked to the NPS EN-3, which developers will be expected to demonstrate adherence to in their DCO applications.

Preferred Option and reasoning: Option 5 (Publish LR-specific OWES linked to the NPS EN-3)

Option 5 was chosen as the preferred option. As LR5 will be the first LR where developers will be expected to consider and apply the guidance, continuing with a shortlist of generic OWES (as in option 4) based on wide research is likely to not capture many of the environmental impacts from FLOW on vulnerable receptors within the Celtic Sea. Having to follow generic OWES in addition to LR-specific OWES could risk OWES not achieving its aim of reducing extended discussion time during examination. It is likely that option 4 would produce guidance which is difficult for developers to follow, as the shortlist of generic OWES would broadly apply to wind farms and developers would be expected to assess which standards were applicable to their project.

There is also this risk that as technology develops with OFW development, some OWES published in previous guidance documents become outdated or not relevant. This could result in future OWES contradicting previous versions and require assessment over the most appropriate way to provide the most up to date guidance. There is also a risk that if generic guidance is published alongside LR-targeted standards, developers in future LRs will not follow them through misunderstanding the guidance as targeted towards that specific LR.

Small and Micro Business Assessment

A small business is defined in the Better Regulation Framework guidance as those employing between 10 and 49 FTE employees. Micro-businesses are defined as those employing between 1 and 9 employees.

Option 1: Do nothing

Not relevant to ’Do nothing’, as there would be no policy change, and therefore no expected resulting impacts on businesses.

Option 4: Publish generic and LR-specific OWES linked to the NPS EN-3

OWES is expected to reduce long-term costs and streamline the planning and consenting process, benefiting all businesses by providing greater regulatory certainty. Exempting small and micro businesses from OWES would likely be to their detriment, as they would miss out on the efficiency gains and cost savings associated with clearer, standardised guidance. Given that OWES builds on some existing best practices already followed by parts of the industry while also introducing new impact reduction standards, adherence is unlikely to impose a significant burden, while the potential benefits of shorter planning and consenting times and reduced regulatory uncertainty are expected to outweigh the upfront costs. The benefits to developers of OWES are expected to outweigh the costs, therefore the net impact to developers from OWES are expected to be positive.

In addition to the above rationale for small and micro businesses to not be exempt, there are no small or micro OFW developers that we are aware of, with the industry generally made up of large multinational companies who are able to finance the upfront costs of developing an OFW farm. The cost for the development and project management activities before an OFW farm is even able to begin construction are estimated to be around £120million for a 1GW wind farm. In this context, the total familiarisation costs estimated at £20,000 are negligible even if small and micro businesses did exist in this industry. There may also be an increased cost of adherence and construction due to OWES, but this is dependent on specific standards and cannot be quantified.

There may be an impact on marine users including small and micro businesses, such as the fishing industry, due to the increased competition for limited marine space as a result of accelerated OFW development. However, OWES will help accelerate OFW development, not introduce new development. Therefore, impacts on other marine users would happen regardless of OWES but on a slower timescale.

Option 5: Publish LR-specific OWES linked to the NPS EN-3 (preferred option)

Similarly to in Option 4, consideration for whether small and micro businesses should be exempt from the scope of the policy is negated by the fact that there would be no material benefit to excluding them, as OWES is expected to have a net positive impact on businesses and exempting them could put them at a disadvantage.

Familiarisation costs are expected to be lower than in option 4, at £10,000. As stated above for Option 4, there are no small or micro OFW developers we are aware of, and a familiarisation cost of £10,000 in the context of the costs OFW developers are expected to pay pre-construction (£120 million for the development and project management activities before construction for a 1GW farm) are negligible.

As stated above for Option 4, there may be impacts on other marine users including small and microbusinesses, but these would happen regardless of OWES as OWES will accelerate OFW development rather than introduce new development.

Medium Sized Business Assessment (Option 4 and 5)

The rationale for not exempting small and micro businesses from this policy also apply to medium sized businesses (50 to 499 employees). There would be no benefit to their exclusion, it could put them at a disadvantage, and the cost to business of familiarisation and construction in the context of the upfront costs that businesses pay for the development and project planning activities pre-construction are negligible.

Regulatory scorecard for preferred option

Please refer to the Evidence Base towards the end of this document for more detailed analysis.

Part A: Overall and stakeholder impacts

Table 5.1 – appraises the impact of OWES implementation on total welfare

(1) Overall impacts on total welfare		**Directional rating** Note: Below are examples only
Description of overall expected impact	The implementation of OWES is expected to have a positive overall impact on social welfare, primarily by improving environmental protections to protect biodiversity and ecosystem services such as climate regulation and food provision, as well as reduced carbon emissions during energy production and expediting planning and consenting processes for OFW development. OFW developers will benefit from a reduction in option fees and increased regulatory clarity. This will facilitate OFW deployment while minimising ecological harm. The primary non-business stakeholders affected are coastal communities, environmental groups, and future generations benefiting from reduced carbon emissions leading to improved air quality and health benefits, as well as helping mitigate climate change.	**Positive** Based on all impacts (including non-monetised).

Monetised impacts	Total Net Present Social Value (NPSV) is £610 million with a range from £155 million to £1.1 billion, driven by carbon savings. This large range is derived from the difference in DESNZ capacity forecasts and the high and low carbon values. Potential costs to industry have not been included due to data gaps, for example from specific OWES. Any costs are expected to be leasing-round specific and small relative to the estimated benefits, therefore the NPSV is expected to remain significantly positive. Expected benefits include: • option fee savings for developers: £460 million due to reduced planning and consenting delays. Option fees are considered a transfer from TCE to industry and do not contribute to NPSV as any reduction in option fees paid by businesses is equal to the reduction in fees received by TCE and government • carbon savings: £610 million from faster OFW deployment replacing fossil fuel energy generation, with savings expected to materialise from 2028 onwards	**Positive** Based on likely NPSV.
Non-monetised impacts	The 3 main non-monetised impacts have an overall neutral rating. The first is biodiversity protection through standardised environmental mitigations. The second is reduced legal disputes by clarifying regulatory expectations. The third is that industry may face additional costs in meeting new standards, such as in cases where they require increased materials, monitoring or construction costs. As there are non-monetised benefits and costs, a neutral rating has been selected. There are also relatively minor non-monetised impacts including improved government reputation and supporting the UK's energy security. As these are expected to be relatively insignificant, they have also been rated as neutral.	**Neutral**

Any significant or adverse distributional impacts?	No significant adverse distributional impacts are expected. While regulatory adherence costs will be incurred by businesses, benefits are widespread, particularly for developers who will experience time savings from reduced planning and consenting delays. and should offset costs. This creates a distributional impact between businesses and the public sector, with OFW developers paying less in option fees and government receiving less revenue from option fees as a result. There are no significant distributional impacts between geographic regions or groups within society, as the benefits apply uniformly across the OFW sector. OWES are designed to be minimum standards. Developers understand there may be additional mitigation expected at the project level which must be adhered to through the HRA and EIA process already in place. Therefore, we do not expect any unintended consequences of OWES becoming a cap. In addition, there will be a deviation process in place where developers can evidence why OWES are not adhered to.	**Neutral**

Table 5.2 – appraises the impact of OWES implementation on businesses

(2) Expected impacts on businesses		
Description of overall business impact	OWES is expected to reduce long-term costs for businesses by providing regulatory certainty and expediting project approvals, which will reduce option fees. However, short-term uptake costs may increase due to familiarisation with the new standards. There will also be costs as a result of individual OWES in cases where they require increased materials, monitoring or construction costs.	**Positive**

Monetised impacts	Business Net Present Value (NPV): £460 million Equivalent Annual Net Direct Cost to Business £-27 million, of which: • admin costs: £10,000 • option fee savings: £27 million To note, the NPV values do not capture some key costs to businesses due to data limitations; however, the magnitude of these costs is expected to be small relative to the overall benefits. The Option fee savings across the 25-year appraisal period are £460 million. These are due to shortened planning and consenting timelines which account for an estimated 30% of the combined result of implementing all policies in the OWEIP. Further details can be found in the cost-benefit analysis section for the preferred option.	**Positive** Based on likely business NPV.
Non-monetised impacts	An increase in regulatory clarity due to OWES could reduce legal challenges and renegotiation costs. Additionally, due to clearer regulatory expectations, there may be: • enhanced investor confidence due to clearer regulatory expectations • reduced project risks by streamlining environmental approvals, however businesses may also face increased costs because of individual OWES, which could be significant Businesses may face additional costs in meeting new expectations, such as in cases where they require increased materials, monitoring or construction costs.	**Neutral**
Any significant or adverse distributional impacts?	No significant distributional impacts are expected. While the proposal primarily affects the offshore wind sector, regulatory costs apply uniformly across a relatively concentrated sector and are not expected to result in disproportionate impacts between business or business sizes. All	**Neutral**

	businesses, regardless of size, should benefit from OWES in the long run due to reduced planning and consenting delays and increased regulatory certainty. There may be positive effects for coastal communities where offshore wind farms are developed, including increased employment and economic activity associated with construction, operation, ports and OFW supply chain services. There may be an impact on marine users, such as the fishing industry, due to the increased competition for limited marine space as a result of accelerated OFW development. However, OWES will help accelerate OFW development, not introduce new development. Therefore, impacts on other marine users would happen regardless of OWES but on a slower timescale.	

Table 5.3 – appraises the impact of OWES implementation on households

(3) Expected impacts on households		
Description of overall household impact	There are no anticipated direct impacts to households, but there may be insignificant indirect impacts on households including changes to energy prices, environmental quality and increased economic activity in coastal communities.	**Neutral**
Monetised impacts	There are no anticipated monetised impacts to households.	**Neutral** Based on likely household NPV.
Non-monetised impacts	There are no anticipated direct impacts to households. Increased OFW could have impacts including; reduced reliance on fossil fuels, increased energy security and changes to energy prices. These are potential impacts to households, although not direct impacts from OWES. There is also the potential for temporary and localised disruption to	**Neutral**

	transport routes if OWES has impacts on the OFW construction and development phases.	
Any significant or adverse distributional impacts?	No significant adverse distributional impacts. Low-income households may benefit indirectly from increased green energy availability but are unlikely to experience major changes in short-term electricity costs. Coastal communities may see increased economic activity from OFW expansion. There could be positive impacts for regions with OFW projects, particularly in areas where local supply chains and job markets are linked to the industry.	**Neutral**

Part B: Impacts on wider government priorities

Table 6 appraises impact of OWES on wider government priorities

Category	Description of impact	Directional rating
Business environment: Does the measure impact on the ease of doing business in the UK?	The attractiveness of the UK's business environment is expected to improve due to increased regulatory clarity, which provides greater investment certainty. If a mitigation measure specifies a particular solution that relies on a single supplier, it may encourage competition in the longer term. However, it can reduce market competition in the short term. This concentration can drive up costs due to the lack of alternatives, reduce flexibility for developers and heighten supply chain risks if suppliers face delays or issues. Similarly, where mitigation measures specify a particular technology, this may create a barrier to innovation. Specifying a particular technology can diminish incentives for research, development and the adoption of alternative approaches if a standard is preset. The OWES will not be designed in a way which limits	**Supports**

	developers to one single supplier or technology to avoid those impacts and to encourage innovation. Engagement with the OFW industry will test OWES in development for these risks. Foreign investment is likely to benefit, as clearer regulatory expectations makes the UK a more attractive market for OFW development. While OWES does not directly promote innovation, its role in supporting OFW expansion may encourage advancements in technology. Additionally, as OWES will lower the option fees developers have to pay, it may reduce a barrier to entry in the market by decreasing the upfront investment required to develop OFW. It will also shorten the planning and consenting period for OFW, further improving the business environment by reducing the time between the start of OFW development and the first revenues that developers will receive. Whilst the policy is expected to improve the business environment for OFW developers in the UK, the scope for development is set by TCE, and leasing rounds with clean power targets set by government. This means that OWES will not increase demand for OFW.	
International considerations: Does the measure support international trade and investment?	OWES is expected to have a neutral to slightly positive impact on international trade and investment, as clearer environmental standards will enhance the UK's reputation as a stable and attractive market for international developers and investors. In 2024 the UK imported 44% of energy consumed. This policy will accelerate the expansion of OFW in the UK, reducing the amount of energy the UK needs to import. Great Britain's practical offshore wind potential exceeds its estimated final energy consumption in 2050. This policy will help the UK expand its offshore wind energy production above domestic demand, which it can then export, if desired.	**Neutral**

	OWES does not introduce new trade barriers and aligns with international best practices for environmental protection in OFW development. Further, many large OFW developers operating in the UK are internationally based, meaning that OWES will likely be absorbed into their existing global environmental strategies. By improving the business environment for OFW developers, this policy will maintain the attractiveness of the UK for OFW investors and increase confidence to invest.	
Natural capital and decarbonisation: Does the measure support commitments to improve the environment and decarbonise?	OWES is expected to have a strong positive impact on both the UK's natural capital and decarbonisation efforts. The guidance ensures that OFW projects minimise ecological harm while accelerating renewable energy deployment, helping the UK meet its net zero by 2050 commitments. **Natural capital benefits:** The guidance supports the protection of marine biodiversity by ensuring that environmental mitigation measures are standardised across offshore wind developments. It helps to reduce risks to seabirds, marine mammals, and benthic habitats through best-practice guidance that is informed by ecological research. OWES also encourages sustainable offshore wind development by ensuring that environmental considerations are integrated at the earliest stages of project planning. **Decarbonisation benefits:** Faster planning and consenting times lead to earlier deployment of offshore wind capacity, reducing the UK's reliance on fossil fuels. Reduced greenhouse gas emissions from this policy have been estimated at between £155 million and £1.1 billion over the appraisal period, by accelerating the expansion of OFW. This large range accounts for the variation in DESNZ OFW capacity forecasts between different scenarios, and the range in carbon values. Offshore wind projects are expected to significantly cut carbon	**Supports**

	emissions, with each 1GW wind farm displacing an estimated 3.5 million tonnes of CO2 per year, based on industry benchmarks comparing offshore wind generation to fossil fuel alternatives. OWES directly supports the UK's Clean Power by 2030 and long-term energy security by accelerating renewable energy deployment.	

Monitoring and evaluation of preferred option

In line with another policy in the OWEIP, the MRF, we have proposed that the first Post Implementation Review (PIR) will be carried out by 1 January 2032 to allow us to measure outcomes against the 2030 OFW targets. We will assess how much the policy intervention has contributed towards the targets, which is one of our primary objectives.

This PIR will be approximately 5 years after the publication of the first tranche of OWES guidance and approximately 3 to 5 years after the first DCO applications are expected to go in for LR5 depending on individual developer timelines. This time period will ensure sufficient time for LR5 projects to have completed their DCO applications and could include interim review points to gain qualitative insight from stakeholders regarding their experience using OWES guidance, both from applying the standards to OFW projects and reviewing applications which have adhered to the guidance.

Whilst this will look at how well the OWES guidance supported the early planning and consenting process, it won't capture the final environmental impact the OWES policy has. Given long timelines for OFW, it could be at least 10 years until the LR5 projects are constructed and operational. Final environmental impacts would need to be captured at a later point, although it will be difficult to associate environmental benefits directly related to the OWES intervention given the complex and in-combination nature of impacts in the marine space.

The success of OWES as an intervention will be measured against its indicators for success and SMART objectives. The PIR will also provide an assessment on whether expected costs and benefits were realised and seek to understand and explain any deviations. The PIR will be conducted primarily using a qualitative review process, through interviewing developers and SNCBs on the relevance of OWES towards impacts encountered in the LR5 examination process, the ease of guidance to follow and it's time saving ability. We will also be able to use publicly available planning documents of LR5 projects and OFW projects in previous leasing rounds to support the evaluation of the impacts OWES has in the planning and consenting process.

Final interview questions will be developed during the pre-application window of LR5 over the next 2 to 3 years, so they are ready to be used once DCO applications are submitted for LR5, dependent on individual developer timelines. Careful consideration will need to be made in relation to any commercial sensitives, competitiveness and within the constraints of data collection challenges to evaluate the policy in the commercial space of OFW. Interview questions will focus on four key aspects and could include the following:

Achievability and feasibility

- What were the issues with previous leasing rounds relating to agreeing suitable environment mitigation?
- What are the risks and impacts of LR5 due to new FLOW technology?
- What is the best implementation approach to support the resolution of issues in the consenting process, within the constraints of LR5?

Effectiveness

- How many OWES were adhered to for each project? Did this differ across LR5 projects?
- How easy was it to use and navigate through the first version of the OWES guidance?
- How did OWES guidance save time during the planning and consenting process?
- Did those time savings contribute to meeting Government OFW targets?

New standards

- Are there suggestions for new standards or policy approaches to address remaining or new issues? Why are they more appropriate compared to the existing OWES approach and standards?

External factors

- Where there any external factors which influenced adherence and what where they?
- Is there anything that OWES could have done to support those factors?
- Did OWES have any impact on other factors such as compensation requirements?

External factors that may impact success of the policy or the related evaluation include:

- planning and consenting periods may be impacted by other factors and changes to regulations, making it difficult to assess the true impacts of implementing OWES
- whether OFW developers take the risk of not adhering to OWES guidance, putting focus on identifying compensation instead. This could happen if an OFW developer provided a ‘justification’ for not following any OWES measure, which would mean they had technically considered the OWES guidance without applying any of the standards to their project design. This wouldn’t bring forwards any of the time

saving or environmental protection benefits in such a scenario and could skew results to make OWES policy appear ineffective. As the NPS EN-3 guidance outlines, the adherence to OWES guidance will only 'likely be material' to the Secretary of State's DCO decision, so it's possible in this scenario that the DCO would still be granted, due to commitments to speed up OFW planning and consenting

- commercial sensitivities and competitiveness may result in reluctance for OFW companies to share data or testimonies. Commercial sensitivities have led to a lack of information sharing between developers. This, in turn, has limited the availability and transparency of current data. Nonetheless, existing monitoring data on the use of mitigation measures will continue to be utilised when reviewing and targeting the success of the policy. For example, the Offshore Wind Enabling Actions Programme (OWEAP), the Defra team responsible for delivering the OWEIP, undertakes evaluations to consider the benefits, costs, wider impacts, and reflections from implementing policies in the OWEIP package
- as OWES will be implemented during the first FLOW leasing round, there is no quantitative baseline from which we can directly compare the impact of OWES. Where the planning and consenting process is sped up, it will also be challenging to identify how much is attributable to OWES amongst the wider OWEIP programme. However, we can gather qualitative data to understand how experiences have differed from past OFW projects to now, and whether the consistency of mitigation measures via OWES have delivered a benefit

Whilst OWES will be reviewed after approximately 5 years, we recognise that the UK OFW industry is moving rapidly and we will be required to develop standards for subsequent leasing rounds, such as LR6, before the results of the OWES evaluation are available. We will engage closely with stakeholders during policy development and use emerging evidence from ongoing academic programmes to make adjustments where needed to keep OWES adaptable to emerging technologies and developing ecological science as the leasing rounds progress. We will also hold a lessons learnt session with stakeholders to understand any improvements which can be made for LR6 development.

Minimising administrative and adherence costs for preferred option

OWES is designed to provide clear, standardised guidance on the mitigation of environmental impacts from OFW developments, supporting developers to navigate the planning and consenting process more efficiently. By clarifying expectations at an early stage and reducing uncertainty around acceptable mitigation approaches, OWES supports the government's commitment to reduce administrative burdens on business by 25% under the Regulation Action Plan. Using the framework from the Standard Cost Model, OWES reduces or avoids increasing several key categories of administrative burden.

Under current arrangements, OFW developers are often required to engage extensively with SNCBs to determine appropriate mitigation measures in the absence of clear, consistent guidance. This can involve multiple information obligations, including the preparation and resubmission of evidence, justification of design choices, and participation in repeated meetings and correspondence during the planning and consenting stages. These activities represent administrative costs under the OWES, driven by uncertainty rather than new regulatory requirements. By setting out clear mitigation expectations linked to relevant leasing rounds, OWES reduces the administrative burden associated with identifying suitable mitigation measures and evidencing adherence.

The NPS-EN-3 sets out that applicants should explain how their proposals comply with OWES guidance or, alternatively, the grounds on which a departure from them is justified. Where departures are proposed, we expect reasons to be fully detailed in the application documents, including any agreements reached with statutory consultees. Advice about acceptable deviations will be published within the guidance, and if used appropriately, should not adversely affect a DCO application. The OWES guidance will be developed with input from stakeholders to ensure the process of implementation and how any deviations are evidenced is done in the least burdensome way, minimising unnecessary information requirements and administrative activities.

A key objective of OWES is to reduce delays and uncertainty during the planning and consenting process. Under the existing framework, uncertainty around acceptable mitigation approaches can increase extended engagement, repeated requests for clarification and additional submissions, particularly during examination. These interactions increase administrative burdens by expanding the volume and frequency of information obligations placed on developers. By providing a standardised framework that reflects environmental risks and receptors, OWES reduces the likelihood of protracted negotiation and late-stage rework, supporting more efficient consenting timelines

Administrative burdens are reduced through clearer and more targeted guidance. In the absence of standardisation, inconsistent interpretation of mitigation expectations can lead to duplicated explanations and repeated clarification across multiple parties. OWES clarifies baseline expectations while allowing justified departures, reducing the need for duplicative information provision and repeated engagement.

OWES has been designed to minimise administrative burdens associated with monitoring, reporting and adherence by standardising and clarifying baseline expectations rather than introducing unnecessary or duplicative obligations. While OWES includes reporting provisions as part of the baseline environmental standards, these are intended to rationalise existing expectations, reducing uncertainty during the consenting process.

Administrative costs associated with familiarisation are expected to be one off and proportionate. Under OWES, familiarisation costs arise from understanding new or revised information in the guidance. By publishing concise, targeted guidance limited to standards relevant to specific leasing rounds, OWES minimises the time developers need to review and assess relevance, reducing familiarisation effort compared to broader best practice guidance. There will be a small administrative burden for developers to show adherence to

the OWES in their DCO applications, however we have chosen to embed this within existing areas to minimise the potential burden. Developers will be expected to reference the OWES they have adhered to (and any evidence to show their justification for departure from a measure if relevant) in the existing NPS chapter of their Environmental Statement.

Declaration

Department:

Department for Environment, Food and Rural Affairs

Contact details for enquiries

Lisa.Irwin@defra.gov.uk and Jade.Buttifant@defra.gov.uk

Minister:

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed:



Date:

09/11/2026

Summary: Analysis and evidence

For the Final Stage Impact Assessment, please finalise these sections including the full evidence base.

Price base year: 2025

Present value (PV) base year: 2025

Table 7 presents the preferred options against key costs

	Do nothing (baseline)	Option 5 –LR specific OWES linked to the NPS EN-3 (preferred option)	Option 4- Generic and LR-specific OWES linked to the NPS EN-3
Net present social value (with brief description, including ranges, of individual costs and benefits)	£0	NPSV = £610 million. The benefits are derived from carbon savings, with a range of £155 million to £1.1 billion. This large range is derived from the difference in DESNZ capacity forecasts and the high and low carbon values. Option fees are a transfer, and do not impact NPSV. The total familiarisation costs for this option are expected to be £10,000.	£610 million. The total familiarisation cost is estimated to be up to £20,000, based on an assumption of a 25 to 50% uplift in comparison to option 5. This reflects the additional time expected for users to read and interpret both the LR-specific and generic guidance. The combined material is assumed to be around 150% the length of the LR-guidance in Option 5, equating to roughly 25 to 50% more content to review. The higher end of the assumption has

			been applied due to uncertainty However as the cost is relatively low, it does not have an impact on NPSV.
Public sector financial costs (with brief description, including ranges)	£0	Costs to regulators to implement and enforce OWES, including adherence monitoring. Reduction in £460 million in option fee payments from OFW developers due to time savings.	Same as Option 5.
Significant un-quantified benefits and costs (description, with scale where possible)	N/A	The most significant un-quantified benefits are the improvement in government reputation from facilitating an increase in OFW and the associated benefits to the UK's energy security along with stronger environmental protection. Industry may face short-term adjustment costs.	Same as Option 5.
Key risks (and risk costs, and optimism bias, where relevant)	Delays in OFW deployment due to inefficient planning and consenting. Environmental risks from inconsistent mitigation.	Optimism bias has been included in all analysis, in line with Green Book supplementary guidance (more details in data and assumptions table).	Same as Option 5.

		Regulatory uncertainty during OWES rollout. Potential project delays due to stricter expectations.	
Results of sensitivity analysis	N/A	Ranges have been calculated for the significant impacts of option fees and carbon savings. Realising the maximum costs and minimum benefits would still create a positive and significant NPSV. Threshold analysis and confidence ratings further strengthen the robustness of the appraisal.	Same as option 5.

Evidence base

Short list appraisal options

Option 1 – Baseline (Do nothing).

In this option, no OWES are introduced and developers continue to follow existing DCO processes. This is the baseline as it represents the scenario without government intervention. More detail on the current process can be found in section 2 (strategic case).

Do nothing is used as a baseline to assess the impacts of Option 4 and Option 5 and has no expected costs or benefits.

Option 4 – Publish generic and Leasing Round (LR)-specific OWES linked to the NPS EN-3

In this option, government will publish guidance containing a combination of generic OWES based on existing best practice, alongside LR-specific standards targeting particular environmental impacts. The guidance would be linked to the NPS EN-3, meaning adherence (or justification for deviation) is likely to be material to DCO decision making.

This option aims to provide a consistent minimum set of standards for developers while incorporating standards relevant to specific leasing rounds. More detail on this option can be found in section 6 (shortlisted options).

Option 5 – Publish LR-specific OWES linked to the NPS EN-3 (preferred option)

In this option, government will publish separate OWES guidance tailored to each Leasing Round, focusing on the specific environmental impacts and receptors present in each area. The guidance would be linked to the NPS EN-3, so that developers will be expected to demonstrate how OWES have been considered and applied within DCO applications.

This option ensures that all standards are directly relevant to the project context, improving clarity and consistency for developers. It is expected to reduce examination timelines and improve environmental outcomes by targeting mitigation more effectively. More detail on this option can be found in section 4 (preferred option).

Monetised impacts

Option 1: Do nothing (baseline scenario)

'Do Nothing' is used as a baseline to assess the impacts of Option 4 and Option 5 and has no expected costs or benefits.

Option 5: LR-specific guidance linked to the NPS EN-3 (preferred option)

Costs

To government - o**ption fee revenue loss** (transfer from government/TCE to OFW developers) - **£460 million**

Option fees, as discussed in the Monetised Benefits section (below), are payments from the OFW industry to TCE to secure seabed rights for development. By shortening the planning and consenting period, these reforms will reduce the amount of time industry has to pay the option fees. However, as the public sector is the recipient of the fee, this does

mean less revenue for government. Option fees are therefore considered a transfer from government to industry.

To business - familiarisation (direct cost): **£10,000**

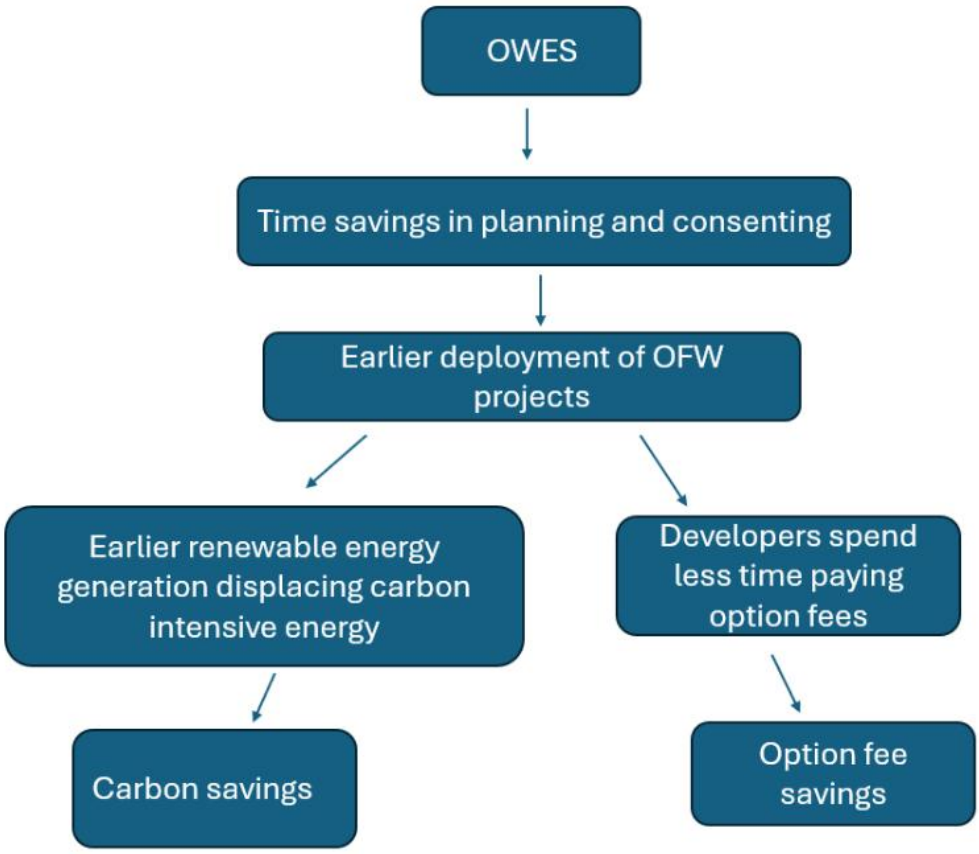
Developers will need to allocate resources to review and understand the LR specific OWES guidance. The guidance is expected to be approximately 12,000 words in length, requiring time for legal, technical, and environmental teams to familiarise themselves with it. The familiarisation cost is expected to be a one-off cost to industry, calculated using the following formula based on the Standard Cost Model:

Number of employees affected x time taken to familiarise x wage x non-wage uplift.

This gives a cost of familiarisation of £10,000 to industry in 2025 prices and present value. For the full calculation, see the data and assumptions table. This is a minor cost compared to consenting, adherence, and construction expenses.

Benefits

Figure 3 is a flow diagram showing how OWES are expected to reduce planning and consenting times, enabling earlier OFW deployment, delivering carbon savings and reducing developer costs.



Time savings

The implementation of LR specific OWES guidance is expected to reduce planning and consenting delays by providing clearer and more targeted regulatory expectations. Under the current system, OFW projects often face delays due to lengthy negotiations with regulators and SNCBs over environmental mitigation measures. By standardising and tailoring the guidance to each LR, developers will be able to incorporate the necessary mitigation at an earlier stage, reducing uncertainty and the risk of prolonged planning and consenting periods.

The current planning and consenting period for OFW developments is estimated to be between 5 and 7.5 years (Defra policy assumption), this assumption is in line with internal DESNZ analysis on timelines that uses data from the Renewable Energy Planning Database. The planning and consenting period we refer to in this analysis is from when a developer becomes the preferred bidder following TCE's leasing process, up until construction of the OFW farm begins. The estimated time of the planning and consenting process was determined by looking at timeframes of projects over the last few decades and how long they have taken in each stage of the planning and consenting process. This information was supplemented by stakeholder engagement, engagement with analysts from other government departments (OGDs) and internal Defra policy workshops to create an estimate. The policies within OWEIP are collectively expected to save time over the planning and consenting period through simplifying and standardising the design and assessment of OFW developments, expanding the range of compensation available, and allowing for compensation to be delivered strategically across multiple OFW projects. Collectively, the policies within OWEIP could shorten the planning and consenting process by 1 to 2 years. The 1 to 2-year time savings was informed by policy workshops, where it was estimated that OWEIP could save 2-3 years in the planning and consenting process for OFW developments. To be conservative we used 1 to 2 years' time savings for our analysis. The consultation did not provide any additional information to account for in estimating the time savings, however Defra held sessions to test time savings assumptions with analysts in OGDs, where our approach and estimates were in line with their expectations.

Time savings from OWEIP rely on all the policies working in conjunction with each other, with each one dependent on the others to maximise effectiveness. The OFW industry is expected to grow exponentially in the decades to come in order to contribute towards OFW and net zero targets; this, as well as the novel nature of compensation in the marine environment mean the future is highly uncertain. This makes determining each policy's contribution to time savings over the planning and consenting process very difficult.

For the purpose of this analysis, we have assumed that the Marine Recovery Fund (MRF) is responsible for 40% of the time savings from OWEIP, Environmental Compensatory Measures Reforms (ECMR) for 30%, and Offshore Wind Environmental Standards (OWES) for 30%. This split was produced in workshops attended by policy specialists and analysts from each of the policy areas within OWEIP, during which the expected impact of each policy was assessed over time and key considerations were outlined. Each attendee then provided their suggested splits for three time periods, the near term (2025 to 2030),

medium term (2030 to 2040), and long term (2040 to 2050), these were then averaged out to provide the splits used in the analysis. These are our current best estimates based on our understanding of industry needs, future OFW pipelines and expected uptake. OWEIP consultations and stakeholder engagement did not provide any additional information to take into account in determining policy splits for time savings over the appraisal period, so the estimates remain unchanged.

There are a range of factors that could impact the time savings from OWEIP, which include but are not limited to: the pipeline of compensatory measures available, uptake of the MRF, adherence to OWES and future policy development.

The time savings from OWES policy would come from:

- publishing standardised mitigation measures: this would mean less time is spent in discussions between developers and SNCBs agreeing appropriate mitigation, as expectations are set out clearly upfront for the standards selected as OWES
- improving clarity and consistency in project design: standardised guidance would help narrow project design parameters and avoid overly cautious or unclear proposals, reducing delays caused by uncertainty or late-stage issues

Time savings have been quantified via option fee savings to industry and carbon savings.

To business - Option fees savings (transfer from government to industry) – **£460 million**

Over the planning and consenting period, developers must pay option fees to TCE to reserve their area in the seabed. This is paid annually until construction begins. In Leasing Round 4, the average annual option fees were £110 million per GW. The current length of the planning and consenting process is estimated to be between 5 and 7.5 years (based on Defra policy assumption, more details can be found in the Monetised Impacts - Data/Assumptions table below), with OWEIP expected to save anywhere between 1 to 2 years in the planning and consenting process. OWES is expected to account for around 30% of the time savings from OWEIP. Developers paying option fees over a shorter time period as a result of the OWES are estimated to save £460 million (of a total £1.5 billion from OWEIP as a whole), in 2025 prices and present value. This includes an optimism bias of 43.2% in line with Green Book supplementary guidance. The DESNZ quasi reference case gives us the Clean Power 2030 and Net Zero 2050-consistent capacity pathway for OFW development. To this pathway, we compare the option fees paid in the baseline scenario with one in which the time spent by developments in the planning and consenting phase is shortened as a result of OWEIP.

A range of values for:

- the average length of the planning and consenting period of development (5 to 8 years)
- the time savings of OWEIP (1 to 2 years)
- option fees (£88 million to £132 million per GW)

are used to create low, central and high scenarios for estimating the option fees saved by businesses.

In the low scenario, the lower-end assumptions for the planning and consenting period, time savings and option fees are used. In the high scenario, the higher-end assumptions are used. The best estimate is based on the central scenario, using central assumptions for each of these inputs.

The central estimate for option fee savings is £460 million, this central scenario assumes annual option fees of £110 million per GW, and a 0.45-year reduction in planning and consenting timelines attributable to OWES with a range from £160m to £760m that reflects uncertainty over key inputs and assumptions more details can be found in the Monetised Impacts - Data/Assumptions table below.

The table below shows the year-by-year outrun of the option fee savings across the appraisal period. Option fee savings are concentrated earlier in the appraisal period, as the DESNZ capacity pathway reflects the UK's commitment to Clean Power by 2030 targets and the greater availability of suitable sites earlier on. This reflects the assumed project timeline, where offshore wind developments entering planning from the mid-2020s are expected to begin construction and become operational from around 2028 onwards, concentrating activity and option fee payments earlier in the appraisal period.

Table 8 shows the year by year outrun of the option fee savings across the appraisal period.

Year	Discounted Option Fee Savings, 2025 prices in millions		
	Best estimate	Lower bound	Upper bound
2025	0	0	0
2026	40	10	71
2027	44	24	64
2028	32	15	49
2029	27	21	34
2030	35	13	58
2031	41	14	67
2032	36	10	63

2033	35	12	58
2034	26	6	46
2035	25	9	41
2036	23	9	38
2037	20	10	30
2038	13	0	26
2039	18	4	32
2040	19	5	33
2041	8	0	17
2042	4	0	7
2043	8	0	16
2044	4	0	9
2045	0	0	0
2046	0	0	0
2047	0	0	0
2048	0	0	0
2049	0	0	0
Total	**£460 million**	**£160 million**	**£760 million**

Option fees are paid by developers to TCE, therefore option fee savings to developers are equal in value to the reduction in revenue generated by TCE from option fee payments. 100% of TCE's net profit is paid to HM Treasury (HMT) to then be used to fund the Sovereign Grant and to contribute towards HMT spending. Therefore, the avoidance of option fees are considered to be reducing the transfers from industry to government and have no impact on the Net Present Social Value.

To society - Carbon savings (indirect benefit) – **£610 million**

A shorter planning and consenting period, and quicker rollout of OFW, will mean a quicker move to renewable energy sources. Carbon savings will only occur once an OFW development is operational, and the energy generated from OFW is able to replace its alternative. Construction of OFW developments is estimated to take 2 years, therefore the earliest we expect to see any carbon savings as a result of this policy intervention would be in the year 2028. This would be after the guidance published (2026), and the construction is complete (2026 to 2027).

Carbon savings linked to the time savings described above. OWES is expected to reduce the time spent agreeing suitable mitigation during the planning and consenting process by providing clearer expectations for developers, SNCBs and decision-makers. Where this reduces delays, OFW projects can move through consenting and construction earlier than under the Do Nothing scenario. Once operational, this brings forward renewable electricity generation that would otherwise have come online later, creating carbon savings in the years where offshore wind generation is accelerated. So, carbon savings are calculated by estimating the emissions avoided due to earlier deployment of OFW capacity, displacing more carbon intensive energy generation

The counterfactual assumes that earlier OFW generation displaces electricity generation that would otherwise have been required on the grid. This is expected to reflect the marginal generation mix over time, rather than a fixed assumption that all displaced generation is from one source. The analysis accounts for declining grid carbon intensity over the appraisal period, meaning the carbon saving from earlier deployment is higher in earlier years, when the displaced generation is more carbon intensive, and lower in later years as the grid becomes progressively decarbonised. This calculates the carbon emissions saved relative to the ‘Do Nothing’ scenario, where OFW capacity would still increase but at a slower rate due to the absence of time savings as a result of OWEIP. The DESNZ quasi-reference case gives us projections for OFW deployment for a Net Zero 2050 and Clean Power 2030-consistent power system. This would require an additional:

- 30GW by 2030
- 52GW by 2040
- 80GW by 2050

of OFW power generating capacity, beyond the existing 16 GW capacity in the UK in 2024.

Table 9 shows the discounted carbon savings based on 2025 prices

	Discounted Carbon Savings, 2025 prices in millions

Year	Best estimate	Lower bound	Upper bound
2025	0	0	0
2026	0	0	0
2027	0	0	0
2028	270	61	480
2029	157	51	264
2030	54	13	95
2031	37	9	66
2032	22	6	39
2033	12	3	20
2034	14	2	27
2035	14	4	24
2036	9	2	17
2037	7	2	12
2038	4	1	7
2039	3	1	5
2040	2	0	4
2041	2	0	3
2042	1	0	2
2043	1	0	2
2044	1	0	1

2045	0	0	0
2046	0	0	0
2047	0	0	0
2048	0	0	0
2049	0	0	0
Total	**£610 million**	**£155 million**	**£1.1 billion**

Option 4: Publish gGeneric and LR-specific OWES Linked to the NPS EN-3

Costs

To government - Option fee revenue loss (transfer from government/TCE to OFW developers) – **£460 million**

Option fee revenue loss in option 4 would be the same as in option 5. We do not expect a difference in the time savings in Options 4 and 5.

To business - Familiarisation (direct cost): **– £20,000**

Familiarisation costs under Option 4 will be higher than those in Option 5, as developers will need to review and interpret both generic and LR specific guidance. The longer guidance documents and potential overlaps could lead to higher internal review and training costs. The LR-specific guidance is expected to be 12,000 words in length, For Option 4, where both the LR-specific and generic guidance would need to be reviewed, the total volume of material is assumed to be 50% more content to read overall, estimating a total length of 18,000 words.

Whilst the familiarisation cost for Option 5 is estimated at £13,000 per developer, Option 4 may exceed this range by up to 50%, and lead to total familiarisation costs of up to £20,000 due to the additional complexity in understanding how the generic and LR specific guidance interact. For the full calculation, see the data and assumptions table.

Benefits

Time savings

Similar to Option 5, Option 4 is expected to reduce planning and consenting delays by providing structured regulatory expectations. However, because Option 4 includes both generic and LR specific guidance, there is a risk that developers may face additional uncertainty in determining which elements of the guidance apply to their projects. This

could potentially lead to slightly longer negotiation periods and slightly less efficient reductions in planning and consenting times compared to Option 5. However, the difference between time savings in Option 4 and Option 5 is not expected to be significantly different. Therefore, we assume option fee savings and carbon savings are similar in both options, with option fee saving of £460 million to businesses and carbon savings of £610m expected for option 4 as well.

To Business - Option fees savings (transfer from government to Industry) – **£460 million**

To society - Carbon savings (indirect benefit) – **£610 million**

Methodological changes since the Options Assessment

Since the publication of the Options Assessment (OA), the modelling has been updated to reflect the following:

- Revised OFW capacity pathway from DESNZ
- Updated carbon-based emission factors
- Updated familiarisation costs based on word count of guidance

Introduced option fee sensitivity of ±20% in option fee cost per GW

All other assumptions – including those relating to time savings – remain unchanged from the OA. This is because no new evidence stakeholder engagement provided sufficient basis to revise these estimates. These assumptions were developed through internal workshops and validated against historical data and industry feedback and continue to represent a conservative and robust foundation for analysis. In the Data and Assumptions table below, since OA stage, we have added confidence ratings for each of the assumptions and treatment of uncertainty where applicable.

Data and assumptions table

Table 10 data and assumptions table

Description	Assumption	Source	Confidence Rating	Treatment of Uncertainty
Economic transformations	Prices have been converted into 2025 prices using the GDP deflator.	GDP Deflator - HMT Discount Rate – Green Book	Green. Follows standard government guidance.	N/A

	To get values in present terms, they have been discounted using the 3.5% discount rate.	Supplementary Guidance		
Appraisal period 2025 to 2050	The standard appraisal period of 10 years would not effectively capture the impacts of the policy as environmental impacts can take a longer time to materialise, and there is a lag before we see some of the impacts from this policy. The policy is designed to accelerate the expansion of offshore wind to help the UK reach its net zero target by 2050, therefore we have used a 25-year appraisal period which runs until 2050. However, impacts are expected to continue after this period.	N/A	N/A	N/A
Time savings from OWES 0.3 to 0.6 years Used in calculating value of option fees	Consenting period for OFW developments between 5 and 7.5 years.	Defra policy assumption. We held a workshop between economists and policy advisors	Amber. The estimate is grounded in Defra policy workshops, internal modelling,	Additional threshold analysis shows that even very minimal time savings would be sufficient for OWES to

and carbon savings.	Time savings from OWEIP of 1 to 2 years. The time savings estimate of OWEIP is a conservative estimate, with the range capturing the potential cumulative effectiveness of all policies in reducing the planning and consenting time for OFW developments. Time savings from the OWES ~ 30% of the savings from OWEIP. OWES provides time savings by helping reduce delays in the offshore wind consenting process by standardising mitigation measures upfront, which limits the back-and-forth negotiations between developers and statutory nature conservation bodies (SNCBs). This streamlining improves clarity and speeds up agreement on suitable mitigation. OWES also supports narrowing	working on OWEIP to determine how long the planning and consenting process is, and how much time OWEIP could reduce this by. Assumptions were based on timeframes published by other sources, case studies, stakeholder feedback and policy expertise. Our estimated timeline for planning and consenting differs from the timeline presented under 'Offshore Wind Development Timeline' in Section 2 'Strategic Case for Proposed Regulation' as our assumption is based on a best estimate from multiple sources. The initial expectation was that OWEIP could reduce	and engagement with stakeholders across government and industry.	achieve a positive NPSV, suggesting that the policy remains beneficial even under very conservative time savings.

	project design envelopes, helping avoid overly cautious assessments and reducing the risk of late-stage issues during examination.	planning and consenting times by 2 to 3 years, however we have used 1 to 2 years to account for optimism bias. These estimates were later tested with analysts in OGDs, who were content with our approach. The policy splits were also determined during policy workshops where policy leads from MRF, OWES, and ECMR provided their opinions on how much each policy would contribute to time savings over time. These were then averaged to provide the splits used in the analysis. Time savings were calculated at programme level, and then the agreed percentage split was		

		applied to each individual policy intervention.		
Familiarisation - £10,000 to £20,000 Includes 19.68% optimism bias in line with Green Book guidance.	Developers need to familiarise themselves with the OWES guidance which is expected to be: • Option 5: 12,000 words for LR specific guidance • Option 4 (expected 25-50% more than option 5): 15,000-18,000 words for LR specific guidance and generic guidance. The high assumption of a 50% increase on option 5 has been used in the analysis. Each page estimated to have ~500 words. Technical reading central estimate (words per minute) = 75 words.	Pages - policy estimate Technical reading – govt guidance Wage – Office for National Statistics ASHE 2025 Wage uplift – Regulatory Policy Committee guidance	Green Based on standard methodology and ONS wage data. These inputs are transparent, replicable, and consistent with Green Book guidance. Magnitude of familiarisation costs means that outcomes of the IA are not very sensitive to relatively large deviations in familiarisation cost.	N/A

	Salary (average salary of 3 relevant professions; between legal and management) - £52,861. Hourly wage (assuming 8-hour workday) - £25.41 per hour. Non-wage uplift – 1.22. No of staff to be familiarise (central) – 3 per development. No of OFW firms in UK – 44. This estimate is based on the number of OFW projects currently in the pipeline. While precise data on the numbers of individual firms is not available, a conservative assumption has been applied by treating each project as being delivered by a separate entity, acknowledging that in practice there is likely to be some overlap between developers.			

	Optimism bias is applied as a 19.68% increase to estimated familiarisation costs, in line with Green Book supplementary guidance.			
Carbon savings - £610 million Includes 43.2% optimism bias in line with Greenbook guidance.	Offshore wind rollout follows DESNZ capacity forecast. OWEIP could reduce planning and consenting process by 1 to 2 years and 30% of these time savings are attributed to OWES. Analysis uses carbon intensity of the UK grid projections for generation-based emission factors over the appraisal period. Energy intensity of the UK grid is 0.085kg CO2e per kWH on average. 2025 Carbon values in 2022 prices - £137 to £410 per tonne of CO2. Optimism bias is applied as a 43.2%	DESNZ estimates as of Q3 2025. Policy expertise using a conservative estimate. Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal.	Amber. Estimate uses Green Book carbon values and official DESNZ projections, ensuring consistency with government modelling standards.	Intrinsic uncertainties in future carbon savings are handled by scenarios-based modelling in line with Green Book guidance.

	reduction to estimated carbon savings benefits, in line with Green Book supplementary guidance following the guidelines for equipment and development works duration. The increasing value of carbon over time is accounted for in line with Green Book guidance and applies the recommended discount rate of 3.5% ensuring the carbon benefits are valued consistently across the 25-year appraisal period. Even at the lower end of the estimated carbon savings range, the option delivers a high value for money. Carbon savings arise from the electricity sector, which is covered by the UK Emissions Trading Scheme and is therefore a traded sector. Carbon savings have been monetised using			

	the Table 3 carbon values from green book supplementary guidance. No ETS allowance savings have been separately estimated or monetised, so no adjustment has been made to avoid double counting.			
Option fees - £460 million Includes 43.2% optimism bias in line with Greenbook guidance.	OFW rollout follows DESNZ capacity forecast. OWEIP could reduce the planning and consenting process by 1 to 2 years and 30% of these time savings are attributed to OWES. All option fees are paid according to the calendar year. Option fees, based upon average annual leasing round 4 option fees, in 2023 prices - £110 million per GW. Optimism bias is applied as a 43.2% reduction to estimated option fee savings benefits, in line with Green Book	DESNZ estimates Policy expertise using a conservative estimate. Simplifying assumption made by economists with minimal impact on quantification. The Crown Estate leasing round 4 tender process outcome.	Green. Option fees are based on data from previous leasing round, with ±20% built into scenarios to account for price deviation.	N/A

	supplementary guidance following the guidelines for equipment and development works duration.			

Non-monetised impacts

The non-monetised costs and benefits for Options 4 and 5 are shown in comparison to the baseline of 'Do nothing' (Option 1). These are impacts that we have not been able to quantify. The non-monetised impacts for both options are expected to be similar therefore they have been presented together in this section, any potential differences between the options have been explicitly stated.

Option 4 and 5: 4) Publish generic and Leasing Round (LR)-specific guidance linked to the NPS EN-3. 5) Publish LR-specific guidance linked to the NPS EN-3 (preferred option).

Costs

To business: Adherence and administrative costs

Developers will face costs associated with implementing the LR-specific expectations outlined in OWES. These costs arise from the need to meet stricter environmental standards tailored to each LR, ensuring that projects address site-specific risks. Developers will also be expected to demonstrate to provide evidence that their projects align with the guidance, which could require some initial engagement with regulatory and technical experts. This will increase the administrative burden on developers in the first instance as they familiarise with the new OWES approach, however this will be offset by reduced engagement with SNCBs in agreeing mitigation measures for their projects, as OWES would provide a more standardised framework that speeds up the regulatory review process. We have chosen to establish the process of demonstrating adherence with OWES alongside existing areas of the DCO application to minimise the potential administrative burden. Developers will be expected to reference the OWES they have adhered to (and any evidence to show their justification for departure from a measure if relevant) in the existing NPS chapter of their Environmental Statement.

The planning and consenting process will likely see an increase in the volume of documentation to demonstrate adherence to OWES, or any justification if a measure can't be applied. This will require dedicated personnel time, legal expertise, and technical input, all of which add to the overall cost. The administrative costs could be more significant for

early adopters of the policy, as the industry adjusts to the new framework and refines its approach to demonstrating adherence. There are three project developments in LR5, so familiarisation costs may affect those three developers more than in future LRs, however general costs are expected to be relatively equal across future LR.

Option 4 includes both generic and LR-specific guidance, so developers may face additional costs associated with determining which aspects of the guidance apply to their specific projects in this option. This could lead to longer review periods and increased administrative complexity, particularly in cases where there is ambiguity between the generic and LR-specific expectations. Differences in interpretation between developers and SNCBs regarding the application of generic guidance could result in disagreements requiring further negotiation and prolonging the planning and consenting process.

To business: Additional construction costs for projects in MPAs

Developers seeking to construct OFW farms within or near MPAs will likely incur additional costs to seek to ensure their projects adhere to the standards. For example, if an OWES was introduced which expected a developer to reroute subsea cables to avoid damage to sensitive seabed habitats, this could result in significant additional construction costs, as longer cable lengths and additional offshore infrastructure may be required. Costs for offshore cable installation are estimated at approximately £220 million per 1GW wind farm. However, OWES may increase these costs if stricter environmental measures are necessitated, rerouting cables to avoid MPAs. In such cases, only the additional costs due to OWES should be considered. It should also be noted that practically the mitigation measures are possible for developers to carry out individually without the implementation of OWES, however the OWES policy implements the standardisation and expectation to follow a number of specific mitigation measures. Exact additional costs will depend on the extent of rerouting necessary, but for context, array cables typically cost ~£35 million per 1GW and export cables ~£130 million per 1GW. Cable-laying can temporarily disturb seabed habitats, cause damage/disturbance of organisms, and cause noise emissions/chemical pollution. In LR5 when OWES will first apply, the project development areas are not directly sited in any MPAs, although there are protected areas nearby in the Celtic Sea which could impact cable routing.

In addition to cabling considerations, developers may need to implement site-specific mitigation measures, such as modifications to turbine foundation designs to reduce seabed disturbance or restrictions on construction activities during sensitive ecological periods. These mitigations could necessitate the use of alternative construction methods, specialised equipment, or additional project planning to accommodate seasonal constraints. The costs associated with these mitigation measures will vary depending on the specific standards set out in the LR-specific guidance, the location of the wind farm, and the ecological characteristics of the area in which it is being developed.

Projects located near designated protected areas may also face extended pre-construction requirements, including enhanced baseline environmental monitoring to assess potential impacts on marine ecosystems. These requirements exist under current regulations; however, OWES may formalise and standardise expectations for environmental data

collection. Additional surveys, such as ornithological and marine mammal studies, are already required for projects in or near MPAs, and OWES does not introduce new survey requirements but may clarify what is expected. As a result, while survey costs may increase due to more consistent implementation, they are not a new burden created by OWES.

Under Option 4, the presence of generic guidance could introduce potential over-adherence costs, as developers may seek to meet standards that are not necessarily tailored to their LR. This could lead to unnecessary expenditures on mitigation measures, increasing overall project costs compared to Option 5.

To government: public sector costs

SNCBs are already supporting the development of OWES, however they may still need to familiarise themselves with the OWES guidance to ensure developers have effectively applied the relevant standards when proposing mitigation measures. This will require some staff time and resources, but it is expected to be absorbed within existing funding arrangements. Furthermore, the standardisation of mitigation measures is expected to improve regulatory efficiency by reducing case-by-case negotiations between developers and regulators, so over time, this should help streamline the planning and consenting process without placing additional financial burdens on the public sector.

Option 4 is likely to impose lower public sector costs compared to Option 5, as the inclusion of generic guidance reduces the need for highly tailored LR-specific assessments. Since some mitigation measures will be standardised across projects, regulatory bodies and SNCBs may require fewer resources to review applications compared to an entirely customised approach. However, the coexistence of both generic and LR-specific guidance could create ambiguity in some cases, potentially leading to disagreements between developers and regulators, which could require additional clarification and negotiation, partially offsetting any cost savings.

To government: Monitoring and evaluation costs for OWEIP

The government policy measures under the OWEIP will need to be monitored and evaluated. This would involve a cost to government, and possibly industry if there are increased requirements for monitoring and evaluation which may require time and resources to ensure it is carried out to an appropriate standard.

Benefits

To society: Improved protection of marine biodiversity

Improving outcomes for marine protected areas (MPAs) is a core objective of the OWES policy, supporting the statutory target for protected features within MPAs to reach favourable or recovering condition.

LR specific guidance ensures that OFW developments are designed to mitigate risks to marine biodiversity in a more tailored and effective manner. Through site-specific

environmental measures, OWES helps reduce the impact of construction and operation on key marine species, habitats, and ecosystems. This is particularly beneficial for seabird populations, marine mammals, and benthic habitats, which can be disproportionately affected by OFW infrastructure. The guidance also supports early identification of environmental risks, enabling developers to proactively plan mitigation strategies, such as designated buffer zones, which can help protect vulnerable marine ecosystems.

Recent OFW applications demonstrate how earlier, and more targeted, mitigation can improve environmental outcomes. For example, projects such as Dogger Bank South show how early agreement on cable routing to avoid MPAs and sensitive seabed features can significantly reduce impacts on benthic habitats and designated conservation sites, while also reducing the need for compensatory measures. While these biodiversity benefits cannot be robustly monetised, they are expected to be material at a regional scale, particularly in areas subject to multiple offshore wind developments. Improved consistency and site-specific mitigation are likely to deliver cumulative benefits for seabirds, marine mammals and benthic habitats within and around MPAs, supporting longer term recovery of protected features while enabling offshore wind deployment to continue at pace.

The environmental benefits of Option 4 largely mirror those of Option 5, as both options ensure OFW projects are developed with standardised mitigation measures. However, because generic guidance is not tailored to specific LRs, some mitigation measures may be less effective or overly cautious, leading to either unnecessary costs for developers or gaps in environmental protection. In contrast, the LR specific focus of Option 5 ensures that environmental standards are more precisely aligned with site-specific risks.

To government: Improved reputation and meeting targets

Options 4 and 5 would both help enable government to meet the Clean Power by 2030 Action Plan, contribute towards 2050 net zero targets, and ensure the environment is protected to align with the government's environmental commitments. They will show the government is taking action to address issues raised by the OFW industry, which is in favour of government intervention through OWEIP, which includes OWES.

To business: Lower adherence and legal costs

By providing targeted guidance that aligns directly with the environmental risks of each LR, OWES reduces uncertainty around regulatory expectations and ensures that developers are clear on the mitigation measures expected for their specific projects. This greater clarity reduces the likelihood of costly disputes with regulators and statutory consultees, which can arise when environmental obligations are ambiguous or inconsistently applied. Avoiding legal challenges and renegotiations not only saves on direct legal costs but also minimises project delays, which can have significant financial implications.

Furthermore, OWES helps streamline the approval process by reducing the discussion time between developers and SNCBs where there is disagreement on proposed mitigation measures which could reduce the additional costs associated with revising proposals or

addressing last-minute objections from regulators. In turn, this reduces reliance on external legal consultation and lowers the overall cost of adherence, allowing resources to be allocated more efficiently toward project development.

To business: Accelerated OFW industry revenue

Options 4 and 5 are expected to deliver time savings over the planning and consenting period. A shorter planning and consenting period would mean that OFW developments can be constructed and operational quicker. This will allow developers to start generating revenue from the production and sale of OFW energy at an earlier date than they otherwise might have been able to.

To society: Energy security and the cost of energy (indirect benefit)

Options 4 and 5 would contribute towards an accelerated rollout of OFW, increasing the capacity generated more quickly than in the 'Do nothing' scenario. By contributing to the increase in domestic energy supply, this will support the move to greater energy security where the UK is less dependent on importing energy, and therefore less susceptible to impacts from global energy supply shocks. A more reliable energy system will ensure higher levels of price stability.

Household impacts

UK households will benefit from an increased and accelerated deployment of OFW. This includes cheaper and less volatile energy prices, safer air quality, and reduced climate change related risks. However, there are also potential negative impacts to consider, such as concerns over the visual effect of OFW farms.

Within the UK, energy prices in recent years have soared, leading to an "energy crisis", as shown in Domestic energy prices - House of Commons Library. In 2022, the average British household faced their energy bills increasing by 54% in April and by 27% in October. A recent analysis by Aurora Energy Research for Renewable UK found households could save approximately £68 a year by 2035 with an electricity system dominated by OFW. Affordable energy comes through the creation a home grown, secure energy sector. In general, the move towards renewable energy is cheaper for billpayers in the long term.

Savings from option fees means OFW developers face lower costs. This saving could be passed onto the consumer in the form of lower prices, representing a benefit to households however this is uncertain due to all the factors that influence energy prices. This policy will contribute towards an accelerated rollout of OFW, which in turn reduces carbon emissions, improving air quality and mitigating and reducing the negative impacts from climate change, all of which impact households.

OFW development, whilst generally supported by the public, does raise some concerns regarding, impacts of construction and development on transport routes and the potential displacement of other marine activities. Whilst the OFW capacity is expected to grow in the

‘Do nothing’ option, the accelerated rollout of OFW could emphasise these concerns in the short term.

Wider impacts

The policy options proposed through the OWEIP are not predicted to lead to any direct wider impact. However, they will hopefully contribute towards an accelerated and increased development of OFW. Therefore, leading to several indirect impacts.

Trade

The indirect impacts on trade and investment can be broken down into 2 main areas: net imports/exports of energy and increased demand for materials.

Currently, the UK is reliant on imports of oil, gas and coal to sustain its demands for energy. In 2024, the UK imported 44% of its overall total energy consumed. Over 90% of energy imports are made up from oil and gas. An increased deployment of OFW would decrease the UK’s need for gas and oil imports. A study undertaken by Oxford University found that the UK has the potential to achieve an energy self-sufficient future, as the practical potential for wind and solar energy in Britain (2,896 TWh/year) far exceeds the maximum estimated final energy consumption of Great Britain in 2050 (1,500 TWh). The UK could then export its excess electricity using interconnectors, if desired.

Much of the supply chain for OFW in the UK comes from abroad. While blades are made in Britain, the country relies on imports from the EU for towers, turbines and nacelles.

While the UK will need more materials to expand its production of OFW, some of this increase could be met by greater production from UK suppliers, creating an uncertain impact on trade. Growing the UK’s supply chain for OFW could capture £92 billion of Gross Value Added to boost the UK’s economy by 2040, according to a report by the Offshore Wind Industry Council and the Offshore Wind Growth Partnership.

Business environment

The UK is the second largest OFW market in the world. This is due to government support for OFW investment, as well as the UK’s natural geographical advantages. The UK continues to drive investment and innovation in its thriving OFW sector through its world-leading ambition and deployment of new technologies. By reducing planning and consenting timelines, investors will receive revenues from OFW earlier, increasing profitability. This increases the attractiveness of the OFW business environment and may increase international investment, which will increase economic growth and employment. Each new large OFW farm is estimated to add £2 to 3 billion to the economy.

Distributional impacts

Fuel poverty refers to households that are forced to spend a high proportion of their total income on energy bills. The charity National Energy Action estimated that 6 million households in the UK were in fuel poverty in 2024. One of the main aims of green energy

and OFW is to provide affordable energy at stable prices. Therefore, the policy suggested will likely benefit low-income households in particular in the long term.

Furthermore, air pollution disproportionally impacts people of low-income households and of ethnic minorities. A clear example of environmental injustice. This policy will accelerate the movement towards a clean air future, particularly helping those in lower income urban areas.

Employment

The OFW sector spans a range of jobs, with a lot of these jobs are based in small coastal communities, areas often with lower economic status. In 2022, there were 32,000 jobs recorded in the offshore energy sector. By 2030, this is set to rise to more than 100,000. This includes direct jobs (solely in OFW) and indirect jobs, for example within the supply chain. From East Anglia One windfarm, 100 long term jobs were created in Lowestoft. Whilst in the 'Do nothing' option OFW capacity is expected to grow, OWES accelerating the rollout of OFW could result in more jobs being created quicker, allowing these communities to see benefits sooner.

Targets have grown faster than employment, causing a growing gap between the skilled workers available and those needed to meet targets. It is possible that without an active effort to train new employees, a lack of skilled workers could prevent the growth of the OFW sector. However, these ambitious targets also create the opportunity for significant increases in employment in the OFW sector in the UK. It is possible that without an active effort to train new employees, a lack of skilled workers could prevent the growth of the OFW sector. However, these ambitious targets also create the opportunity for significant increases in employment in the OFW sector in the UK.

Welfare impacts from improving the marine environment

Protecting and restoring the marine ecosystems delivers wide ranging welfare benefits for the UK. Coastal ecosystems can capture 33% of the UK's 2018 emissions, worth £10.1 billion. Better management of MPAs can deliver up to £10.5 billion of recreational and other benefits, while coastal ecosystems can provide over £6 billion worth of flood protection services. Without ocean recovery, climate change is expected to cost the UK fishing sector at least £1.5 billion by 2050. Additionally, ocean recovery has the potential to create up to 100,000 jobs as part of a green recovery.

Impacts specific to LR5 OWES

OWES has been developed on a leasing round–specific basis, with each future leasing round expected to have its own set of targeted standards reflecting the relevant technologies, locations, and environmental risks. The costs and benefits presented below relate to the initial tranche of OWES for LR5 and are indicative of how impacts are expected to arise under this approach.

The OWES team engaged extensively with stakeholders, including developers and SNCBs, to understand the potential impacts of the proposed standards. However, due to

uncertainty and the absence of data, it was not possible to derive reliable cost estimates for individual OWES. As a result, a qualitative assessment of the costs and benefits has been provided. The costs and benefits will be different for each LR, this section focuses specifically on LR5 impacts. OWES for LRs beyond LR5 have not been developed, and therefore we cannot provide any more detail on what they could look like.

OWES 1- Export cable burial to reduce electromagnetic field (EMF) effects to sensitive species.

Costs

Cable burial is already standard industry practice and the preferred engineering approach unless site or design constraints make it unfeasible. Developers already undertake cable burial risk assessments and consider EMF mitigation through existing HRA and EIA processes, with alternative mitigation explored if required and where burial is not possible. This OWES therefore reinforces and standardises an existing approach already reflected in The Crown Estate's plan-level HRA and NPS EN-3, so significant additional costs are not expected. A deviation route preserves flexibility where burial cannot be achieved because of seabed or engineering constraints, and current evidence does not suggest the measure would require different installation methods or equipment.

Benefits

The main benefits of this OWES are expected to be a smoother consenting process and reduced environmental risk. Where projects provide cable burial risk assessment evidence early and demonstrate that burial is achievable in line with NPS EN-3, EMF-related concerns may be resolved more quickly, reducing iterative discussion during examination and supporting a more efficient consenting process. Environmentally, burial reduces potential EMF effects on sensitive marine species by increasing the distance between the cable and receptors, lowering the likelihood of negative ecological impact. EMF is recognised as an environmental stressor for benthic fauna, fish and marine mammals, with possible effects on behaviours and processes linked to survival, migration and reproduction. This is supported by evidence from the Floating Offshore Wind Environmental Response to Stressors project led by Cefas, which indicates that measured magnetic fields may in some cases be higher than basic model estimates and extend further from the cable than previously assumed, reinforcing the value of burial as mitigation.

OWES 2 – Adoption of Vessel Traffic Management Plans to avoid disturbance to seabirds and marine mammals in sensitive or higher-density areas

Costs

Vessel Traffic Management Plans are already used in some offshore wind projects, including previous leasing rounds to mitigate disturbance to sensitive species such as red-

throated diver, and developers are already expected to follow relevant wildlife codes of practice. This OWES therefore builds on existing practice, with its main effect being to ensure Vessel Traffic Management Plans (VTMP) are prepared more consistently and at an earlier stage in planning and consenting. The measure is also consistent with mitigation recommended through The Crown Estate's plan-level HRA, so significant direct costs are not expected. Some project-specific costs may still arise where mitigation within a VTMP necessitates avoiding sensitive areas, taking less direct routes or reducing vessel speeds, which could increase transit times and operational costs. In some cases, information needed to define these standards fully may not yet be available at the earlier stage envisaged by the OWES, although reasons for deviation which may arise at a later stage may be addressed through the deviation process. There may also be trade-offs, including increased vessel time and potentially higher emissions from rerouting, but these impacts are expected to be limited and highly site-specific.

Benefits

The benefits of this OWES are expected to arise through earlier consideration of vessel-related disturbance in planning and consenting and through reduced risk of disturbance and collision for seabirds, marine mammals and other sensitive species. Where developers commit to this OWES from the screening stage, the need for later discussion about whether a VTMP is expected and the necessary mitigation within a VTMP may be reduced, which could help streamline consenting, particularly for projects near protected sites or areas of higher species density. Measures secured through a VTMP, such as using established shipping lanes, avoiding sensitive areas, or reducing vessel speeds in particular locations or periods, are intended to reduce negative impact of vessels on ecological receptors. The scale of benefit will depend on the species present, project location and the specific mitigation adopted, but the measure is expected to reduce adverse effects on sensitive features in the most relevant areas.

OWES 3 - Avoidance of excess lighting to protect seabirds, whilst ensuring compliance with aviation and navigation regulatory requirements

Costs

Standards intended to avoid excessive lighting are already largely followed by developers and are shaped by existing aviation and navigation requirements. Lighting design for offshore wind infrastructure is constrained by bodies such as Trinity House, the Civil Aviation Authority and the Maritime and Coastguard Agency, so this OWES mainly reinforces the principle of using the minimum lighting necessary beyond what is already required for safety and compliance. The measure is also broadly consistent with mitigation reflected in The Crown Estate's plan-level HRA, so significant direct costs are not expected, and it is unlikely to have a material effect on consenting. Some limited project-specific costs may still arise where developers adopt particular measures to reduce unnecessary lighting, such as timers or sensors, although LR5 developers have not yet finalised their lighting systems and the OWES is therefore expected mainly to influence

future design choices rather than necessitate redesign. Any reductions in lighting remain subject to aviation, navigation and radar safety requirements, with safety taking precedence where there is a trade-off.

Benefits

The benefits of this OWES are expected to be environmental rather than substantial process gains. Earlier commitment to reducing excessive lighting may slightly streamline consideration of lighting-related effects in consenting, but because lighting standards are already generally followed and shaped by existing regulatory requirements, any consenting benefit is likely to be modest. The main benefit is reduced risk of seabird attraction, disorientation and collision associated with artificial lighting from turbines and vessels. Artificial lighting can be particularly disruptive in poor visibility and may affect nocturnally active seabirds by altering navigation behaviour and increasing collision risk with structures. This is relevant to species known to occur in the Celtic Sea, including Manx shearwater (Puffinus puffinus), which evidence suggests is vulnerable to light-induced disorientation and collision risk, especially in poor weather. More broadly, the evidence base indicates that artificial lighting can disrupt seabird navigation and behaviour through attraction to illuminated structures and interference with orientation cues, reinforcing the value of reducing excessive light3ing where possible across all LR5 sites.

OWES 4 - Adherence to published SNCB and regulator best practice advice, providing justification and referencing alternative advice if deviated from

Costs

Applicants are already expected to follow statutory consultee and regulator best-practice advice throughout consenting, so where published SNCB and regulator advice is already being followed this OWES is not expected to create significant additional costs. Instead, it reinforces the existing expectation that developers should follow published best practice and, where they do not, provide a clear justification and reference any alternative advice received through engagement with SNCBs or regulators. Some limited process implications may still arise where developers depart from published advice and need to explain why an alternative approach is appropriate, creating some additional administrative effort. However, changes to published advice are not expected to be frequent, and any differences between case officer advice, published guidance, or SNCB advice in England and Wales would be considered case by case with reference to project location and impact pathways.

Benefits

The benefits of this OWES are expected to arise through greater clarity, consistency and transparency in the use of published SNCB and regulator advice across consenting. Where developers clearly demonstrate that relevant advice has been followed, the scope for disagreement at later stages is likely to be reduced, which should support smoother progression through application, examination and post-consent stages and may also help

speed up checks on post-consent monitoring reports. More broadly, consistent use of published guidance provides a clearer framework for baseline surveys, early engagement, application assessment and post-consent monitoring, helping to reduce uncertainty over survey design, impact calculations and significance judgments and to resolve disagreements more quickly where they do arise. While this may not create substantial additional benefits where developers are already following advice as standard, it should still improve transparency by ensuring that any departures from published advice are logged.

OWES 5 - Use of Natural England's Offshore Wind Seabird Assessment Tool (OWSAT) to support the developer's Preliminary Environmental Information Reports (PEIRs) during pre-application, and final submissions at application

Costs

Developers are expected to complete OWSAT as part of their ornithological assessments, and the tool is intended to capture the key elements of ornithological EIA and HRA, including adopted mitigation, any required derogations and associated compensation proposals. As OWSAT has already been developed by Natural England, this OWES does not create a new tool but reinforces its use through OWES and expects relevant information to be set out in a more structured and consistent way at pre-application and application stages, including through PEIR and final submissions. Much of this information would need to be produced during examination in any case, so significant direct costs are not expected, although some work is likely to be brought forward. The main incremental costs are expected to relate to familiarisation and earlier, more structured preparation of supporting material.

Benefits

The benefits of this OWES are expected to arise through improved clarity, transparency, consistency and comparability of ornithological assessment information throughout pre-application and examination. Although the measure does not alter direct mitigation, derogation or compensation requirements, it should make the underlying assumptions, parameters and impact calculations more visible from an earlier stage, allowing differences between SNCB-based and developer-preferred approaches to be set out clearly and compared side by side. This should help reduce late-stage discussion about appropriate parameters, support smoother updates as evidence evolves during consenting, and reduce the need for iterative queries where examining authorities or SNCBs would otherwise need to request further ornithological information. By capturing the key elements of ornithological EIA and HRA within a single structured workflow, OWSAT should also make it easier for SNCBs to identify the critical information they need, streamline Natural England's review of submissions, support clearer in-combination assessment across the three LR5 projects, and reduce duplicate documentation as projects develop.

OWES 6 - Agreement of an Archaeological Written Scheme of Investigation (WSI) with the MMO (in consultation with Historic England) in English Waters and NRW (in consultation with RCAHMW and Cadw) in Welsh Waters, and a commitment to submitting all heritage information to the Marine Data Exchange (MDE) according to the timetable set out in the WSI

Costs

The use of WSI is not a new requirement set through OWES, and they are long-established in the UK offshore wind sector. This standard instead aims to strengthen and provide greater detail within the existing process. By building on existing practice, we don't anticipate additional costs as a result of this standard. In addition, the requirement to submit reports to OASIS and data through the MDE is already standard for offshore developments on the UK seabed so we don't anticipate additional costs as a result of this OWES.

Benefits

By strengthening existing practice, this OWES will help to provide more consistency and improve the clarity of expectations, whilst supporting more effective implementation. The use of WSIs provides effective and reliable protection for heritage assets, particularly where construction risks include seabed disturbance, burial, anchoring, and cable installation. Establishing a WSI at application stage helps Historic England, the MMO, and local planning authorities to assess whether heritage risks have been properly understood and mitigated. This is particularly relevant for construction works that span the coastal zone so that a consistent approach is taken to archaeological analysis and interpretation. The requirement to submit reports to OASIS and data through the MDE is already standard for offshore developments on the UK seabed and supports long-term national research priorities and enables future planning decisions to draw from a stronger evidence base.

OWES 7 - Following a benthic impact framework for cable routing, avoiding sensitive areas or mitigating impacts to benthic habitats where avoidance is not possible

Costs

As this OWES aims to reinforce the existing principles of the mitigation hierarchy to avoid, reduce and mitigate for impacts to sensitive habitats and outlines a variety of options for developers to do so, it's not anticipated to lead to significant costs within itself. However, some project specific costs may still arise where mitigation within the benthic impact framework necessitate techniques such as cable routing, burial or protection which may have not been initially intended by developers. However, it should be noted that if a project was adequately applying the mitigation hierarchy to their project design, then these actions should be happening regardless. By outlining this OWES as a framework where

developers can select appropriate techniques to minimise their impact depending on their anticipate risk of impact, it's intended to provide flexibility in design and route options to minimise disproportionate burdens on developers in this respect.

Benefits

The cable routing and installation techniques set out within the proposed benthic impact framework are well established within the offshore wind sector and have been shown to reduce disturbance to benthic habitats, particularly when applied early in project design. Stakeholder feedback and previous consenting experience indicate that clear evidence of route selection and mitigation significantly reduces disagreement during examination.

Early alignment with this framework is expected to provide greater consistency in how cable route alternatives and benthic impact mitigation are considered across Leasing Round 5 projects, helping to reduce uncertainty and focus discussions on project-specific issue.

Risks associated with OWES (both Option 4 and Option 5)

OWES Uptake – Medium

Although OWES would be linked to the NPS EN-3 and would likely be material to the Secretary of State's decision in granting the DCO, current NPS EN-3 wording allows for developers to provide a justification for why they haven't followed the OWES guidance (paragraph 2.8.267 of the NPS EN-3). If a developer chose not to apply any OWES to their application, this would mean the benefits of OWES wouldn't be realised on a case-by-case basis, as lengthy discussions between developers and SNCBs would continue to agree on suitable mitigation as per the baseline option. The less developers who adhere to the OWES guidance, the fewer the benefits overall in realising the policy objectives.

Risks associated with OWES (Option 5 – Leasing Round specific standards and NPS EN-3 linked)

Availability of mitigation measures – Low

With Leasing Round specific standards it may be difficult to identify design specific mitigation standards, especially for LR5 where FLOW is an emerging technology and evidence may be limited. There may also be nervousness from industry regarding any standards which seek to impact design options of OFW. This would be mitigated for through stakeholder engagement, evidence reviews and identifying ways which OWES could be used to fill evidence gaps with a view to support identification of future mitigation measures in further OWES tranches, creating an iterative feedback process.

Risks associated with OWES (Option 4 – Generic and Leasing Round specific OWES, NPS EN-3 linked)

Flexibility – Low

Option 4 which would see a mix of generic and Leasing Round specific OWES, would provide a wider range of possible standards for developers to apply, however this in turn would make the guidance harder for both developers and SNCBs to suitably identify which OWES are applicable to specific projects which could lead to more disagreements and would not support the aims of smoothing the planning and consenting process.

Sensitivity analysis

Scenarios-based sensitivity

This Impact Assessment already incorporates a comprehensive set of sensitivity tests to reflect uncertainty in key assumptions. Specifically, we model low, central, and high scenarios across the following variables:

- carbon values – using Green Book low, central, and high estimates to reflect uncertainty in the valuation of carbon savings
- option fees – option fees from the previous leasing round ± 20% to test variation in the market price of leasing the seabed for developers
- time savings – modelling 0.3 to 0.6 years of planning and consenting efficiency gains attributable to the OWES
- planning and consenting period – testing shorter and longer baseline durations to assess the impact of OWES acceleration

These scenarios are used to generate a range of Net Present Social Values (NPSV) and Equivalent Annual Net Direct Costs to Business (EANDCB), providing a robust foundation for assessing the preferred option.

Table 11 looks at scenarios-based modelling

	Max cost, min benefit	Min cost, max benefit
Option 5 NPSV (£ million)	155	1,068
Option 5 BCR	11,041	76,197
Option 5 EANDCB (£ million)	-9.5	-44.5

Option 4 NPSV (£ million)	155	1,068
Option 4 BCR	7,360	50,793
Option 4 EANDCB (£ million)	-9.5	-44.5

The table above shows that from our scenarios-based modelling, the maximum cost, minimum benefits scenario has an expected NPSV of £155 million, with a very high BCR of 11,041. In this scenario, the estimated EANDCB is -£9.5 million per year. This reflects that even in the worst-case scenario, we can expect OWES to have a positive net present social value, and business net present value. Additionally, the efficiency of OWES is expected to generate option fee savings to businesses that exceed their familiarisation costs, even in the likely worst-case scenario. These numbers are the same across options 4 and 5, due to the relatively small difference in familiarisation costs being the only difference between the 2 options.

To further strengthen the analysis, we have introduced a couple of additional sensitivity tools:

- threshold analysis – identifying the minimum time-saving required for the OWES to break even
- confidence ratings added to the data and assumptions table – assessing the quality of key assumptions and discussing how the methodology reflects these uncertainties

Threshold analysis

To assess the robustness of the preferred option, we conduct a threshold (break-even) analysis to identify the minimum conditions under which OWES delivers a net positive impact. The analysis focuses on the minimum time savings required for OWES to break even in terms of Net Present Social Value (NPSV).

Table 12 is a threshold analysis to identify minimum conditions for OWES to deliver net-positive impact

	Break-even scenario	Central
Option 5 Time savings (years)	0.000008	0.45
Option 5 NPSV (£ million)	0	610

Option 5 BCR	1	43,620

Time savings threshold

The minimum time saving that must be delivered by OWES in order to deliver benefits that match our estimated costs is just 0.000008 years – approximately 4 minutes. This is equivalent to just 0.0001% reduction in the existing planning and consenting timeframe of 5 to 8 years as a result of the implementation of OWES.

This is significantly lower than our central assumption of 1.5-year reduction in planning and consenting time (equivalent to a 12% reduction in the current timeframe), indicating that even modest efficiency gains would likely yield net benefits.

This threshold analysis therefore demonstrates that the preferred option remains cost-effective under conservative assumptions and may provide a useful benchmark for monitoring implementation success.