

PD 6900:2015

Environmental impact assessment for offshore renewable energy projects – Guide



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Foreword

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- The Centre for Environment, Fisheries and Aquaculture Science (Cefas)
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This PD is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

The PD process enables a guide to be rapidly developed in order to fulfil an immediate need in industry. A PD can be considered for further development as a British Standard, or constitute part of the UK input into the development of a European or International Standard.

Use of this document

As a guide, this PD takes the form of guidance and recommendations. It should not be quoted as if it were a standard and claims of compliance cannot be made to it.

Presentational conventions

The guidance in this standard is presented in roman (i.e. upright) type. Any recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Spelling conforms to *The Shorter Oxford English Dictionary*. If a word has more than one spelling, the first spelling in the dictionary is used.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Innovate UK statement

Innovate UK – the new name for the Technology Strategy Board – is the UK’s innovation agency. We fund, support and connect innovative businesses to accelerate sustainable economic growth.

Timely, consensus-based use of standards plays a vital role in ensuring that the knowledge created in the UK’s research base is commercialized and brought to market as well as playing an important role in driving innovation.

Innovate UK is working with BSI, the Research Councils and Catapults to establish new standards earlier in the development of new technologies. We are collaborating in four areas of innovation to define standards that will accelerate the development of technologies and services to provide UK businesses with a competitive “first mover advantage” including the subject of this document; offshore renewable energy.

The UK offshore renewable energy sector (ORE) is rightly recognized as a centre for expertise but, with only a small number of original equipment manufacturers (OEMs), installations thus far have been designed to meet the bespoke needs of these OEMs. If the sector is to act as a platform for the UK to provide global leadership in ORE manufacturing and services, it needs to be more open. This will in turn boost the security of supply, stimulate further innovation, create UK jobs, and attract further inward investment. Realising this potential is crucial to meeting the UK government’s 2020 renewable energy targets and delivering low-carbon future at the lowest price to consumers.

In 2011, the UK government published the first national Renewable Energy Roadmap which sought to unlock this vast potential, and specifically recognized that one of the barriers to increased deployment of renewable energy is the high cost of market entry. In 2012 the Offshore Wind Cost Reduction Task Force specifically recommended the creation of standards as an important step towards reducing the cost of offshore energy.

Creating the appropriate offshore renewable energy knowledge infrastructure – based on the development of industry-led codification of good practice – will help drive down the costs of market entry and foster an environment of collaboration which can secure the UK’s global dominance both in terms of technological innovation and deployment.

Through its energy programme, Innovate UK is working to help UK industry profit from the changes the world will have to make to address the “trilemma” of energy security, affordability and sustainability.

Read more about our plans in offshore renewable energy and other energy areas here: <https://www.gov.uk/government/publications/energy-strategy-2012-to-2015>.

Innovate UK also established the Offshore Renewable Energy Catapult to accelerate innovation in the sector - find out more here: <https://ore.catapult.org.uk/>.

Read more about Innovate UK and our plans in energy and other areas here: www.innovateuk.gov.uk or [contact support@innovateuk.gov.uk](mailto:support@innovateuk.gov.uk).

Introduction

The UK Government and devolved administrations are committed to a significant expansion in electricity generation from renewable energy sources, including offshore renewable energy (ORE). This will be dependent on the implementation of a large number of ORE schemes within the marine environment. All of these schemes will be subject to rigorous consenting regimes as established by national legislation in the UK devolved administrations including the requirement to undertake environmental impact assessment (EIA) for their individual projects, where required.

The requirement to carry out EIA, a process to predict the environmental consequences of proposed works prior to consenting, stems from the EC Environmental Impact Assessment Directive (2011/92/EU) [1]. The directive was recently amended – (2014/52/EU) [2] – and entered into force on 15 May 2014 with a requirement for member states to implement the revised directive by 16 May 2017. The revised directive is designed to reduce the level of administrative burden and improve the level of environmental protection, with a view to making business decisions on public and private investments more sound, more predictable and sustainable in the longer term.

The EIA process requires a number of steps to be undertaken to assess the potentially significant effects associated with a particular project (and the effects that might occur cumulatively with other plans and projects). These steps include screening, scoping and the preparation of an environmental statement (ES). In England and Wales, for nationally significant infrastructure projects (NSIPs) granted permission under the Planning Act 2008, there is an additional step: the preparation of preliminary environmental information (PEI) prior to the submission of the formal ES. It is worth emphasizing that EIA is not simply a legislative requirement in order to gain consent, but an iterative and interactive process which can influence project design and delivery to secure sustainable development.

A number of issues have been experienced by developers throughout the EIA process for ORE projects in recent years. This has been attributed to processes associated with obtaining consents and inherent challenges and uncertainties associated with understanding the environmental effects of emerging technologies operating in the marine environment. Particular challenges related to ORE projects include the often large-scale nature of such schemes and the extensive data needed to inform the assessment process.

The aim of this Published Document (PD) is to provide advice that will improve the quality and cost-efficiency of future EIAs for ORE projects (specifically for offshore wind, wave and tidal stream renewable energy projects) whilst remaining consistent with legal and policy requirements. The recommendations are also designed to be future-proof, as far as possible, in the context of emerging policies such as marine planning. The PD acknowledges the differing requirements across the UK-devolved administrations where appropriate. Many of the principles contained within this PD are also applicable to EIA across all marine sectors.

The PD considers both process and topic/receptor issues and is focussed on issues where it can add most value. Key information sources that have been used to develop the PD, including the development of recommendations for best practice, include:

- a) Existing EIA and ORE guidance documents (Annex A);
- b) The ES and associated planning documents for previous and on-going EIAs for ORE developments. A range of projects were selected to incorporate a number of technologies, proposers and geographic locations;
- c) Telephone interviews with a number of stakeholders that have had direct involvement with the consenting of ORE projects; and
- d) A workshop with industry stakeholders (representatives from BSI Standards Limited, ABP Marine Environmental Research Ltd (ABPmer), 2 competent authorities, 10 developers (proposers), 1 UK government technical advisory body, 1 academic institute and 1 research centre) to discuss issues of concern and explore the degree of consensus on these issues.

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1 Scope

This Published Document (PD) gives guidance on undertaking environmental impact assessments (EIAs) for offshore wind, wave and tidal stream renewable energy projects.

The PD focusses on the main component of the offshore renewable energy (ORE) project (as opposed to the supporting infrastructure) and covers all elements of the EIA process:

- a) screening;
- b) scoping;
- c) preliminary environmental information (PEI);
- d) determining environmental impacts;
- e) environmental statement (ES);
- f) mitigation and monitoring plans; and
- g) consultation and communication.

The PD identifies linkages to wider consenting requirements associated with offshore wind, wave and tidal stream renewable energy projects. The PD does not provide specific guidance on the processes associated with each of these additional requirements.

The intended audience of the PD is all those that have a role in the consenting of ORE projects (e.g. competent authorities, proposers and consultation bodies).

2 Terms, definitions and abbreviations

2.1 Terms and definitions

For the purposes of this PD, the following terms and definitions apply.

2.1.1 competent authority

authority which determines the application for consent, permission, licence or other authorization to proceed with a proposal

***NOTE** It is the authority that must consider the environmental information before granting any kind of authorization.*

2.1.2 proposer

parties which have a role in preparing and submitting the required documentation to the **competent authority** (see 2.1.1) at all stages in the EIA process

***NOTE** This includes both developers and their consultants.*

2.1.3 statutory consultation body

any recognized body specified in the relevant EIA regulations with which the **competent authority** (see 2.1.1) must consult in respect of an ES, and having a duty to provide information and advice during the EIA process

2.2 Abbreviations

For the purposes of this PD, the following terms and definitions apply.

ABPmer	ABP Marine Environmental Research Ltd
AONB	area of outstanding natural beauty
BMAPA	British Marine Aggregate Producers Association
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CIA	cumulative impact assessment
DCLG	Department for Communities and Local Government
DCO	development consent order
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs

DETI	Department of Enterprise, Trade and Investment (Northern Ireland)
DML	deemed marine licence
DoENI	Department of the Environment Northern Ireland
EIA	environmental impact assessment
EMMP	environmental management and monitoring plan
EPS	European protected species
EQS	environmental quality standard
ES	environmental statement
ESC	environmental steering committee
HRA	habitats regulations assessment
JNCC	Joint Nature Conservation Committee
MCA	Maritime and Coastguard Agency
MEDIN	Marine Environmental Data and Information Network
MFOWDG	Moray Firth Offshore Wind Developers Group
MMO	Marine Management Organisation
MPA	marine protected area
MSFD	Marine Strategy Framework Directive [3]
MS-LOT	Marine Scotland Licence and Operations Team
NGO	non-governmental organization
nm	nautical mile
NRW	Natural Resources Wales
NSA	national scenic area
NSIP	nationally significant infrastructure project
ORE	offshore renewable energy
OWF	offshore wind farm
PD	published document
PEI	preliminary environmental information
PINS	The Planning Inspectorate
RUK	RenewableUK
SAC	special area of conservation
SEA	strategic environmental assessment
SEAD	Strategic Environmental Assessment Directive [4]
SEPA	Scottish Environment Protection Agency
SOCC	statement of community consultation
SPA	special protection area
SNH	Scottish Natural Heritage
WFD	Water Framework Directive [5]

3 Overview of the environmental impact assessment (EIA) process and linkages to consenting requirements

3.1 EIA legislation

The 2011/92/EU EIA Directive [1] sets out the procedure that must be followed before approval is granted for a range of plans and projects, defined in Annexes I and II of the Directive. Annex I projects are considered to have significant effects on the environment and EIA is mandatory. However, the potential for significant effects on the environment as a result of Annex II projects, and thus whether an EIA is required, is at the discretion of the competent authority, having regard to criteria set out in Annex III of the Directive. ORE projects are likely to fall within Annex II.

The EIA Directive is transposed into UK law through a series of regulations. The EIA regulations which apply to a particular development are dependent on project type and location. Those regulations that are most likely to apply to ORE schemes are summarized in Table 1. In circumstances where more than one set of EIA regulations apply to an ORE development the most stringent requirements should be adhered to. The requirements of each of the respective regulations are sufficiently similar that the recommendations made throughout this PD are applicable across all ORE projects that require an EIA (regardless of the specific regulations that apply). The main exception to this is nationally significant infrastructure projects (NSIPs) in England and Wales which are subject to a different approval process. Despite the difference in the overall consenting regime, the key steps in the EIA process for NSIPs still remain largely the same and differences have been described separately where applicable.

A revised EIA Directive (2014/52/EU [2]) came into force on 15 May 2014. Member states are required to transpose the Directive into national laws by 16 May 2017. The revised Directive introduced a number of changes to the existing EIA Directive. Where relevant, these changes are highlighted in this PD.

Table 1 – EIA Regulations

Regulations	Application
The Marine Works (EIA) Regulations 2007 (as amended) [6].	Scotland, England, Wales, Northern Ireland.
The Town and Country Planning (EIA) Regulations 2011 [7].	England.
The Town and Country Planning (EIA) (England and Wales) Regulations 1999 [8].	Wales.
The Town and Country Planning (EIA) (Scotland) Regulations 2011 [9].	Scotland.
The Planning (EIA) Regulations (Northern Ireland) 2012 [10].	Northern Ireland.
The Electricity Works (EIA) (England and Wales) Regulations 2000 [11].	England, Wales.
The Electricity Works (EIA) (Scotland) Regulations 2000 (as amended) [12].	Scotland.
The Offshore Electricity Development (Environmental Impact Assessment) Regulations (Northern Ireland) 2008 [13].	Northern Ireland.
The Harbour Works (EIA) Regulations 1999 [14].	Scotland, England, Wales.
The Harbour Works (EIA) Regulations (Northern Ireland) 2003 [15].	Northern Ireland.
Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) [16].	England, Wales (NSIPs).

3.2 EIA process

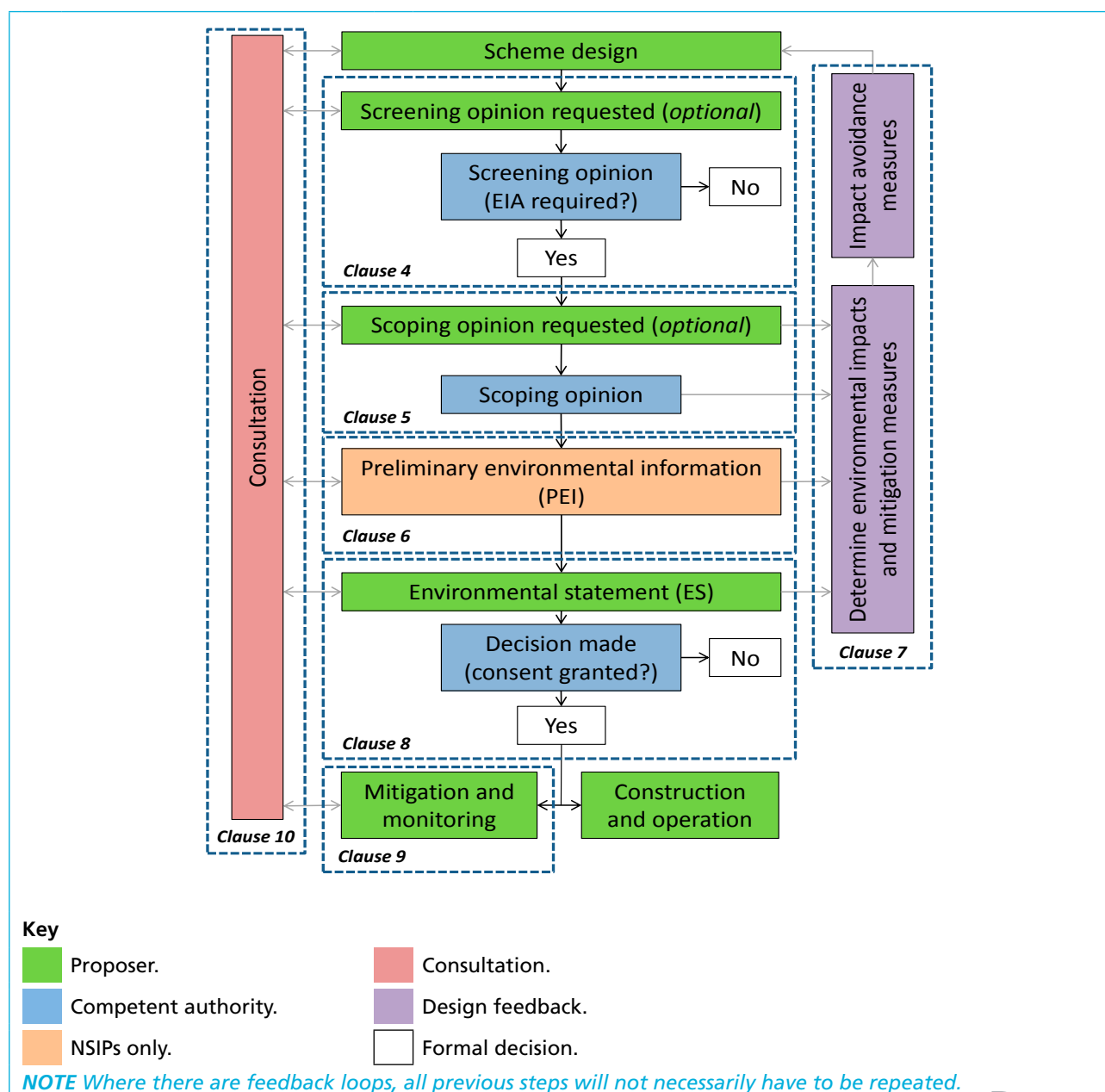
A wide range of EIA guidance, including guidance specifically for ORE projects, is already available. Such guidance includes guidance on the overall EIA process as well as on specific aspects (see Annex A). Scottish Natural Heritage (SNH), for example, has produced a comprehensive handbook on EIA which aims to provide competent authorities, statutory consultation bodies and any other interested party with guidance about the whole process [17].

Marine Scotland has produced a *Licensing and Consents Manual* (draft) [18] which provides guidance on the stages and levels of assessment required in support of marine licences and section 36 consents [19] in Scotland.

An online resource providing a range of planning practice guidance, including considerations for EIA which should be complied with, is available as part of the National Planning Policy Framework for England (<http://planningguidance.planningportal.gov.uk>). In addition, the Planning Inspectorate (PINS) has prepared guidance on the requirements and preparation of screening, scoping and preliminary environmental information (PEI) within the EIA process [20].

NOTE A schematic of how each of the elements of an EIA fit together is provided in Figure 1.

Figure 1 – EIA process



3.3 EIA and consenting

The various consenting regimes for ORE projects across the UK devolved administrations establish a number of competent authorities for authorizing ORE developments (see Figure 2). These competent authorities also have responsibility for ensuring that the requirements of the EIA Directive are met prior to granting authorization for ORE projects.

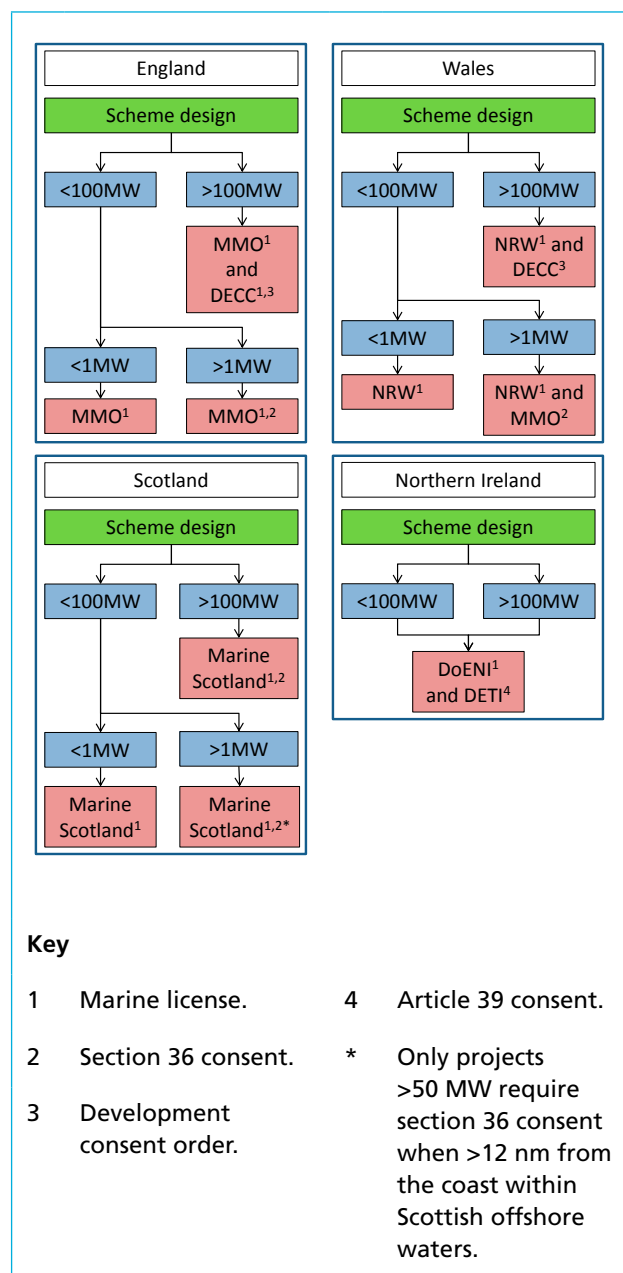
The Coastal Concordat is a formal mechanism in the consenting of coastal developments in England where, due to the adjacent terrestrial and marine elements of a project, several regulatory bodies are deemed to have a functioning role. The concordat facilitates the identification of the lead competent authority, forming an agreement between the relevant regulatory bodies and coastal local planning authorities.

NOTE Not all local planning authorities are signed up to the Coastal Concordat but where the Marine Management Organisation (MMO) are the competent authority their aim is to work to its principles.

A marine licence is required under the Marine and Coastal Access Act 2009 [21], the Marine (Scotland) Act 2010 [22] and the Marine Act (Northern Ireland) 2013 [23]. Section 36 consents are a requirement under the Electricity Act 1989 [19] for projects >1 MW capacity, except for projects <50 MW when >12 nm from the coast within Scottish offshore waters (see Figure 2). Development Consent Orders (DCOs) were introduced in the Planning Act 2008 [24] to replace Section 36 consents for major infrastructure projects in England and Wales, which includes offshore generating stations >100 MW, and these can include a deemed marine licence (DML). Article 39 consent is a pre-construction requirement for certain developments in Northern Ireland, including generating stations, under The Electricity (Northern Ireland) Order 1992 [25].

NOTE A schematic of competent authorities for the main works is provided in Figure 2. This includes the MMO, Department of Energy and Climate Change ("DECC"), Natural Resources Wales ("NRW"), Marine Scotland, Department of the Environment Northern Ireland ("DoENI") and the Northern Ireland Department of Enterprise, Trade and Investment ("DETI"). However, associated works may fall under different governance.

Figure 2 – Competent authorities and consenting requirements



3.4 EIA consenting and other EU Directives

The consenting of ORE projects is subject not only to the requirements of the EIA EU Directive [1], but also to the requirements of a number of other EU Directives. Where there is some overlap in the requirements of these Directives, these should be co-ordinated to avoid the duplication of resources. Of most relevance are the Habitats Directive (92/43/EEC) [26] and Wild Birds Directive (2009/147/EC) [27] (where there is likely to be significant overlap in terms of data and survey requirements), Water Framework Directive (WFD) (2000/60/EC) [5], Marine Strategy Framework Directive (MSFD) (2008/56/EC) [3] and the Strategic Environmental Assessment (SEAD) Directive (2001/42/EC) [4].

The Habitats Directive [26] (on the conservation of natural habitats and of wild fauna and flora) aims to promote the conservation of biodiversity by requiring EU Member States to preserve or improve (restore) natural habitats and wild species, listed in Annexes, at a “favourable conservation status”. It also affords protection to those habitats and species of European importance.

The Wild Birds Directive [27] provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each member state.

The WFD [5] establishes a framework for the management and protection of Europe’s water resources. The overall objective of the WFD is to achieve “good ecological and good chemical status” in all inland and coastal waters by 2015 unless alternative objectives are set or there are grounds for time limited derogations. There is also a general “no deterioration” provision to prevent decline in status. The WFD specifically relates to improving and protecting the chemical and biological status of water bodies to one nautical mile (nm) from the territorial baseline in England, Wales and Northern Ireland and three nms in Scotland.

The MSFD [3] aims to protect more effectively the marine environment across Europe. It aims to achieve “good environmental status” of marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. It enshrines in a legislative framework the ecosystem approach to the management of human activities having an effect on the marine environment, integrating the concepts of environmental protection and sustainable use. The MSFD [3] constitutes the vital environmental component of future maritime policy, designed to achieve the full economic potential of oceans and seas in harmony with the marine environment.

The SEAD [4] applies to a wide range of public plans and programmes (e.g. on land use, transport, energy, waste, agriculture, etc.) and assesses the environmental effect of that plan/programme. The objectives of the SEAD [4], as set out in Article 1, are to provide a high level of protection to the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

***NOTE** Linkages to the wider requirements of these directives have been provided within the PD where appropriate.*

4 Screening

4.1 General

Screening is an optional process whereby the proposer can seek to confirm whether or not an EIA is required for a proposed development. It allows the proposer to consider, and document through preparation of a screening report, the anticipated potentially significant effects of the development. Subsequently, the proposer can request a screening opinion from the competent authority as to whether an EIA will be required before submitting an application for consent. Therefore, screening represents the first formal consultation stage in the EIA process. If a screening request is not submitted the competent authority still screens any submitted application to ensure that the EIA Directive [1] has been complied with. If a proposer wrongly assumes that an EIA is not required the respective competent authority requests that screening is undertaken prior to further considering any submitted application.

4.2 Screening report and screening opinion

The proposer should provide sufficient information in the screening report to enable the competent authority to make a well informed judgement as to whether a proposed development requires EIA. The consensus from available ORE guidance and relevant EIA regulations suggests the following information should be presented in the screening report:

- a) description of the development, including device design, mooring method and foundation type;
- b) size of the development (offshore and onshore requirements), including potential worst case size of individual components if known at this stage (e.g. monopole size, blade length);
- c) area(s) under consideration for development;
- d) an indication of potentially significant effects on the environment (acknowledging that only high level information likely to be available at this stage);
- e) relevant maps, plans, charts and/or site drawings;
- f) an idea of timescale and duration of the development;
- g) summary of all discussions already held with advisors, consultees and stakeholders;

- h) any other information that the proposer may wish to provide; and
- i) any specific queries.

Based on the information presented in the screening report, it is the responsibility of the competent authority to consider the applicant's proposal and determine whether or not an EIA is required. Once a decision has been made, it is also the competent authority's responsibility to provide the proposer with the following information, by way of a written screening opinion within an agreed timeframe:

- a) whether or not an EIA is required;
- b) information on any specific sensitivity at the planned site(s); and
- c) any other information deemed appropriate.

If the screening opinion concludes that an EIA is required, the proposer should progress to scoping (see **Clause 5**).

If the screening opinion concludes that an EIA is not required, the proposer should be advised by the competent authority if or what information/studies will be required to support consent applications for the proposed development.

4.3 Recommendations

Only a limited number of issues have been identified with the screening phase of ORE projects and, as such, existing guidance is considered adequate to define the requirements of this stage. In practice, a formal screening process is not frequently undertaken as the requirement for EIA is already recognized by the proposer, particularly for large-scale developments. However, for smaller developments, determining whether EIA is required can be unclear and is ultimately based on a judgement made by the competent authority. It is therefore important that the competent authority provides a clear rationale and consistency when considering whether or not an EIA is required for a particular development.

When presenting information on the project at the screening stage it is unlikely that the scheme design and the associated construction methodology will have been finalized. In such instances, a design envelope can

be used to consider the worst case scenario (see 5.3.3 for more details). A comprehensive audit trail should therefore be maintained, which includes the basis (and assumptions) on which decisions have been made.

This PD focusses on the main component of the ORE project (as opposed to the supporting infrastructure). This presents issues for ORE projects which often include terrestrial components (where they link to the electricity grid) that can be licensed separately and are beyond the control of the ORE proposer. Uncertainty surrounding the export cable route and landfall has resulted in some projects submitting a separate and subsequent application for these works. In such instances, the proposer should be clear on what permissions are being applied for, and which are not. These wider project elements can result in delays to the overall consenting process.

NOTE *This does not preclude the requirement (attention is drawn to the EIA Directive [2]) to treat the project as a whole, so that all related works or activities are considered together as a single project.*

The proposer should begin to consider the wider contextual requirements of the development site at this stage, such as the WFD [5], habitats regulations assessment (HRA) and the proximity of nationally and internationally-designated marine protected areas (MPAs) as well as scenic designations such as areas of outstanding natural beauty (AONBs) and national scenic areas (NSAs). In addition, early consideration should be made for trans-boundary issues, where applicable. There are also typically a wider range of permissions and licences that will be required to support an ORE development. Where possible, the proposer should seek agreement on these requirements with the competent authorities at this early stage which can assist with the identification of overlapping requirements. This can ultimately help to avoid delays to the programme and potentially result in cost savings.

NOTE *HRA is typically referred to as habitats regulations appraisal in Scotland.*

The proposer should begin communication with the competent authority, associated statutory consultation bodies and other interested parties at an early stage (see **Clause 10** for details on the consultation process). In particular, the proposer should engage in consultation with the competent authority to establish and agree the main issues associated with the development and expectations in relation to the screening report; this exercise is commonly referred to as pre-screening. A clear audit trail should be maintained by both the competent authority and the proposer to ensure that the project is founded on a common understanding.

5 Scoping

5.1 General

As with screening, scoping is an optional phase in the EIA process but is strongly encouraged by the competent authorities. However, unlike screening, scoping assumes an EIA is required prior to consent being granted for a proposed development. The requirement for an EIA will have been determined by either a screening opinion that has been issued by the respective competent authority (where requested) or the previous experience and understanding of the proposer.

The proposer should submit a scoping request typically in the form of a scoping report, and subsequently request a scoping opinion from the competent authority. The competent authority should consider the suitability of the proposed assessment methodology and quantity/quality of data to be collected. Scoping also provides the opportunity to document any held/planned engagement with consultees and stakeholders as part of a wider project audit trail. The key benefit of undertaking scoping is an early understanding of the potential requirements associated with a particular scheme by all parties.

5.2 Scoping report and scoping opinion

5.2.1 General

Scoping is a key phase of the EIA process, providing an opportunity for the proposer to identify those potentially significant environmental effects that should be considered for further assessment. The scoping reports should clearly state, i.e. provide robust evidence to demonstrate, why a particular impact will be scoped in or out of the EIA where possible; this should also be summarized in the ES.

5.2.2 Data requirements

The scoping phase should confirm the data and information sources (including survey requirements) and assessment methods that will be used, determined through consultation between the proposer and the competent authority. In practice, there is rarely enough marine wildlife data available (e.g. birds, mammals and fish) to enable determination of potential environmental effects and, therefore, surveys are likely to be required. Surveys are typically required to cover extended periods, making it essential that project

planning factors in these time and cost implications. Scoping should also include consideration of whether there are any specific data standards (e.g. Marine Environmental Data and Information Network (MEDIN) standards) that need to be complied with.

The Marine Scotland Licence and Operations Team (MS-LOT) have produced a Survey, Deploy and Monitor Policy Guidance (draft) for offshore wave and tidal devices [28]. The aim of this policy guidance is to provide regulators and proposers with an efficient risk-based approach tool for wave and tidal energy projects. It provides guidance on the level of survey effort required for site characterization based on:

- a) environmental sensitivity, of the proposed location;
- b) scale of development; and
- c) device classification.

Additional recommendations on surveys are contained in a series of guidance documents commissioned by SNH and Marine Scotland. The different receptor groups have been spilt up and the guidance is presented in five volumes:

- a) context and general principles;
- b) cetaceans and basking sharks;
- c) seals;
- d) birds; and
- e) benthic habitats.

The documents can be found online (<http://www.snh.gov.uk/docs/B925810.pdf>).

NOTE Some users of these documents have found them to be insufficiently deterministic and, therefore, considerable uncertainty remains about what would be required for individual projects.

The scoping phase can be used to consider opportunities to integrate data and information requirements for different purposes (i.e. the wider consenting regime), whilst also considering the potential cumulative effects and agreeing assessment approaches with the competent authority. The extent to which each of these elements has already been progressed by this stage will be dependent on when consultation was initiated and whether a formal screening opinion was requested.

5.2.3 Scoping request content

A considerable volume of guidance already exists as to what should be captured within the scoping phase (e.g. Marine Scotland, 2012 [18]; PINS, 2013 [20]). In particular, the Marine Scotland *Licensing and Consents Manual* (draft) [18] outlines four key questions that should be covered during scoping:

- a) What potential effects might the project have on the environment?
- b) Which of these potential effects are likely to be significant and, therefore, need particular attention during the EIA?
- c) What level of data/evidence is needed to answer the consenting questions with confidence?
- d) What alternatives and mitigating strategies ought to be considered when outlining proposals for the project?

The requirements of the scoping report are similar to the screening report (see 4.2) and detailed within the respective regulations; however, additional detail should be presented by the proposer to enable the potential for significant environmental impacts to be assessed. For wave and tide projects, for example, the IMPACT Assessment Tool (<http://www.scotland.gov.uk/Topics/marine/Licensing/marine/tool>) commissioned by Marine Scotland is widely used throughout the wave and tidal industry to scope the key environmental effects of a potential development. The consensus from available ORE guidance and relevant EIA regulations suggests the following information should be presented in the scoping report (dependent on the stage at which scoping takes place):

- a) a description of the development, including device design, mooring method and foundation type;
- b) suggested alternatives to the development;
- c) a description of the baseline environment, including known information/data sources;
- d) any known data gaps;
- e) details of site characterization surveys and monitoring being proposed (including survey methodologies);
- f) a description of the EIA methodology including approaches and specific studies to the assessment of specific effects;
- g) identification of potentially significant environmental effects, with an estimation of their likelihood and potential severity (as far as is known at this stage);
- h) a description of mitigating measures including the rationale as to why they will reduce/eliminate environmental impacts;

- i) identification of issues which should be scoped out of the assessment along with the supporting rationale;
- j) consideration of potential cumulative effects including activities, plans and projects to be captured within the assessment and the associated methodology;
- k) anticipated post-consent requirements should a licence be granted;
- l) the suggested structure and content of the Environmental Statement (ES); and
- m) the proposed consultation strategy, including a potential list of consultees and details of any consultation that has been undertaken to date.

While these requirements are broadly similar to the screening report, a clear emphasis should be placed on using a systematic approach to identifying where and how the environment could be affected, as opposed to providing an equal consideration to all potential receptors. This facilitates the identification of the most important/relevant environmental issues at an early stage and allows those that are irrelevant to be scoped out. It also helps to determine data requirements, survey preparations and potential mitigation plans.

The provision of a scoping opinion allows the proposer to be clear about what the competent authority considers the main effects of the proposal are likely to be and, therefore, the topics on which the ES should focus. The competent authority can require the proposer to submit any further information needed to adopt a scoping opinion (SNH, 2013 [17]).

Case study: St David's Head Tidal Stream Energy Demonstration Array

St David's Head Tidal Stream Energy Demonstration Array is a proposed development off the Pembrokeshire coast in South West Wales (10 MW capacity). It provides an example of a scoping report that has captured all of the best practice elements described within this clause (submitted in August 2012) [29]. The development is considered a "demonstration array", anticipated to continue operation for up to 25 years, and involves the placement of nine units on the seabed using gravity based tidal turbine structures. The project will form a continuation of the Ramsey Sound Tidal Stream demonstration development in the area.

The scoping report introduces the site location, albeit a slightly larger area than ultimately foreseen to allow for alteration in the final plans, highlights the legislative context of the works and characterizes the receiving environment in terms of the key marine parameters. It also outlines the likely survey requirements, provides a suggested structure of the ES and discusses how the mitigation and monitoring associated with the Ramsey Sound development will feed into the project.

5.3 Recommendations

5.3.1 General

Despite the current guidance a number of issues have been identified within the scoping phase of previous and current EIAs for ORE developments. These issues have resulted in delays to programme and the unnecessary duplication of resources. The issues that have been raised can be clearly attributed to the viewpoints of either competent authorities/consultees or proposers. These contrasting views provide the opportunity to identify recommendations that aligns the requirements of both parties. These include recommendations with respect to:

- a) the level of detail that is required within a scoping report;
- b) the design envelope which is used to describe a proposed scheme;
- c) potential data requirements associated with a project;
- d) determining the impact assessment methodology;
- e) identifying potential impact pathways; and
- f) timing at which scoping is undertaken.

NOTE It should be noted that a number of the issues that have been identified through the development of this PD are inter-related.

5.3.2 Level of detail within scoping report

Competent authorities have highlighted that there is frequently a lack of sufficient detail provided within scoping reports for them to be able to provide a fully informed scoping opinion. This includes the scheme design and details of the construction, operational and decommissioning phases of the development as well as the impact assessment methodology (including data, assessment approach and determination of significance) that will be applied. A lack of detail in both of these respects results in a high degree of uncertainty with respect to potential environmental effects that could arise from a development. It therefore remains difficult to scope out environmental effects from requiring further assessment at this stage potentially resulting in the unnecessary expenditure of resources (both time and money) during the assessment phase. Proposers should therefore provide as much detail as possible within scoping reports to enable the competent authority to provide an informed scoping opinion. However, it is acknowledged that timescales and financial constraints often do not permit the (engineering) design to be more developed during scoping and, therefore, proposers are encouraged to provide as much information as is available.

Assuming this level of detail is provided by the proposer the competent authority should provide a fully informed scoping opinion that allows subsequent phases of the EIA process to be tailored to the key issues that have been identified.

5.3.3 Design envelope

Proposers frequently apply the principles of the "Rochdale Envelope" when describing their proposed development within a scoping report. The Rochdale Envelope is used in determining environmental effects where there is a greater need for flexibility in the future evolution of the detailed project proposal, within clearly defined parameters (the so-called project design envelope). While this approach is valid, issues with its use have been raised by regulators in instances where it has been perceived to be an excuse to provide limited detail with respect to the scheme design. This results in regulators providing a necessarily generic scoping opinion and can result in greater demands in terms of data requirements.

Where the Rochdale Envelope is applied, the level of detail of the proposals should therefore be sufficient to enable a proper assessment of the likely environmental effects and the determination of any mitigation measures that can be embedded into the scheme design. All assumptions should also be clearly stated and reflect projected available technologies and supply chain. It can be useful to differentiate

between “a realistic worst case” and “the most likely case or scenario” where reasonable assumptions and justifications are clearly set out. Where a scoping opinion has been provided on the basis of worst case assumptions any subsequent changes, provided these are within the design envelope should still be considered valid within the EIA undertaken.

NOTE *The Rochdale Envelope is an approach to consenting which has arisen from two specific legal cases regarding a business park development in Rochdale: R. v Rochdale Metropolitan Borough Council (MBC) ex parte Milne (No. 1) and R. v Rochdale MBC ex parte Tew [1999] and R. v Rochdale MBC ex parte Milne (No. 2) [2000]. Existing guidance on the use of the Rochdale Envelope can be found in PINS's Advice note nine [30].*

There are several examples of large-scale projects incorporating the Rochdale Envelope into their EIA. Within the Triton Knoll Offshore Wind Farm scoping report, for example, the proposer highlights the need for flexibility in their application as “project elements and infrastructure will be refined continually throughout the development process” [31]. This approach is justified against the PINS guidance [30], with a view to identifying the “worst case scenario” for assessment of Triton Knoll in terms of final project design and the potential for effects on the environment. It is also worth referring to the projects subsequent ES, which provides greater detail as to the project envelope used (Volume 1: Chapter 7 – The “Rochdale Envelope” Approach [32]).

5.3.4 Data requirements

It is necessary to provide a description characterizing each of the potential parameters that might be affected by a development/scheme within the scoping report. This should capture details of the type of information/data that is known to be available as well as the temporal and spatial extent of the data in the context of the potential impact zone. Where this level of detail is not captured at this stage it results in the failure to recognize and agree gaps/ uncertainty in the evidence base. This has further consequences for identifying the requirements for the collection of field data. Proposers should therefore provide details of all the available information that will be used to inform the assessments. The adequacy of this information can then be determined by the competent authority and their advisors (consultees).

Failure to agree the required characterization survey requirements at an early stage in a project can result in delays to the overall programme. In this context, there are specific survey windows that should be

adhered to for certain receptors and as such it is important not to miss these opportunities. Similarly, survey specifications should be defined on the basis of all known requirements to ensure maximum cost efficiencies, particularly where a single monitoring campaign can capture multiple parameters and satisfy all requirements (including WFD/HRA/European protected species (EPS)). Proposers, in consultation with the competent authority, should therefore ensure that all potential survey requirements, along with the underlying rationale, are identified at the earliest stage possible.

Where possible, the proposer and competent authority should also agree the details of the recommended survey methods (including sampling techniques, numbers of samples/replicates, required duration and extent) as well as how the data should be analysed and presented. This can form the basis of a sampling strategy that meets the requirements for all stages of the project lifecycle (see **Clause 9**). If it is not possible to be this prescriptive (based on the information that is available at this stage) then recommendations from the competent authority as to who should be consulted further with respect to all of these aspects would be beneficial.

An example mechanism where this is currently employed is in evidence plans for NSIPs (Defra, 2012 [33]). An evidence plan is a formal mechanism to agree upfront what information the proposer needs to supply to the PINS as part of a DCO application. This is primarily designed to help ensure compliance with the Habitats Regulations but can be used to capture all overlapping consenting requirements.

5.3.5 Determining the impact assessment methodology

The proposed assessment methodology, including for cumulative effects, should be defined at this stage. Proposers should therefore include a detailed description within their scoping reports which can be reviewed by the competent authority. The competent authority should provide the details of any known plans or projects that could result in cumulative effects whilst acknowledging that this list may change prior to submission of the respective ES.

NOTE *Further details on undertaking cumulative assessments are provided in 7.3.*

5.3.6 Identifying potential impact pathways

The identification of potential impact pathways should be based on the specifics of the individual project (including the technology type) and site specific considerations. In this respect it should focus