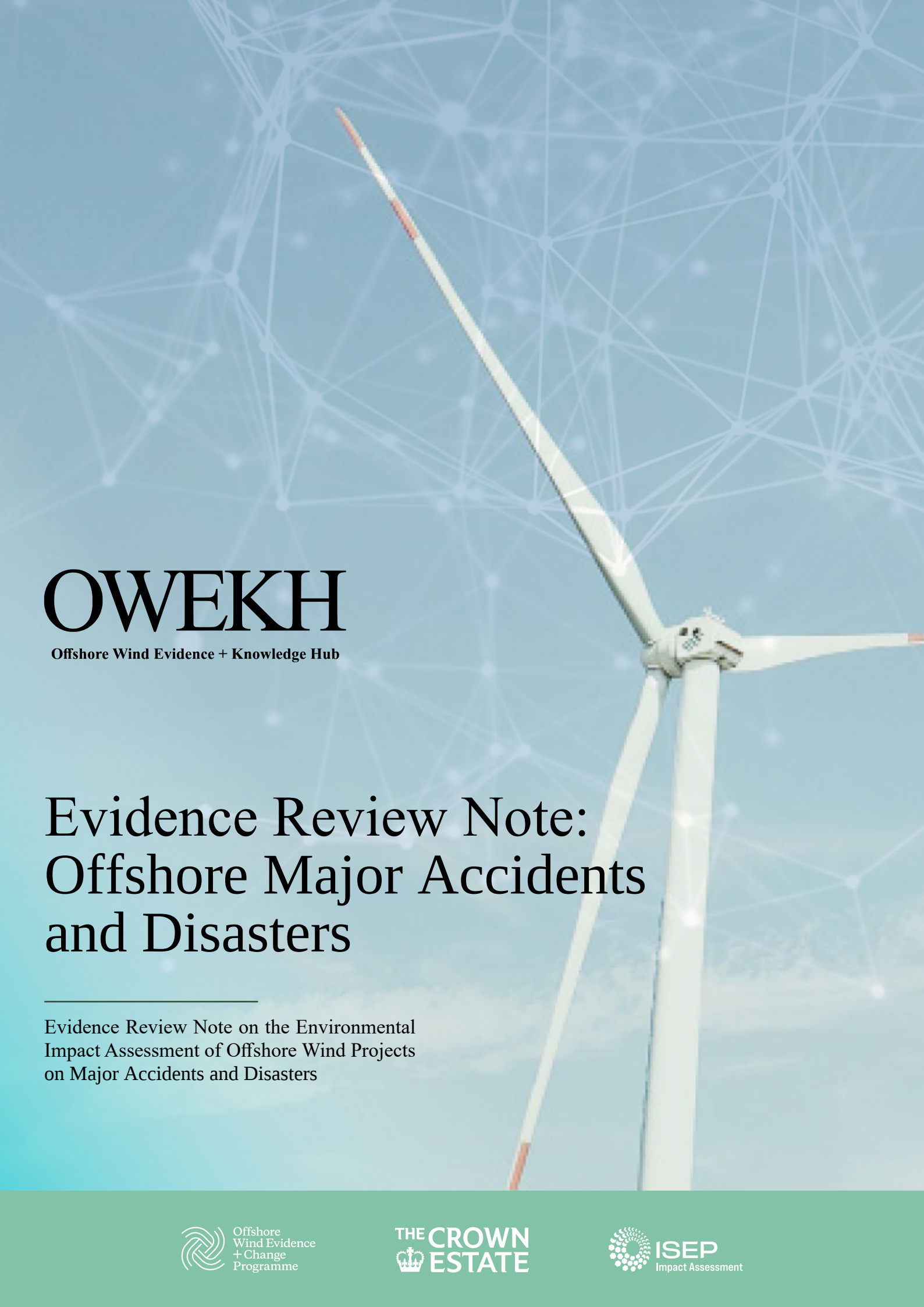


The background of the entire page is a photograph of a white wind turbine against a clear blue sky. A semi-transparent network of white lines and dots is overlaid on the image, creating a digital or interconnected feel. The turbine's blades are visible, with one blade pointing towards the top left and another towards the right.

OWEKH

Offshore Wind Evidence + Knowledge Hub

Evidence Review Note: Offshore Major Accidents and Disasters

Evidence Review Note on the Environmental
Impact Assessment of Offshore Wind Projects
on Major Accidents and Disasters

Acknowledgements

This Evidence Review Note (ERN) has been developed by OWEKH's Impact Assessment Technical Topic Group (TTG), led by The Crown Estate and Rufus Howard of the Institute of Sustainability and Environmental Professionals (ISEP), with Secretariat support from AtkinsRéalis.

The document reflects the prevailing knowledge and evidence base at the time of publication, developed through open collaboration between practitioners, industry representatives, consultancies and technical experts. It reflects a shared understanding of current challenges and opportunities in relation to impact assessment for offshore wind.

We would like to particularly acknowledge contributions from Juliet Shrimpton at OWIC/RUK.

Author's note: Contributions to this document are made in a personal or professional capacity and do not imply endorsement of the entire document by the contributor or by the contributors' respective organisations.

About OWEKH

The Offshore Wind Evidence Knowledge Hub (OWEKH) is a centralised platform that supports evidence-based decision-making in the offshore wind sector. It brings together stakeholders to share best practice, access data, and apply learning and trusted knowledge. This helps inform development, proportionate impact assessment, policy and planning. Find out more at: owekh.com

The suggested citation: OWEKH (2026) Evidence Review Note: Offshore Major Accidents and Disasters

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Executive Summary

This Evidence Review Note (ERN) provides an evidence-based assessment of the relevance and proportionality of offshore major accidents and disasters (MADs) within the Environmental Impact Assessment (EIA) for UK offshore wind farm (OWF) projects.

Developed by the Offshore Wind Evidence and Knowledge Hub (OWEKH), the ERN draws on a comprehensive review of Environmental Statements (ES), scoping reports and stakeholder expertise to characterise current practice and provide clear guidance for future assessments. It is intended to support more effective, proportionate and consistent EIAs. It should be read alongside the *OWEKH Evidence Review Note: Environmental Impact Assessment*, which provides complementary guidance on overarching EIA principles and practice.

The review examined 83 UK OWF EIAs and associated scoping reports, with particular focus on projects published after 2017, when UK EIA regulations introduced a specific requirement to consider MADs. Only four projects undertook detailed assessment of MADs impacts, all of which concluded that any effects would be negligible and not significant.

Nine EIAs included a standalone MADs chapter, typically ranging from 35 to 70 pages, and a further two projects provided dedicated MADs assessments as appendices or supporting technical studies. The remaining projects scoped the topic out and addressed potential risks through embedded mitigation within relevant technical chapters, supported by sector-specific risk assessments and established health and safety procedures.

This consistent body of evidence demonstrates that offshore wind infrastructure, the offshore workforce and the marine environment, are effectively protected from potential MADs through embedded safety systems and regulatory risk management processes that sit largely outside the scope of EIA.

The evidence base indicates that offshore MADs can be appropriately scoped out of project-level EIA for OWF developments. To address inconsistencies and inefficiencies in current scoping practice, this ERN recommends that consideration of MADs be limited to a concise, evidence-based statement at the scoping stage, clearly justifying exclusion from further assessment. This proportionate approach reduces unnecessary reporting, avoids duplication of effort and improves clarity and consistency across projects, while remaining compliant with regulatory requirements.

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List of Abbreviations and Acronyms

Acronym/Name /Abbreviation	Description
CDM	Construction (Design and Management)
CCRA	Climate Change Risk Assessment
COMAH	Control of Major Accident Hazards Regulations
DAERA	Department of Agriculture, Environment and Rural Affairs
Defra	Department for Environment, Food & Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DETR	Department of the Environment, Transport and the Regions
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMP	Environmental Management Plan
EOR	Environmental Outcomes Report
ERN	OWEKH Evidence Review Note
ES	Environmental Statement
HSE	Health and Safety Executive
HSWA	Health and Safety at Work Act
IEMA	Institute of Environmental Management and Assessment (now ISEP)
IEP	Industry Evidence Programme
ISEP	Institute of Sustainability and Environmental Professionals (formerly IEMA)
MADs	Major Accidents and Disasters
MMO	Marine Management Organisation
NGO	Non-Governmental Organisation
NRW	Natural Resources Wales
NTS	Non-Technical Summary
OWF	Offshore Wind Farm
OWEKH	Offshore Wind Evidence and Knowledge Hub
R2P2	Reducing Risks, Protecting People
SCADA	Supervisory Control and Data Acquisition
TTG	Technical Topic Group
UXO	Unexploded ordnance

Glossary of Terms

Term	Meaning
Aspect	The factor (i.e. cultural heritage, biodiversity, human health) that may be impacted by direct and indirect significant effects of the OWF.
Disaster	A natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident.
Impact	A potential change brought about by the proposals. An impact can be broad or specific. For example, it could be on a setting of a broad landscape, or a single tree. It can be adverse or beneficial.
Effect	The assessment of the consequence of an impact on a receptor. It should take the context into account, including the characteristics of the impact (i.e. duration, magnitude, reversibility, certainty, direct, indirect, cumulative, transboundary, etc.), the presence and nature of receptors (i.e. sensitivity, importance, rarity, legal protection, etc.) and any other factors or considerations (i.e. if the effect is beneficial or adverse for the receptor).
Hazard	The intrinsic property of a dangerous substance or physical situation, with a potential for creating damage to human health or the environment (as defined in the Control of Major Accident Hazards Regulations 2015). NB. Assessments for other relevant topics may apply their own definition e.g. of the major hazards associated with vessel allision or collision in a Navigational Risk Assessment.
Matter	A subdivision of an aspect, such as a specific impact on a receptor during a particular phase of development.
Major accident/major accident hazard	An occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment to which these Regulations [the Control of Major Accident Hazards Regulations 2015] apply, and leading to serious danger to human health or the environment (whether immediate or delayed) inside or outside the establishment, and involving one or more dangerous substances. A 'major accident hazard' concerns the potential for a major accident. NB. Assessments for other relevant topics may apply their own definition e.g. of the major hazards associated with vessel allision or collision in a Navigational Risk Assessment.
Major accidents	Events that threaten immediate or delayed serious environmental effects to human health, welfare and/or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome may be the same and therefore many mitigation measures will apply to both deliberate and accidental events.
Mitigation Hierarchy	All ERN tables have been developed following the mitigation hierarchy as advocated by ISEP and other impact assessment institutions. The mitigation hierarchy is a systematic approach used to minimise the adverse effects of a project or scheme on the environment and people. It is a series of steps or principles to guide decision-making and prioritise activity. The hierarchy goes through four stages, with the most desirable first: avoid, prevent, reduce and, finally, offset. The hierarchy indicates that avoidance is the priority, and offsetting must only be a last resort.

Offshore	In context of this document meaning activity below Mean High Water Springs.
Offshore Environmental Management Plan	Ensures mitigation measures and monitoring commitments from the EIA are implemented during construction, operation, and decommissioning. It provides a framework for minimising environmental impacts, and ensuring legal compliance and pollution prevention. Often produced in outline form at the consenting stage with the condition to update as final prior to commencement of construction.
Outline Offshore Operations and Maintenance Plan	A document included at the pre-consent stage of an application which outlines the reasonably foreseeable operation and maintenance activities expected during the lifetime of the project.
Phase	The phase of a project lifecycle. Typically divided into construction, operation and decommissioning phases to differentiate the changing impacts of a project across its lifecycle.
Receptor	Something that is being impacted. It is a broad category that can include humans, species, receiving environments and resources, or specific entities, locations or assets.
Significance	A binary determination of whether an effect on a receptor is substantial and material, taking into account the context of the impact, receptor and effect(s) identified, based on a scale of impact and a threshold of significance.



Picture courtesy of (c) 2019 Offshore2023/Shutterstock

1. Introduction

1.1 Overview of OWEKH

The Offshore Wind Evidence and Knowledge Hub (OWEKH) has a mission to facilitate and streamline the consenting process for the offshore wind sector through a comprehensive, sector-wide online portal. This portal (owekh.com) offers a unified access point for critical data and information, including the latest guidance and best practice documents. Supported by a network of key stakeholders, including regulators, government departments, industry and practitioners, the portal fosters collaboration and data sharing across the offshore wind sector.

OWEKH is sponsored by The Crown Estate and supported by an Oversight Group made up of:

- Crown Estate Scotland.
- Department of Agriculture, Environment and Rural Affairs (DAERA) NI.
- Department for Energy Security and Net Zero (DESNZ).
- Department for Environment, Food & Rural Affairs (Defra).
- Institute of Sustainability and Environmental Professionals (ISEP).
- Joint Nature Conservation Committee (JNCC).
- Offshore Wind Industry Council (OWIC)
- Natural England.
- Natural Resources Wales (NRW).
- Marine Management Organisation (MMO).
- The Crown Estate

Note: At this time, Scottish Government, NatureScot, Welsh Government and The Planning Inspectorate (PINS) have elected to be observers of the programme.

The portal's data component provides access to a diverse range of datasets from public, private and non-governmental organisation (NGO) sources, all relevant to offshore wind farm (OWF) development. The knowledge component analyses this data to generate evidence-based insights and guidance.

By consulting with key stakeholders including regulators, industry and statutory bodies, OWEKH ensures that these insights are translated into high-quality and actionable Evidence Review Notes (ERNs). ERNs aim to bring consistency, efficiency and standardisation to the assessment, planning and development of OWF projects.

An evidence-led approach supports impact assessments and informs consenting decisions by offering clear and consistent guidance that can be easily and widely disseminated to interested parties. OWEKH aims to accelerate the sustainable growth of offshore wind energy, aligning with the UK Government's Clean Power Action Plan objectives¹. This may also link to emerging requirements of Environmental Outcomes Reports (EOR).

This ERN is a referenceable best practice guide that distils key insights from a review of ES and other relevant reports, submitted for OWF projects. It is intended to support strategic decision-making across the sector – by regulators, developers, consultants and advisers – through the identification of common assessment practices, recurring challenges and evidence gaps.

The findings will inform more consistent and effective environmental assessments and guide future planning and engagement. This document should be used alongside project-specific evidence and expert input.

1.2 Introduction to the Major Accidents and Disasters ERN

This ERN provides the latest guidance for the impact assessment of OWF projects on Major Accidents and Disasters (MADs).

Section 1: An introduction to OWEKH and the ERN concept.

Section 2: A summary of evidence informing the recommendations.

Section 3: Key recommendations and guidance for future projects.

Section 4: A summary of key recommendations.

Section 5: Members of the Technical Topic Group who have contributed to the ERN

Section 6: Key references and recommended further reading.

Annex A: OWF projects that have undertaken EIAs.

This ERN should be read in conjunction with:

- *Evidence Review Note: Environmental Impact Assessment*, which provides overarching guidance on the structure and principles of EIA assessment and reporting across all offshore wind aspects.
- *Evidence Review Note: Shipping and Navigation*, which provides guidance on assessing the impacts of OWF projects on shipping and navigation (including an explanation of the role of the Navigational Risk Assessment and a detailed technical assessment of navigational hazards and risks).

Based on the Industry Evidence Program (IEP²) pilot and discussions with key stakeholders across the sector, there is wide agreement that current EIA practices can be significantly improved. More strategic, coordinated efforts are necessary to advance the practice of EIA, ensuring it is effective and efficient. Translating these improvements into actionable steps requires robust evidence and thorough scrutiny to secure acceptance from all stakeholders and to produce recommendations that are widely endorsed.

The ERN serves as a platform to address these needs. It provides a standardised analysis of existing data, identifies key findings. It offers actionable insights by focusing on:

- Evidence-based practice
- Proportionate scoping
- Avoiding duplication of effort
- Standardisation and consistency
- Collaboration and consensus
- Continuous Improvement

2. Review of Evidence

2.1 Scope of Review

This review is focused on the assessment of impacts arising from the vulnerability of the offshore infrastructure of an OWF to MADs. The recommendations in this ERN are in relation to the EIA element of MADs as typically presented in an EIA scoping report or ES³ and pertaining to the offshore environment only. Due to the high number of projects that have successfully scoped out all matters relating to MADs, the review is focused on providing guidance to address the topic at the scoping stage.

2.2 Methodology

The review of evidence to support this ERN consisted of three key elements:

1. A review of previous scoping reports and assessments for MADs undertaken as part of the EIA process for UK OWF.
2. A review of any other key reports or research related to the impact assessment of MADs for OWF. For example, decision notices, monitoring reports, academic and industry research, government and stakeholder guidance.
3. Stakeholder engagement with leading experts, consultees and offshore wind regulators.

The IEP undertook a review of offshore wind impact assessment in 2018 to develop an evidence base to drive proportionate impact assessment in the sector. As part of this study, the ES of 50 different OWF were reviewed. In 2026 the IEP review was updated to include an additional 33 EIAs as part of the evidence review to support the development of this ERN.

The topic of MADs has only been given specific consideration in the EIA process since 2017 (see **Section** Error! Reference source not found.). Therefore, this ERN focuses on the scoping reports and/or assessments of recent projects. A full list of scoping reports and EIAs included in the review is in **Annex A**.

³ Environmental Statement (ES) is the term used in Wales and England; the term 'EIA Report' is used in Scotland. Where this ERN refers to an ES, this can also be taken to refer to EIA Reports for Scottish projects.

2.3 Summary of Current Assessment Practice for Major Accidents & Disasters

EIA regulations are in force across all parts of the UK for major classes of development (including OWF) and require the identification and description of any likely significant effects of a development on certain factors. MADs is one of these factors, and a potential area of concern for EIAs since updated EIA regulations in 2017⁴ introduced the requirement for an EIA to consider:

'...the expected significant effects arising from the vulnerability of the proposed development to major accidents or disasters that are relevant to that development.'

Prior to 2017, impacts from MADs for OWF were addressed through sector-specific regulatory regimes (e.g. Control of Major Accident Hazards Regulations (COMAH)) or indirectly through risk assessments (e.g. navigation risk assessment), rather than through an explicit EIA requirement. Now, EIA must include an assessment, or screening and scoping out, of any significant effects deriving from the vulnerability of a development to MADs, such as structural collapse, natural disasters or unforeseen sociopolitical events.

The nature and location of offshore wind infrastructure means there is generally a low risk of MADs occurring in the first instance, coupled with a low likelihood of any significant effects arising. Consequently, assessments undertaken to date have either scoped the topic out, or determined any effects to be non-significant in EIA terms. Any assessments undertaken have been broad and subjective, and have relied on signposting to other documents where the risks of MADs have been addressed.

A review of the outcomes of UK OWF MADs assessments to date is in **Section 2.5**.

2.4 Key Guidance, Legislation and Policy

The following section provides a summary of the key guidance, legislation and policy relevant to the assessment of MADs. This list is not exhaustive, and practitioners will need to ensure that all applicable considerations are identified for each project, accounting for the location and characteristics of the project in question.

A full list of the references used in this ERN is in **Section 6**.

We aim to ensure the majority of referenced guidance and documents are available and accessible within OWEKH.

Legislation

- Construction (Design and Management) Regulations 2015.
- Control of Major Accident Hazards Regulations 2015.
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.
- The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.
- The Marine Works (Environmental Impact Assessment) Regulations (Northern Ireland) 2007.

⁴ The requirement to consider major accidents and disasters as part of the EIA process was established by the amended EIA Directive 2014/52/EU. The amended EIA Directive was transposed into UK legislation in 2017.

- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
- Health and Safety at Work etc. Act 1974 (and related regulations).
- The Management of Health and Safety at Work Regulations 1999.
- The Planning (Hazardous Substances) Regulations 2015.

National policy

- Overarching National Policy Statement for Energy (EN-1) (DESNZ, 2025a).
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (DESNZ, 2025b).
- National Planning Framework 4 (Scottish Government, 2023).
- Scotland's National Marine Plan (Scottish Government, 2015).
- Future Wales: The National Plan 2040 (Welsh Government, 2021).
- Planning Policy Wales, Edition 12 (Welsh Government, 2024).
- Welsh National Marine Plan (Welsh Government, 2019).
- Marine Plan for Northern Ireland (DAERA, 2018).
- UK Marine Policy Statement (HM Government / Defra, 2011a, as applicable).

Guidance

- Advice Note 11 Annex G – The Health and Safety Executive (Planning Inspectorate, 2017).
- The Control of Major Accident Hazards Regulations – Guidance on Regulations (HSE, 2015).
- EIA Quality Mark Article: Assessing Risks of Major Accidents/Disasters in EIA (IEMA, 2018).
- EIA Quality Mark Article: What is this MADness? (IEMA, 2017).
- Guidance on the Interpretation of Major Accidents to the Environment for the purposes of COMAH Regulations (DETR, 1999).
- Guidelines for Environmental Risk Assessment and Management Green Leaves III (Defra, 2011b).
- ISO 31000: Risk Management – Principles and Guidelines (International Organization for Standardization, 2018).
- Natural Resources Wales, *Environmental Impact Assessment for marine activities / Scoping and preparing an EIA for marine development*.
- NatureScot guidance on Environmental Impact Assessment.
- Major Accidents and Disasters in EIA: A Primer (IEMA, 2020).
- National Risk Register (HM Government, 2025), as updated from time to time.
- Reducing Risks, Protecting People (R2P2) (HSE, 2001).

2.5 Review of Major Accidents and Disasters Assessment Outcomes

The review examined impacts and scoping rationales reported in the ES of 33 OWF EIA completed in the UK, with a specific focus on projects published after the updated EIA regulations in 2017. Prior to this, ES did not include dedicated chapters on MADs. Risks that would now be described as MADs were considered, but were embedded within other technical assessments, design documentation and safety processes, rather than presented as a standalone EIA topic.

For example, navigational collision risk was addressed through shipping and navigation assessments, with formal Navigational Risk Assessments agreed with the Maritime and Coastguard Agency. Risks relating to aviation and radar interference were assessed within aviation chapters. Structural integrity, cable failure and emergency response arrangements were generally addressed through project design standards, engineering specifications and consenting commitments, rather than framed as environmental effects arising from accidents or disasters. As a result, while the underlying risks were well understood and managed, they were not presented as a distinct EIA topic.

Following the 2017 regulatory changes, OWF projects began to address MADs more explicitly within EIAs. Early post-2017 projects adopted a range of approaches. In the absence of a dedicated chapter, some EIAs included a section on major accidents and disasters within the project description or EIA methodology chapters. These typically provided a concise scoping rationale and confirmed adherence to relevant health and safety standards to minimise risks arising from construction and operational activities.

More recently, several projects have produced standalone MADs chapters, that are typically short and qualitative in nature. In these cases, MADs are often treated as a compliance-driven topic, confirming that relevant hazards have been identified and screened, even where no likely significant adverse effects are anticipated. Other projects adopted alternative formats, including dedicated appendices or supporting technical studies addressing MADs.

The sector now appears to be moving towards greater consistency. Of the eight OWF EIA published in 2024, four contained standalone MAD chapters, two provided dedicated MADs assessments as appendices or supporting studies, and a further two included proportionate sub-chapters adopting a light-touch approach that scoped out all impacts.

Table 1 – ES OWF MADs Assessments

#	Annex A Project Name	ES Year	MAD Format
1	Beatrice	2018	Standalone chapter
2	Norfolk Boreas	2021	Standalone chapter
3	Berwick Bank	2022	Standalone chapter
4	Ossian	2023	Standalone chapter
5	Pentland	2023	Standalone chapter
6	Whitecross	2023	Standalone chapter
7	LIÿr	2024	Standalone chapter
8	Muir Mhòr	2024	Standalone chapter
9	Rampion 2	2024	Standalone chapter
10	Caledonia	2024	<i>Dedicated appendix</i>
11	West of Orkney	2024	<i>Supporting study</i>

The review indicates that MADs are rarely assessed as giving rise to likely significant environmental effects and are commonly scoped out of further assessment. Nine EIAs included standalone MADs chapters, and only four of these assessed MADs in any detail, providing qualitative evaluations of impact significance. A further two projects undertook dedicated MADs assessments presented as appendices or supporting technical studies. This reflects the fact that principal accident risks are already comprehensively managed through established regulatory regimes and specialist risk management processes, particularly Navigational Risk Assessment and aviation and radar assessment, alongside engineering design standards and emergency response planning.

Where MADs chapters were included, they generally followed the standard ES topic structure. Most assessments scoped out a broad range of potential accidents and disasters using sources such as the National Risk Register or Construction Design and Management (CDM) risk registers, which include many hazards unlikely to be relevant to the offshore wind sector. A small number of reports also considered climate-related risks, although these are typically addressed separately through Climate Change Risk Assessment processes.

Very few EIAs undertook detailed assessment of MADs. Where risks were assessed, they were typically determined to be low risk, acceptable, tolerable with embedded mitigation, or ALARP, with no requirement for additional mitigation beyond embedded measures

Impacts identified across the EIA reviewed can be grouped into two broad categories:

1. **Accidents resulting from project activities or system failure leading to potential harm to the workforce or environment**, including:
 - Major industrial accidents affecting people or offshore assets;
 - Ground instability associated with subsea drilling;
 - Unexploded ordnance (UXO) detonation;
 - System failures affecting people, the environment or offshore assets;
 - Accidental spills of hazardous materials; and
 - Workplace accidents.
2. **Natural hazards and climate-related risks**, which were discussed but scoped out in almost all EIAs, with the exception of one assessment considering lightning strike risk.

Potential receptor groups identified as vulnerable included the project workforce, offshore assets and the marine environment. These receptors were considered to be adequately protected through embedded measures included in plans such as Offshore Environmental Management Plans (which typically include a marine pollution contingency plan) and Emergency Response Co-operation Plans (which aim to ensure effective, coordinated responses between site personnel, companies, and search and rescue services during emergencies), as well as project-specific risk assessments and engineering design protocols.

Some risks overlapped with other ES topics, with relevant baseline information and assessments included within technical chapters such as marine geology and physical processes, or within shipping and navigation assessments and Navigational Risk Assessment.

Across the OWF EIAs reviewed, the identification of significant effects arising from the vulnerability of offshore wind infrastructure to MADs was considered highly unlikely. The overwhelming majority (approximately 70%) of EIAs scoped the topic out of further assessment. The offshore accidents that do occur, most commonly involving blade failure, offshore substation fires or structural failure, are infrequent. Although generally outside the direct scope of EIA, safety considerations are addressed through specialist technical risk assessments and embedded within project design, construction and operational procedures.

2.6 Additional Evidence

ERNs are designed to be live documents, with periodic and iterative updates as new information, data, research and good practice emerges. Therefore, in addition to EIA, the ongoing review of evidence will also consider any reports and data arising from the decision notices, published monitoring reports and monitoring reviews, academic research, government and non-governmental guidance (**Section 5**).

2.7 Expert Stakeholder Input

In addition to documentary sources, the review includes stakeholder feedback from individual and organisational submissions of evidence and expert opinion through the Impact Assessment Technical Topic Group (TTG).

3. Guidance

3.1 EIA Scoping of Major Accidents and Disasters

MADS should generally be considered unlikely to give rise to significant effects. This is demonstrated by the review of 33 UK OWF EIAs completed since 2017, the majority (approximately 70%) of which scoped MADs out of further assessment.

Of the post-2017 EIAs reviewed, only eleven projects included a dedicated MADs assessment, while the remaining projects addressed relevant risks through embedded mitigation and specialist risk management processes within other technical chapters. This indicates that approximately 70% of recent OWF EIAs have scoped out standalone MADs assessment.

Despite the lack of significant impacts identified, the MADs chapters that have been prepared vary considerably in scope and length, with some extending to around 70 pages. For example, the Rampion 2 EIA chapter concluded that MADs should be scoped out of detailed assessment. However, following a request from the Planning Inspectorate, a full chapter was provided describing potential MADs scenarios arising from or affecting the proposed development. Ultimately, no significant impacts were identified, and the chapter primarily demonstrated that embedded environmental and safety measures were sufficient to mitigate any potential effects.

The assessment scoped out all effects because:

- The potential consequences did not meet the threshold or definition of a major accident or disaster; and
- The accidents considered involved workplace hazards managed through compliance with health and safety legislation, rather than environmental effects within the intended scope of EIA.

The Rampion 2 example represents one end of the spectrum of approaches taken to MADs within EIAs. More commonly, projects include a concise two- or three-page section in the project description or EIA methodology chapters. Based on the evidence reviewed, this proportionate approach is typically more appropriate. Significant variations in approach across projects are unhelpful and unnecessary.

The review also indicates that a brief scoping-out summary can be applied consistently across the sector. Offshore wind has a strong safety record, with very low failure rates and turbines located away from populated areas and public access. Monitoring systems such as SCADA enable continuous operational oversight and rapid detection of faults, allowing timely implementation of safety procedures. Among the projects reviewed, none included large-scale inventories of hazardous materials, comparable to major industrial COMAH sites, that would pose a significant pollution risk if released. As noted in Section 2, OWF consents routinely involve standard conditions to control and mitigate the potential for accidental leaks and spills. Current practice now includes details of all reasonably foreseeable operation and maintenance needs within the project consents, e.g. in an Outline Offshore Operations and Maintenance Plan.

Natural disasters are generally scoped out, as such events are uncommon in UK offshore areas. Where events such as lightning strikes are considered, risks are addressed through separate regulatory requirements aimed at preventing, controlling and mitigating major accidents (for example, National Policy Statement EN-1, sections 4.13 and 4.14). Climate-related risks are typically addressed within climate change assessments, with resilience measures incorporated into project

design, such as turbine engineering standards to withstand extreme weather conditions.

Scoping-out statements should be short, concise and consistent. Extensive assessments drawing on broad sources such as the National Risk Register are generally unnecessary, as they include many hazards of limited relevance to offshore wind. Professional judgement should be applied to determine which risks are relevant and require consideration, avoiding unnecessary assessment and duplication. Risks associated with offshore wind are typically addressed through established specialist risk assessments and management plans outside the core EIA process. A concise signposting section can be included within the ES/EIAR Project Description chapter to indicate where relevant MADs-related issues are addressed within topic chapters and their appendices (for example, climate change, accidental spills and vessel collisions). This demonstrates compliance with EIA regulations.

To address longstanding concerns regarding ineffective and overly-precautionary scoping, a standardised paragraph can be used to give an evidence-based justification for scoping out offshore MADs impacts. This approach supports consistent, proportionate assessment and avoids unnecessary reporting of non-significant effects. See **Section 4** for final recommendation and suggested scoping out text for future projects.

3.2 Approach

Our review of MADs assessments found that nine EIAs included a standalone chapter and only four of these undertook any detailed assessment of impact significance. Two projects provided dedicated MADs assessments as appendices or supporting technical studies. No cases of significant impacts were identified and no additional mitigation was required or proposed.

This evidence suggests that existing regulatory frameworks, safety regimes and sector-specific risk management processes provide sufficient oversight of OWF in relation to major accidents and disasters. Project-level EIA is unlikely to add material value unless evidence emerges of material incidents, substantive changes to the legislative framework, or new risk pathways arising from technological or operational change.

This ERN will be maintained as a live document through OWEKH processes, incorporating new evidence and stakeholder learning as the sector evolves.



4. Summary of Recommendations

Building on the overarching recommendations in *OWEKH Evidence Review Note: Environmental Impact Assessment*, **Section 3** of this ERN sets out the rationale for recommendations to improve the practice of assessment and management of the impacts of OWF projects on offshore MADs. This section consolidates the recommendations from this ERN for ease of reference.

4.1 Scoping Out Offshore Major Accidents and Disasters impacts

There should be no requirement for a separate standalone EIA chapter on offshore MADs. Scope MADs out of future OWF EIAs using the following standard paragraph:

Evidence from 33 UK offshore wind farm EIAs completed since 2017 demonstrates that the expected effects arising from the vulnerability of the proposed development to major accidents or disasters (MADs) are not likely to be significant. All assessments reviewed either scoped out impacts relating to workplace accidents, natural disasters or climate risks, or did not identify any impacts of significance.

Potential accident risks are appropriately addressed through topic-specific risk assessments within the relevant technical chapters. This includes, but is not limited to, navigational risk assessments, unexploded ordnance risk assessments, pollution prevention and spill control measures, aviation and radar safeguarding assessments, climate change risk assessments, and geotechnical and ground condition investigations.

Occupational health and safety risks are managed separately under relevant health and safety legislation and regulatory regimes, as they are primarily addressed outside the scope of EIA.

In line with this established evidence base and regulatory precedent, offshore MADs are proposed to be scoped out of further assessment as a proportionate approach. This position is supported by the OWEKH Evidence Review Note: Major Accidents and Disasters (2026), which consolidates the sector-wide evidence underpinning this approach.

Include a short signposting section, for example within the ES Project Description chapter, indicating where project-specific issues relevant to MADs have been addressed within topic chapters and their appendices. This ensures clarity of cross-referencing and demonstrates compliance with EIA regulations.

5. Collaboration and Review

Through participation of the Impact Assessment TTG, representatives from the following organisations have contributed to this document.

Technical Topic Group Participants	
ABPmer	Neptune Environmental Consulting
EDF Power	Orsted
ERM	Ramboll
GoBe	RenewableUK
Haskoning	RSK
HiDef	Tetra Tech
ISEP	The Crown Estate
Jera Nex bp	WSP
Marine Management Organisation	Xodus Group
Mott Macdonald	

Document update roadmap

The ERN is a dynamic document designed to evolve with advancements in knowledge, technology, and regulatory frameworks. The following update schedule is proposed:

- Launch ERN as pilot for use on projects.

Short-term updates (6-12 months):

- Incorporate user feedback from pilot and update ERN.
- Assess the adoption rate of key recommendations and adjust where uptake is low.
- Launch updated and formal ERN.

Long-term updates (1+ years):

- Bi-annual meetings of the Impact Assessment TTG will be held to review evidence and feedback.
- After 12 months, the TTG will conduct a comprehensive review of the ERN's effectiveness, incorporating stakeholder surveys and case studies.
- The TTG will maintain the ERN as a live document, revising it on a regular and ad hoc basis to reflect new legislation, policy updates and stakeholder consensus.

6. Key References

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ANNEX A: Offshore Wind Farms

The following 83 OWF have undertaken EIAs and published information on the potential impacts in the ES and EIA reports.

Atlantic Array	Kincardine
Awel y Môr	Lincs
Barrow	London Array I
Beatrice	Lynn
Beatrice Extension	Mona
Berwick Bank	Moray West
Blyth Offshore Demonstrator	Morecambe Offshore Windfarm Generation Assets
Burbo Bank	Morgan Offshore Wind Project
Burbo Bank Extension	Muir Mhor
Docking Shoal	Navitus Bay
Dogger Bank Creyke Beck	Nearr na Gaoithe
Dogger Bank South	Norfolk Boreas
Dogger Bank Teesside	Norfolk Vanguard East
Dogger Bank C	Norfolk Vanguard West
Dudgeon	North Falls
Dudgeon and Sheringham Shoal Extensions	North Hoyle
East Anglia One	Ormonde
East Anglia One North	Ossian
East Anglia Two	Outer Dowsing
East Anglia Three	Pentland
European Offshore Wind Deployment Centre (EOWDC)	Race Bank
Five Estuaries	Rampion
Forthwind	Rampion 2
Galloper	Rhyl Flats
Greater Gabbard	Robin Rigg
Green Volt	Salamander
Gunfleet Sands 1	Scroby Sands
Gunfleet Sands 3	Seagreen One A
Gunfleet Sands 3	Sheringham Shoal
Gwynt Y Môr	Teeside
Hornsea One	Thanet
Hornsea Two	Thanet Extension
Hornsea Three	Triton Knoll
Hornsea Four	Walney 1
Humber Gateway	Walney 2
Hywind	Walney 3
Inch Cape	West of Duddon Sands
Inner Dowsing	West of Orkney
Kentish Flats	Westermest Rough
Kentish Flats 2 Extension	Whitecross