Decision IG.25/15

Guidelines for the Conduct of Environmental Impact Assessment (EIA) under the Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil

The Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and its Protocols at their 22nd Meeting,

Recalling United Nations General Assembly resolution 70/1 of 25 September 2015, entitled "Transforming our world: the 2030 Agenda for Sustainable Development",

Recalling also the United Nations Environment Assembly resolutions of 15 March 2019, UNEP/EA.4/Res.10, entitled "Innovation on biodiversity and land degradation", and UNEP/EA.4/Res. 21, entitled "Towards a pollution-free planet",

Having regard to the Barcelona Convention, in particular Article 7 thereof, whereby Contracting Parties shall take all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area resulting from exploration and exploitation of the continental shelf and the seabed and subsoil,

Having also regard to the Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil hereinafter referred to as "Offshore Protocol", in particular Article 23 paragraph 1 thereof, whereby Contracting Parties shall cooperate in order to formulate and elaborate international rules, standards and recommended practices and procedures for achieving the aims of the Protocol and Article 5 paragraph 1 (a) thereof, whereby Contracting Parties shall prescribe that any application for a new or renewed authorization must include a survey concerning the effects of the proposed activities on the environment, in light of which the competent authority may require that an environmental impact assessment be prepared in accordance with Annex IV to Offshore Protocol,

Recalling Decision IG.22/3 on the Mediterranean Offshore Action Plan in the Framework of the Offshore Protocol, adopted by the Contracting Parties at their 19th Meeting (COP 19) (Athens, Greece, 9-12 February 2016), in particular its Specific Objectives 7 and 8 providing for the development and adoption of regional offshore standards and guidelines,

Concerned by the potential negative impact that the increase of offshore oil and gas exploration and exploitation activities in the Mediterranean Sea Area, may have on the marine and coastal environment, including the coastal and marine ecosystems and biodiversity of the Mediterranean Sea, as well as its potential socio-economic effects in the Area,

Recognizing the urgent need to identify, describe, assess, reduce or eliminate potential adverse impacts or effects on the coastal and marine ecosystems and biodiversity of the Mediterranean Sea, wherever possible resulting from these activities,

Recalling the mandate of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) as laid down in Decision IG. 19/5 on the Mandates of the Components of MAP, adopted by the Contracting Parties at their 16th Meeting (COP 16) (Marrakesh, Morocco, 3-5 November 2009), and its relevance to the implementation of this Decision,

Having considered the reports of the Second Meeting of the Barcelona Convention Offshore Oil and Gas Group (OFOG) Sub-Group on Environmental Impact (Athens, Greece, 27-28 June 2019) and the Third Meeting of the Barcelona Convention OFOG Sub-Group on Environmental Impact (Online, 3-4 June 2021),

- 1. Adopt the Guidelines for the Conduct of Environmental Impact Assessment (EIA) under the Offshore Protocol, set out in the Annex to this Decision herein after referred as EIA Offshore Protocol Guidelines (or Guidelines);
- 2. *Urge* Contracting Parties, which have not yet done so, to ratify the Offshore Protocol, in order to achieve its objectives in the Mediterranean region universally;
- 3. *Call upon* the Contracting Parties to make every effort for the effective implementation of the Guidelines with support from the Secretariat (REMPEC) for their implementation through resource mobilization (internal and external), technical cooperation and capacity building activities;
- 4. *Invite* offshore oil and gas industry partners operating in the Mediterranean Sea Area to give due consideration to the implementation the Guidelines, with a view to preventing or minimizing the potential negative impact of offshore oil and gas activities in the Mediterranean Sea Area and, as appropriate, to provide technical support to offshore facility operators.

Annex

Guidelines for the Conduct of Environmental Impact Assessment (EIA) under the Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil

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List of Abbreviations / Acronyms

ALARP As Low As Reasonably Practicable

BAT Best Available Techniques

CP Contracting Party

EBS Environment Baseline Survey

EIA Environmental Impact Assessment
EIS Environmental Impact Statement
EMP Environmental Management Plan

IMAP Integrated Monitoring and Assessment Programme
IOGP International Association of Oil and Gas Producers

MAP Mediterranean Action Plan

MEBS Marine Environment Baseline Survey

OCF Operator Compliance Factsheets

OFOG Barcelona Convention Offshore Oil and Gas Group

ROV Remotely-operated vehicle

SEA Strategic Environmental Assessment

SPA Specially Protected Areas

SPA/BD Specially Protected Areas/Biological Diversity

SPR Source-Pathway-Receptor

Guidelines for the Conduct of Environmental Impact Assessment (EIA) under the Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Offshore Protocol)

1. Introduction

- 1. The aim of this document is to provide guidance on practical methods and approaches to assessing impacts and effects on the environment of activities as provided for in Article 1.d points (ii) and (iii) of the Offshore Protocol. The guidelines are not intended to be formal or prescriptive and are designed to support the development of an approach which is appropriate to an individual activity, and to consider subsequent impacts and effects as an integral part of the Environment Impact Assessment (EIA) process.
- 2. Relevant EIA provisions existing in Contracting Parties' legislation and or regulatory systems prevail.
- 3. The guidance provides advice on the EIA process and suggests methods and tools for identifying and assessing impacts, effects and risk to the environment. It is recommended that the relevant Competent Authority undertakes Strategic Environmental Assessment (SEA) prior to licensing oil and gas activities. The SEA is important as an assessment tool for area-based planning, formulation of governmental strategies and identification of data gaps at an early stage prior to licensing.
- 4. It should be emphasized that the principles listed in Article I.4 of the Mediterranean Action Plan permeate the Offshore Protocol and the current guidelines.

1.1. The EIA Process

- 5. This section describes the key stages in the EIA process, including the principles of EIA and the approach taken to identify baseline conditions and to evaluate the potential environmental impacts and effects associated with a proposed activity.
- 6. The EIA guidance in this document follows common legislative requirements and has drawn on a number of established guidance documents and best practice publications, as provided for in Appendix 1 to this document. This includes a clear and transparent determination of the magnitude of impacts of the proposed activities, the sensitivities and resilience of the receptors, and the impact receptor pathways. This is key to a successful and clearly auditable EIA process supporting statutory decision making.
- 7. EIA must be initiated in an early stage, in order to conclude before the final permit has been granted.
- 8. The EIA process is a series of assessments undertaken to ensure environmental issues are captured and considered throughout all stages of the activity development, from the initial plans through to the construction and the operation/monitoring/decommissioning stages. The EIA process is presented in a schematic way in Appendix 2. Wherever possible, assessments should use an evidence-based approach that is systematic and auditable to evaluate and interpret the potential marine, terrestrial and socio-economic impacts of proposed activities on physical, biological and anthropogenic receptors.
- 9. An EIA is an effective tool to determine mitigation measures for activity-specific impacts and effects. The views and concerns of consulted stakeholders, environmental authorities and the public concerned form an important part of any recommendations. The EIA should follow all relevant best practice throughout the process, ensuring appropriate mitigation recommendations are developed to

minimise the activity's adverse effects and to maximise positive environmental effects, wherever possible.

- 10. The aim of the EIA process is to identify, describe, assess, reduce or eliminate potential adverse impacts or effects wherever possible. It is a process that is informed by the best understanding of the baseline environment and the corresponding body of scientific knowledge and is focused on identifying the most effective mitigation solutions, and subsequently reassessing the potential residual environmental effects. The ALARP (As Low As Reasonably Practicable) methodology may also be considered.
- 11. The Competent Authority, environmental authorities, the public concerned, and stakeholder consultation are key factors in determining important data sources, the survey scope and design of the supporting technical studies, and the recommendation of mitigation measures. Consultation is crucial to understanding the limitations of the existing body of science and knowledge within relevant topics. Those limitations and the corresponding uncertainty in predictions of impacts and effects should be clearly exposed in the Environmental Impact Assessment report (EIA report). The Environmental Impact Statement (EIS) is the most common name given to the printed report which documents the results of the EIA process.
- 12. The EIA report to be provided by the operator for an activity should include a description of reasonable alternatives studied by the operator which are relevant to that particular activity, including, as appropriate, an outline of the likely evolution of the current state of the environment without implementation of the activity (baseline scenario), as a means of improving the quality of the EIA process and of allowing environmental considerations to be integrated at an early stage in the activity's design.

1.2. EIA Terminology

- 13. This section defines terms (in alphabetical order) that are relevant to the EIA methodology framework. Technical studies may use topic-specific terminology that differs from these definitions and these should be clearly defined.
- 14. **Activity**: concerning exploration and/or exploitation of the resources in the Protocol Area, including:
 - (i) Activities of scientific research concerning the resources of the seabed and its subsoil;
 - (ii) Exploration activities:
 - Exploration geophysics (Seismological, seismic, magnetic, gravity, electric, electromagnetic and well logging activities); surveys of the seabed and its subsoil; sample extraction and collection;
 - Exploration drilling;
 - (iii) Exploitation activities:
 - Establishment of an installation for the purpose of recovering resource, and activities concerned therewith;
 - Development drilling;
 - Resource recovery, treatment and storage;
 - Resource transportation to shore by pipeline and loading of ships;

Maintenance, repair and other ancillary operations.

- 15. **Baseline**: the current state of the environmental, socio-economic (related to population and human health) or cultural domain prior to project construction or operation. The baseline incorporates the specific area of the activity and the surrounding, interconnected areas and components of the environment.
- 16. **Baseline scenario**: a description of reasonable alternatives studied by the operator which are relevant to the activity, including, as appropriate, an outline of the likely evolution of the current state of the environment without implementation of the activity.

- 17. **Effect**: the environmental, ecological, socio-economic (related to population and human health) or cultural consequences of activity-related impacts upon receptors of concern. Consequences are defined as beneficial or adverse. Predictions should be relative to the baseline, and incorporate any natural variability:
 - a. Beneficial: a beneficial effect is one that improves the baseline conditions of receptors of concern e.g. increases in populations of rare or protected species, increases in the area or quality of habitats, or increases in local and regional economic activity;
 - b. Adverse: an adverse effect is one that worsens the baseline conditions of receptors of concern e.g. decreases in populations of rare or protected species, reductions in the area or quality of important or protected habitats or sites, or decreases in local and regional economic activity;
 - c. Direct: an effect that is the direct consequence of an activity-related impact;
 - d. Indirect: an effect that is an indirect or secondary consequence of an activity-related impact. Indirect effects are likely to be spatially or temporally removed from the direct impacts;
 - e. Temporary effect: an effect that is lasting for only a limited period of time and is not permanent;
 - f. Permanent effect: an effect that is lasting or intended to last or remain unchanged indefinitely;
 - g. Reversible effect: an effect that can be reversed either by the regenerative power of the environment or by mitigation measures;
 - h. Irreversible effect: an effect that cannot be reversed either by the regenerative power of the environment or by mitigation measures.
- 18. **Environmental assessment**: a concise review document that describes the proposed development and identifies any impacts it is likely to have on the receiving environment together with any measure to reduce the significance of any impact.
- 19. **Impact**: the predicted, measurable changes in environmental conditions as a direct result of an activity-related action. Impacts are frequently constrained to the physical and chemical domains, but may also include biological aspects. Changes should be measurable, quantified or estimated in relevant units where possible, and defined as positive or negative. Predictions should be relative to the baseline and should incorporate any natural variability:
 - a. Positive: a positive impact will cause an increase to the baseline condition of a receptor, such as an increase in the number of jobs in a given area;
 - b. Negative: a negative impact will cause a decrease to the baseline condition of a receptor, such as a decrease in the area of a given habitat;
 - c. Direct: an impact that is the direct result of an activity-related action. Direct impacts are likely to be spatially or temporally concurrent;
 - d. Indirect: an impact that is an indirect or secondary result of an activity-related action. Indirect impacts are likely to be spatially or temporally removed from the direct impacts;
 - e. Temporary impact: an impact that is lasting for only a limited period of time and is not permanent;
 - f. Permanent impact: an impact that is lasting or intended to last or remain unchanged indefinitely;
 - g. Reversible impact: an impact that can be reversed either by the regenerative power of the environment or by mitigation measures;
 - h. Irreversible impact: an impact that cannot be reversed neither by the regenerative power of the environment nor by mitigation measures.
- 20. **Interacting Effects**: multiple effects upon a single receptor may interact in a number of ways, including:
 - a. Additive Effects: the sum of all effects e.g. multiple impacts which would individually cause a population reduction, add together to produce a larger population reduction;

- b. Synergistic Effects: an interaction of effects upon a single receptor that causes an overall effect that is greater than the sum of the individual effects;
- c. Antagonistic Effects: an interaction of effects upon a single receptor that causes an overall effect that is less than the sum of the individual effects;
- d. Combination Effects: effects arising from an individual development in combination with effects from other plans or projects;
- e. Cumulative Effects: the incremental effects caused by the combined effects of past, present or reasonably foreseeable activities and the development itself. This includes the combined effects of this activity in combination with other activities generating similar effects both temporally and spatially. Predictions should be relative to the baseline and incorporate any natural variability.
- 21. **Likelihood**: probability of occurrence, which does not imply that something is necessarily probable or certain. However, all potential impacts and effects must be considered in the EIA process and their environmental risk should be evaluated in terms of evaluation of their consequences and likelihood of occurrence.
- 22. **Magnitude**: the degree and importance of the change to the baseline conditions, and subsequent effects. Assessment of magnitude must consider all the relevant ecological, socio economic or other aspects of the receptors concerned, including the legal aspects.
- 23. **Mitigation**: measures to avoid, cancel, reduce, ameliorate or abate adverse activity impacts or effects. Subcategories include:
 - a. Avoidance: avoidance is the process of eliminating possible activity impacts at source, either through designing them out or through implementation of alternative methods. Also known as built-in mitigation;
 - b. Minimisation: minimisation is conceptually similar to avoidance but aims to reduce activity impacts at source where eliminating them may not be possible. Again, this may be through design considerations or through alternative methods;
- 24. **Offset**: compensation through measures to improve other sites undertaken where activity-specific mitigation is not possible or is unlikely to be effective. Offsetting activity is meant to target the same category of species/habitat, albeit in a different location, the replacement area.
- 25. **Pathway**: a mechanism or series of interactions (e.g. deposition of sediment, chemical reactions, or airborne noise) that results in an impact upon a final receptor (e.g. benthic organisms, terrestrial habitats or nearby residential properties). Pathways may be physical, chemical, biological or ecological or socio-economic processes or interactions, and may include intermediate stages.
- 26. **Receptor**: a specific component of the baseline environment or socio-economic domain that will be, or is 'likely' to be, affected by the impacts or effects of the activity. This could be a single entity such as a species or community, or a conceptual grouping such as a population or subset of an ecosystem or an ecosystem itself. A receptor may be affected only by the specific activity proposed, or by the proposed activity and other relevant activities in combination.
- 27. **Residual Effect**: the remaining effect after mitigation measures have been applied to reduce predicted activity-related effects.
- 28. **Sensitivity**: the sensitivity of a receptor is the degree to which it may be affected by activity related impacts or effects. Sensitivity is a component characteristic that will determine the magnitude of effects and is independent of value or legal status.
- 29. **Source**: the origin of an impact. This will be an aspect of the activity, and will typically be activity-related actions, or a direct result of the development of the activity (e.g. ground preparation and construction activities).

- 30. **Source-Pathway-Receptor Analysis**: a formal approach to assessing the flow of changes and consequences from a source of impacts to all final receptors. Analysis incorporates the best current scientific understanding of the processes involved, logical cause-and-effect, and considers the relevant characteristics of all receptors and interactions.
- 31. **Study area**: Made up of the i. site area/project site where the project is located and ii. impact area/zone of influence. The site area will include at least the maritime area that is up to 2 km away of all the components of the project (except piping, 300 meters from piping in deep water and 1 km on the continental shelf). The impact area/zone of influence includes the wider area that might be impacted as a result of ongoing operation or an incident during drilling or production.
- 32. **Transboundary effects**: Those caused beyond the limits of one Contracting Party's jurisdiction from activities exercised under its jurisdiction, in line with the Barcelona Convention Article 4.3.(d) and Offshore Protocol (Article 26).
- 33. **Value**: the intrinsic worth or importance of a receptor. This may be characterised by different factors according to the receptor considered e.g. species rareness or legal protection, financial worth, aesthetic beauty, or historic importance.

2. EIA Screening

2.1. When is an EIA Required?

- 34. An obligation to undergo an EIA can be linked either to a particular activity type / category (see Section 2.3) or it might be determined through a screening process by a given set of criteria or thresholds (see paragraph 36) or on a case-by-case examination. Determination through screening depends on applicable regulatory provisions and it should be required for activities with likely significant effects on the environment in the absence of any legal provision specifically requiring an EIA-or foreseeing that no EIA is required.
- 35. Screening is a process that determines whether an EIA is required for a particular activity, including project changes, license modifications and renewals. It is carried out by the Competent Authority based on the information provided by the operator and other available information, such as results of preliminary verifications or assessments of the effects on the environment. The process of screening occurs in the initial development stages of the activity.
- 36. During the screening process, the following criteria should be used to determine whether an EIA is required:
 - a. Physical presence;
 - b. Production of wastes and relevant emissions, discharges and expected residues;
 - c. Production of underwater noise;
 - d. The characteristics of the activity (e.g. size and design of the whole activity, use of natural resources, production of waste, pollution and nuisances, risk of major accidents and/or disasters which are relevant to the activity concerned, risks to human health etc.);
 - e. The cumulation with other existing activities and/or approved activities;
 - f. Location of the activities, close to or within an environmentally sensitive geographical area (including relative abundance, availability, quality and regenerative capacity of natural resources in the area and its underground and absorption capacity of the natural environment);
 - g. Type and characteristics of the potential impacts (e.g. magnitude and spatial extent, nature, transboundary nature, intensity and complexity, probability, expected onset, duration, frequency and reversibility, cumulation of the impact with the impact of other existing and/or approved activities, possibility of effectively reducing the impact).

2.2. Obtaining a Screening Opinion

- 37. A formal screening opinion is required from the Competent Authority concerning the need for an EIA. The Competent Authority will identify whether or not an activity is likely to have significant effects on the environment. If significant effects are considered likely, then an EIA will be required. Each individual activity should be reviewed on their individual merits, whereby the Competent Authority will determine the requirements for an EIA, as part of the screening decision.
- 38. Where a formal screening opinion has been made by the Competent Authority, the screening opinion, including a statement of the main reasons for the requirement or not of an EIA, should be recorded and made available to the public.
- 39. In the case of an environmental assessment not necessarily through the EIA procedure (hereinafter referred to as environmental assessment), the Competent Authority reserves the right to request an EIA, following the outcomes of the environmental assessment. Guidelines on the conduct of an environmental assessment can be found in Section 4.

2.3 Activities requiring an EIA

- 40. The list of activities requiring EIA presented below applies in cases where there are no national lists in place. The list includes but is not limited to:
 - a. The extraction of 500 tonnes or more of oil per day or 500,000 m³ or more of gas per day other than as a by-product of the drilling or the testing of any well;
 - b. The construction of transportation pipelines, where the pipeline is more than 40 km in length and the diameter of the pipeline is more than 800 mm;
 - c. Any change to or extension of the above activities, where the change or extension itself meets the thresholds, and renewals of licences / permit expiry / renewal of the above activities in accordance with Article 5 of the Offshore Protocol;
 - d. Activities which could have significant effect on a formally designated protected area (e.g. Specially Protected Area), including the use of airguns or explosives, as appropriate.
- 41. No screening is required in the case of the above list of activities requiring EIA and for activities included in national lists for which EIAs are required without prior screening or when national EIA provisions do not require EIA based on previous screening and/or threshold approach, this is considered as a negative screening.

2.4 Exemptions for Undertaking an EIA

42. Where the sole purpose of the activity is that of national defence or a response to civil emergency and, in the opinion of the Competent Authority complying with the EIA requirements would have an adverse impact on that purpose, an activity may be exempt from undertaking an EIA on a case-by-case basis and if so, provided under the national law. However, it is recommended to conduct an assessment of the impacts after the fact, if the activities undertaken during the emergency meet the screening criteria provided in paragraph 36.

3. EIA Guidance for Offshore Activities

3.1. Scoping

- 43. Scoping is the process of determining the scope and level of detail of the environmental information to be covered in the EIA report.
- 44. Depending on the activity and local sensitivities, it is advised to consult with relevant stakeholders during the scoping process to determine the scope of the EIA report. The stakeholders include a range of statutory and non-statutory consultees.

- 45. Generally, the Competent Authority (responsible for authorizing EIAs and administratively separate from authorities promoting offshore economic development) will provide feedback on key environmental matters which should be addressed in the EIA report. The Competent Authority shall consult the environmental authorities before providing this feedback. All scoping activities should be recorded and included as appendices to the EIA report.
- 46. Key regulators and stakeholders should be consulted on the scope of desk-based assessments, survey design and sample analyses, modelling studies and impact assessments to be undertaken, where necessary. Further consultation should be ongoing throughout the development of the EIA report to ensure all relevant available data sources are identified and incorporated. Details of the consultations with the relevant Competent Authority and stakeholders should be summarised in the relevant chapters of the EIA report.
- 47. During the scoping process, it is important to identify potential data gaps or uncertain datasets and acknowledge limitations of datasets, and to attempt to fill those gaps or find alternative datasets to support scoping assessment. Where alternatives cannot be found, it is important for the assessment to characterise any uncertainty within the supporting data or the underlying body of scientific knowledge, and to recognise and communicate any corresponding uncertainty in predictions of impacts and effects.

3.2. Baseline Data Collection

- 48. A methodology guidance for monitoring set out in the list of parameters document (UNEP(DEPI)/MED WG.434/4), outlines the requirement for operators to undertake an evaluation of the baseline marine environmental conditions of the area of potential impact from the planned activities, conducted via a desktop review and supplemented by field-based studies if required, based on the lifecycle stage of the planned activity and the availability of existing information.
- 49. For activities which require an EIA, recently obtained site-specific environmental data, and a summary of the results of physical environmental baseline surveys should be presented in the EIA report.
- 50. Additional information on a recommended standard for seabed sampling programmes is provided in UNEP/MED WG.476/Inf.5 Rationale for the Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and on the Use and Disposal of Drilling Fluids and Cuttings.

3.2.1. Desktop Data Gathering

- 51. A desktop evaluation of the baseline conditions of the marine environment should be conducted prior to commencing activities, documenting the condition of the marine environment for the area of potential impact from the activities. Environmental baseline data should be sufficient to characterise the area of potential impact, including regional and local biodiversity, locations of sensitive habitat and resources, and impact from other users of the resource (e.g. fishermen), so that potential impacts from the activities on all components of the marine environment can be adequately assessed within the EIA and monitored by the operator over the duration of the activities.
- 52. Gap analysis of the desktop data identified will provide advice on which additional data is to be collected to augment the data gaps during subsequent field studies to the appropriate level of detail required for the EIA.

3.2.2. Environmental Baseline Surveys

53. In order to be able to assess and monitor any future change, a scientifically robust data set should be collected to determine the present environmental conditions (i.e. the baseline) of the activity location.

- 54. A well-designed environmental baseline survey will allow any changes in environmental conditions in the local area to be observed in the future, as well as to determine whether these changes are the result of the proposed activities or are due to natural variation or other external factors.
- 55. The environmental baseline survey should collect geophysical data (bathymetry, seabed features, etc.), as well as an adequate number of seabed samples for faunal identification, sediment characterisation and chemical analysis (e.g. particle size analysis, organic contaminants, heavy metals, etc.). The use of stills photography and drop-down video is a non-destructive method, which can be used for habitat assessment.
- 56. Additional baseline data that may be useful to collect include local hydrodynamic, metocean and water quality conditions in the area (e.g. local wind, currents, seawater and air temperatures, salinity and sediment transport).
- 57. Further guidance on Environment Baseline Survey (EBS) is provided in the list of parameters document (UNEP/DEPI/MED WG.434/4) submitted to the 1st OFOG Meeting held in Loutraki Greece, in April 2017, in which a number of Operator field environmental monitoring (including baseline environmental evaluation) criteria are proposed as follows:
 - a. A field marine environment and seafloor surveys be undertaken to supplement the desktop-sourced baseline data where there are gaps found within desktop-sourced information and/or where the activity warrants such further evaluation;
 - b. A pre-activity Marine Environment Baseline Survey (MEBS), gathering data regarding the baseline marine environment within the area of potential impact from the activity e.g. water and sediment, from sufficient sampling locations over the full area of potential zone of impact in order to provide a statistical representation of the baseline conditions in the area, as well as from sampling locations further afield for use as points of regional reference.
 - c. Pre-activity Seafloor Survey (such as high resolution side scan sonar survey, 3D shallow hazards assessment, Remotely Operated Vehicle (ROV) video survey, etc. including the use of updated surveying future technologies) should be undertaken documenting site area and impact area seafloor conditions. The survey results will provide a reference for potential spatial and temporal changes in environmental conditions on the seafloor which may result from the activity.
- 58. All surveys should be designed in consideration of the Integrated Monitoring and Assessment Programme (IMAP) Common indicators described in UNEP/MED WG.476/Inf.4 Rationale for the Guidelines for the Conduct of Environmental Impact Assessment (EIA). More information on environmental survey strategies and the methodologies can also be found in UNEP/MED WG.476/Inf.5 Rationale for the Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and on the Use and Disposal of Drilling Fluids and Cuttings.
- 59. The Operator Compliance Factsheets (OCF) should be used when collecting environmental data for the relevant common and candidate indicators. The completed OCFs (UNEP(DEPI)/MED WG. 434/inf.6) should be submitted to the Competent Authority of each country for authorisation and/appropriated corrective action, if necessary.

3.3. Impact Assessment Methodology Framework

3.3.1. Describing and Valuing the Baseline

60. A thorough understanding of the environment and the receptors that are likely to be affected by the proposed activity is essential for making predictions of potential impacts and effects, and for making appropriate mitigation recommendations. It is important to describe the presence or absence of relevant receptors, their current condition, natural variability, and any other characteristics relevant to

impact assessments. Valuations of receptors and the methodology employed should also be included. Details of the valuation methodology are described in Section 3.4.3 Valuation of Receptors.

61. The description of the baseline should incorporate both desk-based research and field survey data. Before commencing surveys or technical studies, guidance and agreement should be sought from the Competent Authority regarding appropriate data sources, desk-based assessments, survey design and sample analyses, modelling studies and appropriate stakeholder consultation. The scope of surveys and technical studies should consider the nature of activities and the corresponding zones of influence, the sensitivities of likely receptors, and potential pathways for activities to affect receptors. Formal analysis of potential pathways is known as source-pathway-receptor analysis, and a full description is provided in Section 3.3.4 Source-Pathway-Receptor Analysis.

3.3.2. Data Gaps and Uncertainty

62. During the EIA process, it is important to identify potential data gaps or uncertain datasets, acknowledge limitations of datasets, and attempt to fill those gaps or find alternative datasets to support impact assessment. Where alternative datasets cannot be found, it is important for the assessment to characterise any uncertainty within the supporting data or the underlying body of scientific knowledge, and to recognise and communicate any corresponding uncertainty in predictions of impacts and effects.

3.3.3. Identifying Impacts and Effects

- 63. The terms 'Impact' and 'Effect' are frequently used interchangeably in many published EIA reports and in certain guidance documents. The Offshore Protocol requires that "an application must include a survey concerning the effects of the proposed activities on the environment". The distinction between impacts and effects (and their magnitude) is important for the overall assessment of the significance of effects described in Section 3.4.5 Assessment of Significance of Effects.
- 64. The Offshore Protocol stipulates the requirement for EIAs to describe and assess the "foreseeable direct or indirect short and long-term effects" of the activity. In particular, Annex IV to the Offshore Protocol requires:
 - A description of the likely effects of the activity on the environment;
 - A description of the features of the activity and/or measures proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment, including possible alternatives.
- 65. The nature and characteristics of impacts and effects differ according to the topic and should be described in detail in the relevant EIA report chapters.

3.3.4. Source-Pathway-Receptor Analysis

- 66. Determining which receptors may be affected by activity-related actions relies on Source-Pathway-Receptor (SPR) analysis for the identification of impacts and consequential effects. The SPR Analysis process is presented in a schematic way in Appendix 3. SPR considers all potential routes and mechanisms for impacts to affect all potential receptors along predicted pathways. Pathways are processes or series of interactions that result in an impact upon a final receptor.
- 67. In some cases, receptors affected by activity related sources may themselves have effects upon other receptors, for example where there are effects on food webs or predator-prey relationships. SPR analysis should also identify all pathways and receptors when considering complex interactions where several inter-related receptors may be affected. In these cases, receptors may be affected in different ways and to different extents. For this reason, assessment of effects may need to be an iterative process, identifying several ultimate receptors, each with differing magnitudes of effects (Appendix 3).

3.4. Description and assessment of Impacts and Effects

- 68. All impacts identified as being potentially significant during the scoping phase should be taken forward for detailed assessment in the EIA report. Each impact should be described, quantified and assessed.
- 69. Although not an exhaustive list, a number of potential impacts associated with typical offshore oil and gas activities have been listed below. The assessment of the impacts should address all the phases of the project construction/installation, pre-commissioning and commissioning, operation and decommissioning.

Seismic survey:

- a. Underwater noise generation on marine mammals and fish;
- b. Physical presence (e.g. survey vessel, streamers etc.) on other users of the sea and marine animals.

Drilling (exploration and production):

- a. Physical presence on other users of the sea and the seabed and associated communities (e.g. benthos);
- b. Drilling discharges (e.g. drilling muds, cement etc.) affecting the seabed and associated communities (e.g. benthos), water column and associated communities (e.g. fish);
- c. Atmospheric emissions (e.g. power generation, flaring etc.) on the atmosphere (local, transboundary and cumulative);
- d. Underwater noise generation on marine mammals and fish;
- e. Unplanned/accidental events (e.g. hydrocarbon spills) may affect plankton, benthos, coral reefs, fish, shellfish, marine mammals, marine turtles, seabirds, seagrass beds, designated sites, coasts and inshore habitats and other users of the sea;
- f. Waste management activities.

Production:

- a. Physical presence on other users of the sea and the seabed and associated communities (e.g. benthos);
- b. Oily discharges (e.g. produced water) on water column and associated communities (e.g. fish);
- c. Atmospheric emissions (e.g. power generation, flaring etc.) on the atmosphere (local, transboundary and cumulative);
- d. Accidental events (e.g. hydrocarbon spills) on plankton, benthos, coral reefs, fish, shellfish, marine mammals, marine turtles, seabirds, seagrass beds, designated sites, coasts and inshore habitats and other users of the sea;
- e. Waste management activities.

Pipelines (the main impacts of pipelines – during the laying and operation phases should be stated, including):

- a. Transportation of hydrocarbon from production or non-production installations onshore;
- b. Suspension of sediment particles during construction and sedimentation on sensitive hard substrate habitats;
- c. Underwater noise;
- d. Lighting during construction phase, especially in shallow waters;
- e. Unplanned/accidental events (e.g. hydrocarbon leakage) on plankton, benthos, coral reefs, fish, shellfish, marine mammals, marine turtles, seabirds, seagrass beds, designated sites, coasts and inshore habitats and other users of the sea.
- 70. Recognition of potential cumulative and transboundary impacts from the proposed activities should also be considered when assessing impacts and effects and included within the EIA report.
- 71. The Common Standards and Guidelines for Special Restrictions or Conditions for Specially Protected Areas (SPA) within the Framework of the Mediterranean Offshore Action Plan should be

taken into consideration for the assessment of activities on a formally designated area (e.g. SPA), in accordance with the Specially Protected Areas/Biological Diversity (SPA/BD) Protocol provisions.

3.4.1. Characterising and Assessing the Magnitude of Impacts

72. Predictions on changes in baseline conditions are made relative to the baseline. These should be measurable, and quantified or estimated, where possible. The characterisation and assessment of the magnitude of impacts are made according to the receptors affected and require receptor-specific context. Therefore, threshold values for specific factors such as area, frequency or duration should be provided within the relevant EIA report chapters.

3.4.2. Characterising and Assessing the Magnitude of Effects

- 73. The magnitude of potential environmental effects for each receptor should be assessed independently of its value or designated status. Even where high value receptors utilise the site, the magnitude of the effect upon those receptors may be relatively low if the habitat affected is relatively unimportant to them. Examples where the magnitude of effects upon high value receptors of concern may be low:
 - 1. Loss/reduction of habitats of receptors that are a very small proportion of their foraging range;
 - 2. Loss/reduction of habitats of receptors whose ranges are increasing;
 - 3. Loss/reduction of habitats of receptors that are of very poor quality;
 - 4. Loss/reduction of habitats not used for the purposes of breeding, sheltering or overwintering;
 - 5. Loss/reduction of habitats of receptors that have many alternatives sites.
- 74. The sensitivity of each receptor must be considered when assessing the likely magnitude of the effect. Ecological sensitivity is defined as the relative change of a system or population in relation to the level of disturbance or perturbation (Miller et al., 2010). The sensitivity of socio-economic and socio-ecological systems may be defined in a similar manner (Holling, 2001).
- 75. The magnitude of ecological effects will be a product of the activity-specific impacts and the receptor specific characteristics that make those receptors sensitive or responsive to the relevant impacts. Definitions for topic-specific characteristics should be provided in individual EIA report chapters and should incorporate any receptor-specific guidelines and best practice.

3.4.3. Valuation of Receptors

- 76. The next stage is to determine the ecological, socio-economic or heritage value of the affected receptor. The methods and criteria for assigning value need to be specific to individual receptors and should be detailed in relevant EIA report chapters.
- 77. Special attention should be given to the receptors typically affected by offshore activities, including:
 - a. Benthos;
 - b. Coral reefs;
 - c. Fish and shellfish;
 - d. Marine mammals;
 - e. Marine reptiles;
 - f. Plankton;
 - g. Seabirds;
 - h. Seagrass beds;
 - i. Nature Conservation Areas and/or sensitive areas formally designated (e.g. Specially Protected Areas);
 - j. Other users of the sea e.g. fishing, shipping, tourism and recreation, oil and gas activities, renewable energy, submarine cables, military activity, aquaculture, archaeology etc.

3.4.5. Assessment of Significance of Effects

- 78. The significance of each effect is determined by scoring the value of the ecological, socio-economic or heritage feature against the magnitude of the predicted effect. This methodology is applied individually with respect to the specific ecologic, socio-economic or heritage characteristics of each receptor.
- 79. The level of effect significance is used to determine the use and level of mitigation measures. Where a potential effect is assessed as 'moderate' or 'major', then this should be considered "significant" in EIA terms. So far as practicable, mitigation (including offsetting) should be identified that reduces the potential magnitude or significance of effects, or the likelihood of significant effects. Minor adverse effects would not usually require any action beyond standard good management practices.
- 80. Mitigation recommendations should be explored as part of the EIA process for all 'moderate' and 'major' effects. Effects are reassessed as described above until either the effect significance is reduced to acceptable levels ('Minor Adverse' or 'Negligible') or no more mitigation can be applied. Residual effect significance is estimated, from which consenting decisions can be made.

3.4.6. Environmental Risk Assessment

- 81. It is also important to consider the likelihood that a potential effect could occur as predicted. Therefore, once the magnitude of an effect has been determined, the probability of the effect occurring should be categorised into a number of classifications ranging from 'Certain' to 'Extremely Unlikely'.
- 82. The reason for including an 'Extremely Unlikely' category is that while some potential effects may be very improbable, they may also be extremely serious should they occur, resulting in major adverse effects on some receptors. These cases will require contingency plans to be put into place. Where doubt exists between two categories within the scale of probability, a precautionary approach should be adopted, and the more conservative category selected.
- 83. Risk management strategies include managing or breaking receptor pathways, and/or protecting receptors. Mitigation measures or strategies to reduce environmental risk should be addressed for relevant activities that may cause operational pollution, "business-as-usual" as well as accidental events. Their subsequent influence on residual effects should be assessed for relevant receptors.
- 84. For accidental events, where it may not be possible to reduce the magnitude of potential impacts or effects, the overall environmental risk may be decreased by reducing the likelihood of an adverse event occurring through adequately designed-in mitigation measures (Gormley et al., 2011).
- 85. The assessment methodology used should be clearly described in the relevant EIA report chapter.

3.5. Cumulative and Transboundary Effects

- 86. Cumulative effects are those caused by the combined effects of past, present or reasonably foreseeable activities in the wider area and the activity itself. Assessment of in-combination effects considers other marine and terrestrial activities generating effects over similar temporal and spatial extents. Assessment of cumulative effects should consider all potential interacting effects. The assessment of cumulative effects should draw upon established guidelines and methodologies.
- 87. Factors considered in scoping other activities in or out for assessment of cumulative and transboundary effects should include connectivity, effects pathways, species distribution and foraging ranges. Consultation with the Competent Authority should be undertaken to confirm that the selection

of activities included is complete, and that the approach to the assessment of cumulative and transboundary effects is correct. Details regarding the rationale for considering cumulative and transboundary effects should be provided within relevant EIA report chapters.

3.6. Mitigation and Offsetting

3.6.1 Mitigation Measures and Residual Effects

- 88. The term mitigation is used in general to cover all efforts used to reduce potential impacts (and consequently, effects). These may include design changes, alteration of proposed methods, or other activities, in addition to the core activities to reduce or ameliorate impacts.
- 89. Mitigation measures are predominantly applied at source, to reduce impacts, with the intention of a corresponding reduction in residual effects upon the receptors in question. However, mitigation may also be applied directly at the receptor-level, with the intention of reducing effects, without any influence on the source or the impact.
- 90. All the mitigation recommendations described within the EIA report should be based upon the realistic worst-case scenarios and on the Best Available Techniques (BAT) approach, ensuring that all measures described are adequate to ameliorate the range of predicted effects. Mitigation recommendations may be revised during the determination of application.

3.6.2 Mitigation and Monitoring

- 91. Mitigation measures should be predominantly applied at source, to reduce impacts, with the intention of a corresponding reduction in residual effects upon the receptors in question to acceptable levels. However, mitigation may also be applied directly at the receptor-level, with the intention of reducing effects, without any influence on the source or the impact.
- 92. Many oil and gas operators are multinational companies, which operate in different countries under multiple regulatory regimes and are typically managed through their global corporate management systems to ensure all regulatory standards are met wherever they operate. Many offshore oil and gas activities do have inherent mitigation measures in place, as part of their "normal" operational procedures and practices. Such mitigation measures should, nevertheless, be assessed/reviewed on a case-by-case basis in order to make sure they correspond to the needs as identified through the EIA and should be included in the EIA report as a way to demonstrate that the impacts are being managed.
- 93. All environmental mitigation and monitoring requirements should be stated within the EIA report and the decision to grant development consent and should be taken forward in an Environmental Management Plan (EMP). In line with the requirements set out in the IMAP, regular Operator Environmental Performance assessments should be carried out by an independent/third-party to assess and evaluate the operator's environmental performance throughout the operations against that stated within the EIA report.

3.6.3 Compensation and offsetting

94. Compensation measures should be considered separate from mitigation. Compensation refers to 'measures taken to make up for the loss of, or permanent damage to, biological resources through the provision of replacement areas'. Replacement areas should seek to offset as many of the features that were lost as possible.

3.7. The Environmental Impact Assessment Report

95. An EIA report submitted to the Competent Authority must identify, describe and assess the effects of the proposed activities on the environment, socio-economic and cultural domain, the

mitigation measures, information on geographical location, safety measures, contingency plan, operator details, monitoring and decommissioning procedures, precautions for Specially Protected Areas and information about responsibilities for any environmental damage.

96. Annex IV to the Offshore Protocol provides the minimum criteria that every EIA report must contain.

3.7.1 Content and Structure

- 97. The Environmental Impact Assessment report should contain, if not otherwise foreseen by national legislation at minimum:
 - a. A description of the methods, installations and other means to be used, and possible alternatives to such methods and means and justification of the selected option;
 - b. An indication of the nature, aims, scope and duration of the proposed activities;
 - c. A description of the initial state/baseline of the environment of the area;
 - d. A description of the reasonable alternatives to the proposed activities studied by the operator which are relevant to the project and its specific characteristics;
 - e. A description of the geographical boundaries of the area within which the activities are to be carried out, including safety zones, where applicable;
 - f. A reference to the methodology used for the environmental impact assessment;
 - g. A description of the foreseeable direct or indirect short and long-term effects of the proposed activities on the environment, including fauna, flora and the ecological balance;
 - h. A statement setting out the measures proposed for reducing to a minimum the risk of damage to the environment as a result of carrying out the proposed activities, including possible alternatives to such measures;
 - i. An indication of the measures to be taken for the protection of the environment from pollution and other adverse effects during and after the proposed activities;
 - j. An indication of whether the environment of any other State is likely to be affected by the proposed activities;
 - k. Details of the environmental monitoring programme and the management plan.

3.8. Regulator Review and Public Consultation

- 98. After submission of the EIA report to the Competent Authority, it will be subject to a formal public consultation period. The general public should be notified that an EIA report has been submitted to allow for any persons or third parties likely to be interested in, or affected by, the relevant activity to comment. Notifying the public is typically undertaken through the publication of a notice in a newspaper or other publication inviting comments on the EIA report. Taking into account the wider significance of the activities and best practice, publication should take place electronically and for free (via the internet). It is recommended that a deadline for the submission of comments be applied to the consultation period e.g. 30 days after the date of public notice. Any comments raised during the public consultation must be sent to the Competent Authority.
- 99. If the Competent Authority considers that an activity could have a significant effect on the environment of an adjacent State, or where that State considers that its environment is likely to be significantly affected by the activity, the adjacent State should be invited to participate in the consultation process. The Competent Authority should always consider that the environment of an adjacent State is likely to be affected, if this possibility cannot be excluded with certainty on the basis of submitted information.
- 100. Once the consultation has concluded, the Competent Authority will undertake its review. The review is the process of establishing whether the environmental information submitted by the operator, as part of an EIA procedure, is adequate to grant consent. The review can be undertaken by the Competent Authority or by an independent organisation on behalf of the Competent Authority. The result of the public consultation with all questions and provided answers must be publicly available.

Relevant public comments must be taken into consideration and must be specifically addressed by the Competent Authority. Maastricht guidelines on public consultation (United Nations, 2015) should be considered best practice and is recommended.

- 101. Where the EIA report is considered to be inadequate, the operator will be asked to provide additional information and the consent decision process will not start until this information has been provided. There will usually be a procedure for appeal against requests for further information.
- 102. Following receipt of the operator's response, the Competent Authority will take the additional information into consideration when reviewing the submission. If the additional information is considered to be integral to the decision, it will also require the additional information to be subject to a further round of public consultation.
- 103. Where there are significant additional information requirements, the Competent Authority may request a formal addendum to the original EIA report, or even suggest that the operator should prepare a new EIA report, and the entire review process would have to be repeated.

3.9. Decision Making (Consenting)

- 104. Once all the issues raised during the consultation process and the Competent Authority's review have been resolved, authorisation will only be granted if the authority is satisfied that the activity is unlikely to have a significant impact on the receiving environment and that the installation has been planned, in accordance with accepted international standards and practice. The operator should also demonstrate the technical competence and financial capacity to carry out the activities.
- 105. Authorisation shall be refused if there are indications that the proposed activities are likely to cause significant adverse effects on the environment that could not be avoided by compliance with the conditions laid down in the authorisation. These conditions concern measures, techniques or methods designed to reduce to the minimum risks of and damage due to pollution resulting from the activities, as referred to in Article 6, paragraph 3 of the Offshore Protocol.
- 106. When considering approval of the siting of an installation, the Competent Authority should ensure that no detrimental effects will be caused to existing facilities, in particular, to pipelines and cables.
- 107. The Competent Authority will examine the EIA report against the requirements listed in the Offshore Protocol. Authorisation will be granted when the Competent Authority is satisfied with the information provided and that there are no environmental objections to the issue of consent for the activities. Authorisation will specify the activities and the period of validity, geographical limits, technical requirements, installations and necessary safety zones. The authorisation may impose conditions to reduce risks and damage due to pollution resulting from the activities. Any changes to the proposed activity/project must be reported to the Competent Authority and shall be subject to screening or EIA. When a decision to grant or refuse consent has been taken, the Competent Authority shall promptly inform the public and the authorities.

4. Guidance for the conduct of environmental assessment

4.1. Permitting

- 108. Following the screening decision, in the case of an activity that qualifies for an environmental assessment, the information to be provided by the operator should address the following aspects:
 - a. A brief description of the activity, methods, installations and other means to be used during their entire lifespan;
 - b. A brief description of the nature, aims, scope and duration of the proposed activities;
 - c. A brief description of the initial state/baseline of the environment of the area;
 - d. A brief description of the geographical boundaries of the area within which the activities are to be carried out, including safety zones, where applicable;
 - e. A brief description of the potential direct or indirect, short and long-term effects of the proposed activities on the environment, including fauna, flora and the ecological balance;
 - f. A description of the mitigation measures in place to avoid/minimise the risk of damage to the environment through pollution during and after the proposed activities;
 - g. A notification, as per Article 17 of the Protocol, on whether it is likely that the environment of another State is to be affected by the proposed activities.
- 109. In describing the above points, the operator may consider the following provisions:
 - i. Description of Activity
- 110. A description of the activity including the activity methodologies, location of activity and work programme should be provided.
 - ii. Activity Schedule
- 111. The environmental assessment should confirm the proposed start date and duration of the activities. The schedule should also take into account potential delays, as there may be seasonal differences in environmental sensitivities.
 - iii. Description of Environmental Baseline
- 112. A description of all aspects of the environment likely to be affected by the activity should be included. Particular attention should be made to environmentally sensitive geographical areas, which are likely to be affected by the activity, including any protected species or habitats. Maps should be included, where relevant, to supplement the environmental baseline description. Consideration should also be given to other activities and users which use the location of the proposed activities, and the likely evolution of the current state of the environment without implementation of the project (baseline scenario).
 - iv. Significant effects of the activity
- 113. The Environmental Assessment should include any likely significant effects of the activity on the environment. The elements to be considered are shown in Section 2.1 paragraph 36.
 - v. Environmental Management and Mitigation Measures
- 114. Where relevant, any features or measures envisaged to avoid, prevent or reduce what might otherwise cause significant adverse effects on the environment should be included in the environmental assessment, as well as the monitoring and the management plan including oil spill contingency plan.

4.2. Permitting for the Use and Discharge of Chemical Additives

115. Details on the use and discharge of chemical additives are provided in separate guidance documents, including the Common Standards and Guidance on the Disposal of Oil and Oily Mixtures and the Use and Disposal of Drilling Fluids and Cuttings (Decision IG.24/9 Annex I) and the planned guidance on the use and discharge of harmful or noxious substances and material.

4.3. Regulator Review and Consultation

116. Environmental assessment (and chemical permit) applications will be reviewed by the Competent Authority and may also be subject to review by additional statutory consultees. Once all statutory requirements are met, the Competent Authority will issue a permit to undertake the proposed work. The permit may contain specific operational, temporal and reporting conditions/restrictions related to the proposed activities. Environmental assessment (and chemical permit applications) is not subjected to public consultation, so typically the permitting process will be much quicker than for activities that require an EIA.

4.4. Decision Making (Consenting)

117. When considering approval for environmental assessment (and chemical permit applications), consultee comments will be taken into consideration along with the outcome of the Competent Authority's review. If the information provided in the environmental assessment is acceptable, there are no objections from consultees and the Competent Authority is satisfied that the activity will not result in any significant adverse effects, the approval will be granted. If the Competent Authority is not satisfied, and considers the activity has the potential to cause significant adverse environmental effects, the application will be rejected. The Competent Authority will provide advice on how to proceed in this instance.

5. Bibliography

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Holling, C.S., 2001. Understanding the Complexity of Economic, Ecological, and Social Systems. Ecosystems, 4(5), pp. 390-405.

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United Nations, 2015. Maastricht Recommendations on Promoting Effective Public Participation in Decision-making in Environmental Matters prepared under the Aarhus Convention Geneva. ECE/MP.PP/10 - ECE/MP.EIA/SEA/5. Available at: https://unece.org/fileadmin/DAM/env/pp/Publications/2015/1514364 E web.pdf

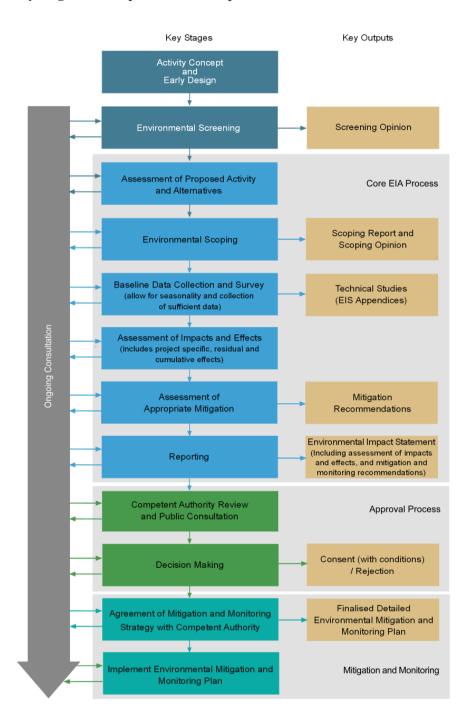
Appendix 1 Reference documents

Reference documents

- BEIS Offshore Petroleum Regulator for the Environment and Decommissioning 2020. The
 Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental
 Impact Assessment) Regulations 2020 A Guide
 www.gov.uk/government/publications.
- European Union. 2001a. Guidance on EIA EIA Screening. http://ec.europa.eu/environment/eia/eiaguidelines/g-screening-full-text.pdf
- European Union. 2001b. Guidance on EIA EIA Scoping. http://ec.europa.eu/environment/eia/eiaguidelines/g-scoping-full-text.pdf
- European Union. 2001b. Guidelines for the Assessment of indirect and cumulative impacts as well as impact interactions. http://ec.europa.eu/environment/eia/eia-studies-and-reports/guidel.pdf
- European Union. 2001c. Guidance on EIA EIA Review. http://ec.europa.eu/environment/eia/eiaguidelines/g-review-full-text.pdf
- European Union. 2013c. Guidance on the application of the environmental impact assessment procedure for large-scale transboundary projects. http://ec.europa.eu/environment/eia/pdf/Transboundry%20EIA%20Guide.pdf.
- IOGP 2020. Environmental management in the upstream oil and gas industry. IOGP Report 254.
 https://www.iogp.org/bookstore/product/environmental-management-in-the-upstream-oil-and-gas-industry/
- REMPEC/WG.45/INF/16 Rational for the draft guidelines for the conduct of the Environmental Impact Assessment (EIA) and references therein.
- REMPEC/WG.35/INF.3 Study on International Best Practices and references therein.

Appendix 2 Key stages and outputs of the EIA process

Key stages and outputs of the EIA process





Appendix 3

Source-Pathway-Receptor analysis, assessment of significance of effects, and implementation of mitigation and monitoring measures

Source-Pathway-Receptor analysis, assessment of significance of effects, and implementation of mitigation and monitoring measures

