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# **Concept for the revision of the spatial plans for the German exclusive economic zone of the North Sea and Baltic Sea**

- unofficial translation -

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## Content

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Procedure	2
1.1.1	Legal basis and principles	2
1.1.2	Planning topics	2
1.1.3	Content focus	3
1.1.4	Joint consideration of the North Sea and Baltic Sea	3
1.1.5	Consultation of the concept for the revision of the spatial plans and discussion of the scope of the study	4
<b>2</b>	<b>Vision and guiding principles and specific explanations</b>	<b>4</b>
<b>3</b>	<b>Overall planning options</b>	<b>5</b>
3.1	Planning option A: Focus traditional uses	5
3.2	Planning option B: Focus climate protection	5
3.3	Planning option C: Focus nature protection	5
<b>4</b>	<b>Designations</b>	<b>6</b>
4.1	Ensuring the safety and efficiency of navigation	7
4.1.1	Shipping	7
4.2	Other economic uses	10
4.2.1	Offshore wind energy	10
4.2.2	Cables and pipelines	20
4.2.3	Resource extraction	28
4.2.4	Fishing	31
4.2.5	Aquaculture	33
4.2.6	Tourism	34
4.3	Scientific uses	35
4.3.1	Scientific Research	35
4.4	Protection and improvement of the marine environment	37
4.4.1	Nature protection	37
4.4.2	Seascape/ open space	41
4.5	Other concerns to be considered	43
4.5.1	Military use	43
4.5.2	Underwater cultural heritage	44
<b>5</b>	<b>Estimation of selected environmental aspects</b>	<b>45</b>
<b>6</b>	<b>Annex</b>	<b>53</b>

## List of figures

Figure 1: Schematic overview of the planning process.....	4
Figure 2: Numbering of shipping routes in the North Sea.....	53
Figure 3: Numbering of shipping routes in the Baltic Sea.....	54
Figure 4: Numbering of the areas for offshore wind energy - North Sea (Note: Cuts and categorisation differ in the planning options) .....	54
Figure 5: Numbering of areas for offshore wind energy - Baltic Sea (Note: Categorisation differs in the planning options).....	55
Figure 6: Numbering of areas for cables and pipelines - North Sea. ....	55
Figure 7: Numbering of areas for cables and pipelines - Baltic Sea. ....	56
Figure 8: Numbering of areas for resource extraction - North Sea. ....	56
Figure 9: Numbering of areas for resource extraction - Baltic Sea. ....	57
Figure 10: Numbering of areas for scientific research - North Sea. ....	57
Figure 11: Numbering of areas for scientific research - Baltic Sea. ....	58
Figure 12: Explanatory map on nature protection.....	59

## List of abbreviations

AIS data	Data from the automatic identification system of shipping
EEZ	Exclusive economic zone
BMI	Federal Ministry of the Interior, Building and Community
BMVg	Federal Ministry of Defence
BMWi	Federal Ministry of Economic Affairs and Energy
BNatSchG	Law on nature conservation and landscape management (Federal Nature Conservation Act)
BSH	Federal Maritime and Hydrographic Agency
EEG	Renewable Energy Act
FEP	Site Development Plan
GW	Gigawatt
HELCOM	Helsinki Commission
IMO	International Maritime Organisation
MARNET	Measuring network of automatically registering stations in the German Bight and the western Baltic Sea
MSFD	Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a Framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)
MSP	Maritime spatial plan(ning)
nm	nautical mile
OSPAR	Oslo Convention (Convention for the Protection of the Marine Environment of the North-East Atlantic)
OWF	Offshore wind farm
ROG	Federal Spatial Planning Act
SEA	strategic environmental assessment
SeeAnIV	Offshore Installations Ordinance
UVPG	Environmental Impact Assessment Act
TSS	Traffic separation scheme
TYNDP	Ten-Year Network Development Plan
UNCLOS	United Nations Convention on the Law of the Sea
WindSeeG	Offshore Wind Energy Act



## 1 Introduction

Maritime uses such as shipping and fishing traditionally characterise the maritime space of the North Sea and Baltic Sea. Other uses, such as sand and gravel extraction, gas extraction, laying and operating pipelines and submarine cables, research and military exercises, as well as, in the last decade, the rapidly growing offshore wind energy, have been added and contribute to a growing pressure on the marine environment. The diverse economic uses can lead to conflicts among each other as well as with the goals of environmental protection and nature conservation.

In this field of tension between economy, science and the environment, maritime spatial planning (MSP) acts as a forward-looking planning instrument that regulates the constantly increasing intensity of use, coordinates user interests and protection claims, minimises existing conflicts of use and prevents future conflicts. It also contributes to marine environmental protection and nature conservation and to the implementation of legal political targets, such as the expansion of renewable energies for the transformation of the national energy system. Pursuant to § 17 para. 1 sentence 1 of the Federal Spatial Planning Act (ROG), the Federal Ministry of Transport and Digital Infrastructure prepares a spatial plan for the German exclusive economic zone (EEZ) as a legal ordinance in agreement with the concerned federal ministries. With the organisational decree of the Federal Chancellor of 14 March 2018 (BKOrgErl 2018), the Federal Ministry of the Interior, Building and Community (BMI) was given responsibility for spatial planning. The Federal Maritime and Hydrographic Agency (BSH), with the approval of the BMI, carries out the preparatory procedural steps for drawing up the maritime spatial plan.

In 2009, the first spatial plans for the German EEZ of the North Sea and Baltic Sea came into force. Since then, developments at sea, in the

marine economic sectors and in the neighbouring countries of the North and Baltic Sea regions have continued. Further scientific evidence and recommendations on key aspects of maritime spatial planning are available.

The BSH looks back on 10 years of experience with MSP. It provided a reliable framework for the uses in the EEZ and had a particular impact - also via the sectoral planning - on the expansion of offshore wind energy. At the same time, a spatial separation of shipping and wind energy was implemented and nature conservation concerns were supported by the exclusion of wind turbines from Natura 2000 sites.

The revision of the spatial plans for the German EEZ in the North Sea and Baltic Sea began in the summer of 2019 when the Federal Ministry of the Interior informed the public and the concerned public bodies about the revision of the spatial plans pursuant to § 9 para. 1 ROG. Public authorities had the opportunity to provide information on the plans and measures they intend to take or have already taken, as well as on the time schedule for their implementation, and to make relevant information available.

This was followed by expert discussions and workshops on relevant sectors and nature protection concerns in autumn 2019. The concept for the revision of the spatial plans presented here is intended to facilitate early participation and an exchange of information as a basis for the preparation of a comprehensive draft plan.

The concept is based on realistic assumptions and findings on planning requirements - taking into account the opinions, statements and information from early participation -, highlights conflict situations and presents possible alternative solutions. In addition, consultation questions explicitly address specific issues and invite feedback from stakeholders. The planning options were drafted on a scale of 1:400,000.

Together with this concept, the BSH is presenting a status report which provides an overview of

the experience gained with the first spatial plans for the German EEZ in the North Sea and Baltic Sea. The report analyses the purpose, content, implementation and impact of the designations of the plans, outlines relevant legal, economic, political and spatial developments from 2009 to 2019 and the framework conditions and conclusions to be taken into account for the revision of the plans.

## 1.1 Procedure

The main legal basis for the spatial plans for the German EEZ is the Federal Spatial planning Act (ROG) in the version of 2017.

### 1.1.1 Legal basis and principles

In § 1 para. 2 ROG, the guiding principle for the fulfilment of the task is defined as "sustainable spatial development which harmonises the social and economic demands on the area with its ecological functions and leads to a lasting, balanced spatial structure over a large area [...]".

The principles of spatial planning listed in § 2 ROG must also be taken into account when drawing up the spatial plans for the EEZ; of particular relevance to the planning area are § 2 para. 2 no. 6 ROG:

The space is to be developed, secured or, as far as necessary, restored in a possible and appropriate manner in its importance for the functionality of the soil, the water balance, the flora and fauna as well as the climate including the respective interactions. In the planning of spatial uses, natural assets must be used efficiently and carefully; groundwater resources and biological diversity must be protected. [...]. Impacts on the natural balance must be compensated for, and the requirements of the biotope network must be taken into account. [...] The spatial requirements of climate protection must be taken into account, both through measures to counteract climate change and through measures to adapt to climate change. The spatial conditions for the

development of renewable energies, for the efficient use of energy and for the preservation and development of natural sinks for climate-damaging substances and for the storage of these substances must be created. Sustainable development in the marine environment should be supported using an ecosystem approach in accordance with Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning (OJ L 257, 28.8.2014, p. 135)

and no. 7:

The spatial requirements of defence and civil protection must be taken into account.

A - also de facto - exclusive allocation of areas to sectoral uses cannot meet the increasing demands on the limited area of the German EEZ. It is therefore always necessary to examine the possibilities and conditions for multiple use of areas, taking into account current findings from projects and research results. This applies in particular to large-scale stationary uses such as offshore wind energy.

### 1.1.2 Planning topics

§ 17 of the ROG tasks the spatial plans for the German EEZ to set out designations, taking into account possible interactions between land and sea as well as safety aspects. Four main topics are identified, which are further differentiated and supplemented in the three planning options presented here:

- safety and ease of navigation,
- economic uses (including offshore wind energy, extraction of raw materials, fisheries),
- scientific uses,
- marine environment (protection and improvement).

For some of these topics, selected proposals for possible spatial designations and regulations are



made in the concept for the revision, which are derived from

- the evaluation of the MSP 2009 (see status report),
- the analysis of the current needs for action (see status report),
- the information received in response to the BMI's enquiry of interests under § 9 (1) ROG,
- as well as from further requirements that have been presented in the context of expert discussions and thematic workshops.

### 1.1.3 Content focus

The concept for the revision of the spatial plan represents the claims of different sectors from three different perspectives. The focus of planning option A is on traditional maritime uses. This deals in particular with the interests of shipping, resource extraction and fisheries. Planning option B shows a climate protection focus, in which much space is given to the future use of offshore wind energy. Planning option C focuses in particular on the extensive and wide-ranging protection of areas for marine nature conservation.

In addition to the initially mainly spatial designations, there are some supplementary regulations. These regulations are explicitly not to be understood as an expression of already preferred plan drafts, but rather as proposals which form the basis for consultation on feasible and appropriate planning approaches and alternatives. After the sectoral consideration in the preparatory phase of the revision, a more integrated approach is pursued here, which takes into account and illustrates spatial and functional dependencies and interactions as well as corresponding planning principles, which may set limits to the maximum requirements of individual sectors.

Some of the designations are accompanied by assessments and initial indications of the type of

impact they may have on the marine environment. These are to be taken into account within the assessment of possible other planning options (alternatives) as part of the strategic environmental assessment (SEA) for the subsequent comprehensive draft plans.

In the course of the preparation of this concept, questions came up on some of the planning topics, which are addressed as consultation questions to the potential stakeholders, and the BSH expects clarifications in the course of public participation for the further development of the plan.

### 1.1.4 Joint consideration of the North Sea and Baltic Sea

Three planning options have been developed, which cover both the German EEZ of the North Sea and the Baltic Sea. This was done primarily for the sake of a clear presentation. However, this is not a preliminary decision on the preparation of a joint or - as in the initial MSPs of 2009 - separate draft plans for the two sea basins.

### 1.1.5 Consultation of the concept for the revision of the spatial plans and discussion of the scope of the study



Figure 1: Schematic overview of the planning process

The concept will be published together with the draft scoping document for the environmental assessment. The public and the public bodies concerned will be given the opportunity to comment, to propose solutions to the conflicts identified and to reply to the consultation questions.

The scoping meeting scheduled for March 2020 will also provide an opportunity to discuss the consultation documents, in particular the scope of the environmental report. The aim is to identify fundamental problems and conflicts at an early stage and find solutions that will persist in the further planning process.

## 2 Vision and guiding principles and specific explanations

*The proposal for the vision and guiding principles follow with the first drafts of the spatial plan.*

### 3 Overall planning options

#### 3.1 Planning option A: Focus traditional uses

##### *Basic assumptions*

- The shipping routes form the framework of the overall planning.
- Resource extraction is in the overall economic interest, and should also be possible in relation with energy production and by respecting nature conservation requirements.
- Fishing is a traditional activity carried out throughout the EEZ, which is affected by the development of wind energy and by management measures in nature protection areas.

##### *Objective*

- Particular attention must be paid to the safety and ease of shipping.
- Adjustments or changes to priority and reservation areas are made according to the current traffic volume. Furthermore, the possible increase in future traffic must be taken into account.
- Barrier effects must be avoided, especially with regard to the possible establishment of future traffic separation schemes (TSSs).
- The extraction of resources should be made possible in combination with other uses (especially offshore wind energy).
- For the fishing industry, opportunities shall be made to limit the restricting effects of uses, especially through the further development of offshore wind energy, and to generate income opportunities through multi-use in wind farm areas.

#### 3.2 Planning option B: Focus climate protection

##### *Basic assumptions*

- The sectoral planning of the FEP 2019 serves as a basis.
- Demand for securing areas for offshore wind energy beyond 2030.
- Demand for consideration of areas for other forms of energy generation, e.g. for hydrogen production.
- Increase of the target for offshore wind energy to 20 GW by 2030 (Federal programme on climate protection).

##### *Objective*

- Areas for the further development of offshore wind energy beyond 2030 must be secured.

#### 3.3 Planning option C: Focus nature protection

##### *Basic assumptions*

- Marine nature protection is a fundamental spatial function.
- Long-lasting protection and development of the EEZ as a natural environment with typical characteristics and biological diversity.
- Special consideration of the precautionary principle and the ecosystem approach.

##### *Objective*

- Exclusion of economic uses in areas for the protection and improvement of the marine environment which are incompatible with the protection purpose.
- No privileges for the extraction of sand and gravel, or hydrocarbons through spatial restrictions for resource extraction.

## 4 Designations

According to § 17 para. 1 sentence 2 ROG, the maritime spatial plan shall make designations, taking into account possible interactions between land and sea and safety aspects

- to ensure the safety and ease of navigation,
- on further economic uses,
- on scientific uses and
- to protect and improve the marine environment.

Pursuant to § 7 para. 1 ROG, spatial plans have to determine designations for a defined planning area and a medium-term period as **objectives and principles** of spatial planning for the development, structuring and safeguarding of the area, in particular the uses and functions of the area.

Pursuant to § 7 para. 3 ROG, these specifications may be spatial designations. For the EEZ, the following spatial categories can be applied:

**Priority areas**, which are intended for certain spatially significant functions or uses and exclude other spatially significant functions or uses in that area which are incompatible with the priority functions or uses.

**Reservation areas** which are to be reserved for certain spatially significant functions or uses, to which particular weight is to be attached when weighing up against competing spatially significant functions or uses.

**Exclusive areas**, in which certain spatially significant functions or uses do not conflict with other spatially significant interests, whereby these functions or uses are excluded elsewhere in the planning area.

In the case of priority areas, it may be determined that they also have the effect of exclusive areas pursuant to sentence 2 no. 3 or 4.

According to § 7 para. 4 ROG, the spatial plans should also contain those provisions on spatially significant planning and measures of public bodies and persons under private law according to § 4 para. 1 sentence 2 ROG which are suitable for inclusion in spatial plans and which are necessary for the coordination of spatial claims and which can be secured by objectives or principles of spatial planning.

The following tables describe the designations that are made in plan revision. The description starts with general information, followed by the designations of the current MSP from 2009, the objectives and principles for each of the three planning options separated into spatial designations and regulations. If the same designations are made for all three options, the columns are combined. Justifications for the designations are given below. At the end of each table, there are consultation questions for the discussion of the planning options.

## 4.1 Ensuring the safety and efficiency of navigation

### 4.1.1 Shipping

General information/ background	<p>Spatial designations and regulations on shipping refer to commercial shipping for the transport of goods and people. Explicitly excluded here is shipping for the purpose of fishing, service traffic to and from offshore wind farms as well as leisure and other traffic.</p> <p>Availability and quality of AIS data form a new information base for the revision of the spatial designations, especially in the area of the main shipping route 10 as well as the routes SN6, SN7, SN8 and SN9. New routes can be designated for the north-western region of the German EEZ.</p> <p>Coherent routing is sought through international coordination with neighbouring countries as well as through consultation with coastal countries. In the area of Route SN10, the long-term establishment of a traffic separation scheme (TSS) is under discussion.</p>
MSP 2009	<p>Within the overall MSP, the main shipping routes set the framework for the other uses in order to minimise any barrier effects and ensure safety and ease of navigation. In principle, navigation is possible every-where, even outside the areas designated for shipping.</p> <p><u>Objectives of spatial planning:</u> Priority to shipping, other uses are excluded if incompatible with priority use of shipping.</p> <p><u>Principles of spatial planning:</u> Reservation on shipping: Particular importance is given to shipping when weighing up against other spatially significant uses. Reduction of the impact of shipping on the marine environment by respecting international regulations and conventions (including IMO, OSPAR, HELCOM) and the current state of technology.</p>
Objectives of spatial planning ( <i>spatial designations</i> )	<p>TSSs and the analysis of current traffic flows using AIS data form the basis for determining the location and dimension of priority areas. On routes with no significant increase in traffic volume, the standard width of the priority areas is 1 nm and serves to ensure the freedom of navigation and the accessibility of important ports.</p> <p>Upgrading of the reservation area between the deep-water roadstead in the west and the cable corridor in the east (SN14) to priority area.</p> <p>Upgrading of all intersection areas (for three or more routes) to priority areas.</p> <p>New designation for the routes SN6 (east of the intersection area with routes SN4 and SN5), SN7, SN8 and SN9 according to the currently observed traffic flows</p>

	<p>New designation for the routes SN15, SN16 and SN17 in the north-western region of the German EEZ in accordance with the currently determined traffic flows.</p> <p>Adaptation of route SO5 to the Swedish MSP.</p> <p>Redefinition of routes SO8 and SO9 north of route SO5 in the Baltic Sea.</p> <p>The corresponding numbering of the routes can be found in Annex I.</p>		
	Planning option A	Planning option B	Planning option C
	<p>Extension of the priority area SN10 towards NW by the total width of the currently analysed traffic flows.</p> <p>Extension of the priority areas of the SN4, SN5 and SN7 routes to 2 nm width.</p>	<p>Adaptation of the priority area SN10 to the currently analysed traffic flows, subdividing into three main traffic routes.</p> <p>Conversion of all reservation areas along priority routes into priority areas.</p>	<p>Adaptation of the priority area SN10 to the currently analysed traffic flows, subdividing into three main traffic routes.</p>
Principles of spatial planning ( <i>spatial designations</i> )	<p>Uniform distance regulation for reservation areas along the priority areas (1 nm) are aimed at, wider reservation areas in exceptional cases and if justified by the increased traffic volume expected in the future as well as by enabling any future international specifications (e.g. new establishment or expansion of TSSs).</p> <p>Extension of the SN13 reservation area in northerly direction overlapping with the pipeline reservation area.</p> <p>Reduction of the width of the reservation area of route SN10 in the direction of SE.</p>		
	Planning option A	Planning option B	Planning option C
			<p>Establishment of large reservation areas between the single priority areas of route SN10.</p>
Objectives and principles of spatial planning ( <i>regulations</i> )	<p><u>Objectives of spatial planning</u></p> <p>In designated priority areas, shipping is given priority over other spatially significant uses. In the event of overlapping with priority areas for the protection and improvement of the marine environment, navigation shall be given priority in accordance with UNCLOS.</p>		

	<p><u>Principles of spatial planning</u></p> <p>(1) In designated reservation areas, special weight is given to shipping when weighing up against other spatially significant plans, measures and projects.</p> <p>(2) The impact of shipping on the marine environment is to be reduced by complying with international conventions for the protection of the marine environment.</p>
<p>Justification (<i>legal/political/factual</i>)</p>	<p>UNCLOS guarantees freedom of navigation (Art. 58 UNCLOS); artificial islands, installations and structures, including safety zones, shall not be constructed where the safe use of recognized shipping lanes would be hindered (Art. 60 para. 7 UNCLOS).</p> <p>The IMO regulations apply, in particular for spatial designations, such as e.g. traffic separation schemes, in potentially dangerous areas, which define a mandatory routeing management for directed traffic.</p> <p>Importance of shipping for the national economy; maintaining the competitiveness of the economy.</p>
<p>Consultation questions</p>	<p>When is a decision by the Bundesrat (Federal Council of Germany) on the extension of the TSS German Bight Western Approach to the North expected?</p> <p>Do the access routes to economically important ports receive sufficient consideration in the planning options?</p> <p>Should mandates for action that do not have a direct effect on the spatial plan, such as the demand for an "Area To Be Avoided" (ATBA) in the Bay of Pomerania, be included as principles in the spatial plan?</p>

## 4.2 Other economic uses

### 4.2.1 Offshore wind energy

General information / background	<p><u>Sectoral planning:</u></p> <p>With the Site Development Plan 2019 (FEP 2019), a sectoral plan exists to regulate the development of offshore wind energy and the electricity grid connections.</p> <p><u>Target for offshore wind energy:</u></p> <p>The FEP 2019 defines the areas N-1 to N-13 in the North Sea EEZ, the areas O-1 to O-3 in the Baltic Sea EEZ and sites for offshore wind energy in order to achieve the previous target of 15 GW for offshore wind energy by 2030 according to § 1 sentence 2 WindSeeG.</p> <p>With the decision of the German Climate Cabinet of 20 September 2019 and the climate protection programme of 9 October 2019 adopted by the Federal Government, the target for offshore wind energy is to be increased to 20 GW by 2030. A concrete legal target beyond 2030 has not yet been set for offshore wind energy.</p> <p>In statements on the notification of the planned revision of the spatial plan, the securing of areas for offshore wind energy beyond 2030 was requested. Furthermore, several participants in the consultation argued that areas for other forms of energy generation, e.g. for hydrogen production, should be included in the revised plan.</p>
MSP 2009	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> <li>• Priority shall be given to offshore wind energy, other uses are excluded if incompatible with priority use of wind energy.</li> <li>• No impairment of traffic safety.</li> <li>• Exclusion of OWF construction and operation in Natura 2000 sites (exception: approved wind farms and wind farms that are consolidated under planning law).</li> <li>• Reference areas (with regard to offshore energy) are kept free.</li> <li>• Dismantling after abandonment of use. Dismantling should be refrained from if it causes greater adverse environmental effects than a remaining, unless it is necessary for safety reasons.</li> <li>• Limitation of the hub height to 125 m in sight of the coast or islands.</li> <li>• Consideration and distance to pipelines and submarine cables.</li> </ul> <p><u>Principles:</u></p> <ul style="list-style-type: none"> <li>• Efficient arrangement of wind turbines in a space saving manner</li> <li>• No impairment of the safety and ease of traffic through the construction and operation of wind farms.</li> </ul>



MSP 2009	<p><u>Principles (continued):</u></p> <ul style="list-style-type: none"> <li>• Striving for the best possible coordination of interests in the case of simultaneous use of an area by wind energy and resource extraction on the basis of criteria to be developed.</li> <li>• Consideration of fishery and defence interests in the planning, operation and construction of wind farms.</li> <li>• Impact-related monitoring by authorities.</li> <li>• Consideration of the dispersal processes and the long-range ecological interrelationships of animal and plant species in the sea.</li> <li>• Avoidance of damage to or destruction of sandbanks, reefs and defined areas where sensitive benthic communities occur.</li> <li>• Consideration of known sites where cultural objects are found. If unknown cultural property is found, take measures to secure the cultural property.</li> </ul>		
Objectives of spatial planning ( <i>spatial designations</i> )	<p>Planning option A</p> <p>Designation of areas EN1 to EN3, and EN6 to EN12, and EO1 and EO3 as priority areas for offshore wind energy.</p> <p>Reduction of the areas EN6, EN11 and EN12 due to extension of the priority areas shipping.</p>	<p>Planning option B</p> <p>Designation of areas EN1 to EN3, and EN6 to EN13 and EO1 to EO3 as priority areas for offshore wind energy.</p>	<p>Planning option C</p> <p>Designation of areas EN1 to EN3, and EN6 to EN12, and EO1 and EO3 as priority areas for offshore wind energy.</p>
Principles of spatial planning ( <i>spatial designations</i> )	<p>Designation of areas EN4, EN5, EN13 to EN19 and EO2 as reservation areas for offshore wind energy.</p> <p>Height limitation of wind turbines according to an angle-based approach.</p>	<p>Designation of areas EN4, EN5, EN14 to EN23 as reservation areas for offshore wind energy.</p>	<p>Designation of the area EO2 as a reservation area for offshore wind energy.</p> <p>Height limitation of wind turbines according to an angle-based approach.</p>
Objectives of spatial planning (regulations)	<p><b>Wind energy</b></p> <p>(1) Priority areas for offshore wind energy</p> <p>Priority of offshore wind energy over other spatially significant functions or uses, exclusion of spatially significant planning if incompatible with the use of offshore wind energy.</p>		

To (1):

- The priority areas for wind energy designated in the spatial plan are objectives of spatial planning in the sense of § 3 No. 2 ROG and have a legally binding character according to § 4 ROG. This means that uses that are not compatible with the use of offshore wind energy are not permitted in priority areas for wind energy. In principle, the priority area has the function of keeping the area free from other conflicting uses in favour of the priority use of wind energy.
- The basis for the designation of priority areas for offshore wind energy are at first the areas O-1 to O-3 (Baltic Sea) and N-1 to N-3 as well as N-6 to N-13 (North Sea) and potential further areas defined in the FEP 2019, which result on the one hand from a shift in shipping traffic and on the other hand from adapted spatial designations for shipping. Due to the scope of the designated priority areas for offshore wind energy, all three options should achieve the increased target, i.e. at least 20 GW installed capacity by 2030.

The following uses are compatible:

- In those areas where reservation and priority areas for offshore wind energy are overlaid with a reservation area for resource extraction, compatibility is given.
- Compatibility with installations for other forms of energy generation in accordance with principle (7) is given.
- Other uses which, after examination in the site development planning, the site investigation or a specific project, do not give rise to any unreasonable risks and restrictions of the main use.

### **Shipping**

(2) No impairment of traffic safety.

To (2)

- The safety of shipping traffic must not be impaired by the use of offshore wind energy in the priority areas; this applies in particular to peripheral development. In order to ensure the safety of shipping, but also of the installations, the licensing authority establishes safety zones, especially in adjacent priority or reservation areas for shipping.
- Risk-based and cumulative consideration of the risks posed by several wind farms in close proximity (shipping analysis).

### **Environment/Nature conservation**

(3) Prohibition of planning, construction and operation in nature protection areas. (Exception: wind farms in operation).

To (3):

- Outside the priority areas for wind energy, offshore wind turbines are not permitted in nature protection areas (exception: wind farms in operation).
- Reference to sectoral planning.

*(4) Reference areas are kept free*

To (4):

- It is necessary to keep a suitable reference area free from installations for comparative sampling. This can be used for corresponding investigations.

### **Dismantling**

(5) Decommissioning after abandonment of use, balancing the interests of subsequent use and the marine environment.

To (5):

- In accordance with the spatial planning guideline that fixed uses must be reversible, i.e. only temporary and limited in time, offshore wind turbines or installations for other forms of energy generation must also be dismantled after abandonment of use, insofar as this is technically possible.
- This obligation to dismantle also applies to buildings used for power transmission, such as substations and cabling within the windfarm.
- The obligation to dismantle is intended to keep long-term options for marine use open, as it enables subsequent uses and thus contributes to sustainability.
- When dismantling, all concerns must be weighed up on the basis of the respective law in force and the best available technology.
- The order as well as the scheme of the dismantling in each case is the responsibility of the competent authority.

### **Landscape/tourism**

(6) Application of an angle-based approach to determine the maximum visible turbine height from the coast or islands.

To (6)

- Details are subject to sectoral planning. In order to minimise as far as possible any potential impairment of the landscape as perceived from land, or of tourism concerns, an angle-based approach should be applied.

	<ul style="list-style-type: none"> <li>• Reference to FEP and, where relevant, individual application procedures.</li> </ul> <p><b>Pipelines and submarine cables</b></p> <p>(7) Consideration of existing and planned pipelines and submarine cables, keeping appropriate distances.</p> <p>To (7)</p> <ul style="list-style-type: none"> <li>• In order to reduce the risk of damage to pipelines and submarine cables and not to impair the conduction of maintenance, due consideration shall be given to existing pipelines and submarine cables during the planning, construction and operation of offshore wind farms and installations for other energy uses. An appropriate distance must be maintained.</li> <li>• The definition of an appropriate distance shall be subject to the sectoral planning or, depending on the circumstances of the individual case, shall be dealt with in the individual application procedure.</li> </ul> <p><b>Military use</b></p> <p>(8) Offshore wind farms and their safety zones may be passed by Bundeswehr (German armed forces) vehicles.</p> <p>(9) The Bundeswehr and its military alliance partners should be able to conduct exercises without restriction in the defined military exercise areas, if security concerns require it, provided that shipping and marine nature conservation concerns are not unreasonably impaired.</p> <p>(10) The construction of fixed structures above the sea surface in these areas should be excluded.</p>		
Objectives of spatial planning (regulations)	Planning option A	Planning option B	Planning option C
Justification ( <i>legal/political/factual</i> )	See AnIV 2012: Consideration of military interests against uses other than public interests.		
		(11) On fixed installations, as far as the Bundeswehr considers it necessary, provisions should be made to accommodate and operate fixed installations serving national and alliance defence.	

	<p>According to Directive 2014/89/EU, military training areas are listed as "possible activities, uses and interests" which Member States may take into account in their national maritime spatial plans.</p> <p>Concept of the Bundeswehr (German Armed Forces, BMVg), 2010: The overarching goal is to develop and deploy an operational, alliance-capable and flexible Bundeswehr which, in a volatile security environment, has the capability for the equal performance of all tasks for the protection of Germany. Securing the functionality of the Bundeswehr is of major national interest.</p> <p>The obligation to obtain permits for installations (SeeAnIV 2012) in the EEZ serves, among other things, to take public interests into account and thus in particular the interests of defence.</p> <p>The increase in fixed installations in the EEZ is associated with a restriction of the freedom of movement of Bundeswehr vessels. In order to ensure effective national defence, existing wind farms must be passed for training purposes even in peacetime. The objective of spatial planning is limited to vehicles of the Bundeswehr, as only here can it be assumed that liability cases will be settled without further complication by the Federal Republic of Germany.</p>
Principles of spatial planning ( <i>regulations</i> )	<p>(1) Reservation areas for offshore wind energy</p> <p>In the reservation areas for offshore wind energy, particular importance is attached to the construction and operation of offshore wind turbines when weighing up other interests.</p> <p>To (1):</p> <ul style="list-style-type: none"> <li>• The definition of reservation areas for offshore wind energy serves to secure areas for the further development of offshore wind energy beyond 2030. Although there is currently no target for offshore wind energy beyond 2030, the need for the further development of offshore wind energy can be derived from § 1 sentence 2 No. 3 EEG, which sets a target of 80 percent of gross electricity consumption from renewable energies by 2050. In addition, the Climate Protection Act passed by the Bundestag in 2019 provides for greenhouse gas neutrality until 2050, with the expansion of renewable energies being a key measure.</li> <li>• Further indications of the possible expansion of offshore wind energy after 2030 are provided by the draft scenario framework 2021 - 2035/2040 of the transmission system operators published in January 2020. Depending on the scenario, this envisages installed generation capacity from offshore wind energy of 27 to 35 GW by 2035 and 40 GW by 2040.</li> <li>• Taking into account the offshore wind farms already in operation and under construction, the following potential is defined on the basis of</li> </ul>

	<p>the priority and reservation areas for offshore wind energy identified in the various options:</p>		
<p>Planning option A</p>	<p>Planning option B</p>	<p>Planning option C</p>	
<p>35 to 40 GW</p>	<p>40 to 50 GW</p>	<p>25 to 28 GW</p>	
<p><b>Efficient siting</b></p> <p>(2) Arrangement of the wind energy turbines in the corresponding areas in an efficient way to save as much space as possible.</p> <p>To (2):</p> <ul style="list-style-type: none"> <li>• In accordance with the guideline of efficient area use, offshore wind energy turbines should be arranged in the most space-saving way possible in the areas.</li> <li>• The specification of the capacity that is expected to be installed in the areas is made in the sectoral planning.</li> </ul> <p><b>Ship/ Air Traffic</b></p> <p>(3) No impairment of the safety and ease of navigation by the construction and operation of OWF.</p> <p>To (3):</p> <ul style="list-style-type: none"> <li>• Due to the high importance of transport, the safety and ease of shipping should not be impaired by the use of wind energy, even outside the priority areas for offshore wind energy.</li> <li>• Proper navigation, conducted in accordance with the rules of good seamanship, should in general still be possible without danger.</li> <li>• Details are to be regulated in the sectoral planning.</li> </ul> <p>(4) No impairment of the safety and ease of air traffic by the construction and operation of OWF.</p> <p>To (4):</p> <ul style="list-style-type: none"> <li>• Access to existing and/or planned helicopter landing decks shall not be impaired by the construction of obstructions to aviation or by the shipping traffic in their vicinity caused thereby.</li> <li>• Details are to be regulated in the sectoral planning.</li> </ul>			

<b>Other issues</b>		
Planning option A	Planning option B	Planning option C
<p>(5) Striving for the best possible coordination of interests in the case of simultaneous area use by wind energy and resource extraction on the basis of criteria to be developed by competent authorities.</p> <p>Fixed installations for resource extraction should not be constructed on and above the sea surface in reservation areas of shipping.</p>		
<p>To (5):</p> <ul style="list-style-type: none"> <li>• In the event of simultaneous area use for wind energy and the exploration and extraction of raw materials, the best possible coordination of interests should be sought.</li> <li>• The criteria for the contractual arrangement of the uses, which still have to be developed and agreed upon by the responsible authorities, will be crucial for this.</li> </ul> <p>(6) Consideration of the interests of fisheries in the planning, operation and construction of offshore wind farms.</p> <p>To (6):</p> <ul style="list-style-type: none"> <li>• Fishing is a traditional use of the sea, but it is currently difficult to define its own spatial designation.</li> <li>• However, these uses are permitted in the EEZ and must be taken into account by the other uses.</li> <li>• In the subsequent planning and approval levels, an assessment is to be carried out to determine which activities may be permitted under certain conditions in the areas and their safety zones.</li> </ul> <p>(7) Consideration of defence interests in the planning, operation and construction of offshore wind farms.</p>		

To (7):

- See section **Fehler! Verweisquelle konnte nicht gefunden werden.** for the justification given.

(8) Compatibility with the operation of other forms of energy generation.

To (8):

- Other forms of energy generation as meant in this concept are other energy production installations according to § 3 no. 7 WindSeeG or areas for other forms energy generation according to § 3 no. 8 Wind-SeeG.
- The compatibility of other energy generation installations with priority and reservation areas for offshore wind energy is generally given, provided that no other concerns arise. However, due to the proximity to the coast and in order to achieve statutory energy targets, priority and nearshore reservation areas for offshore wind energy are primarily intended for grid-bound electricity transport.
- The designation of areas for other forms of energy generation according to § 5 para. 2a WindSeeG is the task of the sectoral planning.
- The approval procedure for other energy generation plants is based on the provisions of the Offshore Installations Act (SeeAnIG).

(9) Consideration of known sites of explosive ordnance. Taking protective measures in the event of previously unknown explosive ordnance discoveries. Proper disposal of recovered explosive ordnance.

To (9):

- The respective project developer is responsible for the identification and exploration of explosive ordnance as well as for the resulting protective measures.
- Details are subject of the site development planning.

(10) Consideration of known sites where cultural assets are found. If unknown cultural assets are found, measures shall be taken to secure the cultural asset.

To (10):

- The seabed may hold cultural assets of archaeological value such as archaeological monuments, settlement remains or historical shipwrecks. A large number of such shipwrecks are known and listed in the underwater database of the BSH.
- These must be taken into account during planning, construction and operation.



	<ul style="list-style-type: none"> <li>In the case of cultural assets not previously known, appropriate safeguards should be implemented in consultation with the competent authority.</li> </ul> <p><b>Environment/Nature conservation</b></p> <p>(11) Prevention and mitigation of adverse impacts on the marine environment, in particular on the natural functions and the ecosystem importance of the sea. Consideration of best environmental practice as defined in the OSPAR and HELCOM conventions and the state of the art.</p> <p>Prevention of damage to or destruction of biotopes in accordance with § 30 BNatSchG.</p> <p>Overall time coordination of the construction work for wind turbines and other energy-related systems to avoid cumulative effects.</p> <p>Impact-related monitoring by authorities.</p> <p>To (11):</p> <ul style="list-style-type: none"> <li>In accordance with the guiding principle for the protection of the marine environment, the concrete design of the construction and operation of energy production plants should avoid adverse effects on the marine environment and in particular on the natural functions of the area.</li> <li>The concrete implementation is to be regulated within the framework of the sectoral planning as well as in individual approval procedures.</li> <li>Reference to justification in chapter 4.4.1</li> </ul>
Justification ( <i>legal/political/factual</i> )	see above
Consultation questions	<p><b>Reference areas</b></p> <p>Is it still useful that the BSH specifies reference areas as part of the revised MSP?</p> <p><b>Landscape / Tourism</b></p> <p>Which approaches are applicable to determine the visual impact of off-shore wind turbines on the landscape (e.g. through a visual angle or frequency-based approach)?</p> <p><b>Compatibility of competing uses</b></p> <p>Should further concrete principles be specified to reconcile other uses (e.g. military, fishing, shipping, research) in priority and reservation areas for wind energy? Under what circumstances is compatibility possible?</p> <p><b>Environmental protection/nature conservation</b></p> <p>Is the principle of avoiding damage to or destruction of sandbanks, reefs and defined areas where sensitive benthic communities worth protecting occur as particularly sensitive habitats needed in the light of the current</p>

	provisions of the Federal Nature Conservation Act, or should it be extended?
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#### 4.2.2 Cables and pipelines

General information / background	<p><u>Definition:</u></p> <p>Cables and pipelines, in this concept, include pipelines and submarine cables. Submarine cables include data cables as well as cross-border power lines and connecting cables for offshore wind farms. This definition does not include cabling within the wind farm. Reference is made in this respect to specifications made in the sectoral planning.</p> <p><u>Site Development Plan 2019 (FEP 2019):</u></p> <p>With the FEP 2019, a current sectoral plan exists to steer the planning of the development of offshore wind energy and the cable connection. The FEP 2019 also contains routes and route corridors for cross-border power lines.</p> <p><u>Latest information:</u></p> <p>Resolution of the Climate Cabinet of 20 September 2019 and resolution of the Federal Cabinet (Climate Protection Programme) of 9 October 2019 to increase the statutory target for offshore wind energy to 20 GW by 2030, resulting in additional connecting cables.</p>
MSP 2009	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> <li>• Ensure that the energy generated in the EEZ is transferred to suitable transfer points on the border with the territorial sea.</li> <li>• At the border to the territorial sea as well as for the crossing of the TSSs off the East Frisian coast, submarine cables must be routed through target corridors.</li> <li>• Crossing of priority areas for shipping by the shortest possible route, if parallel to existing structures and fixed installations is not possible.</li> <li>• Deconstruction after abandonment of use.</li> <li>• Consideration of existing pipelines and submarine cables when deciding on the route for new pipelines and submarine cables.</li> <li>• Maintenance of an appropriate distance.</li> </ul> <p><u>Principles:</u></p>

- In the designated reservation areas for pipelines, particular importance is attached to the operation and maintenance of pipelines (consideration in the weighing process).
- Crossing of priority areas for shipping by pipelines and other submarine cables by the shortest possible route, if parallel routing to existing structures is not possible.
- In the case of pipelines and submarine cables remaining, appropriate monitoring measures should be taken.
- No impairment of the safety and efficiency of navigation.
- Avoid cable laying parallel to shipping areas.
- Respecting existing uses and rights of use.
- Respecting the designation of protected areas as well as the interests of fisheries when deciding on the route.
- When laying submarine cables, aim for the greatest possible bundling in the sense of parallel laying.
- Routing of submarine cables as parallel as possible to existing structures and buildings.
- Avoid as far as possible the crossing of submarine cables both with another and with other existing and planned pipelines and submarine cables.
- Minimisation of possible adverse effects on the marine environment when laying pipelines and submarine cables, avoidance of particularly sensitive species-specific periods when crossing sensitive habitats.
- Avoid adverse impacts on the marine environment, taking into account best environmental practice as defined in the OSPAR/HELCOM Convention and the state of the art.
- Consideration of the dispersal processes and large-scale ecological interrelationships of animal and plant species in the sea when deciding on the route of pipelines and submarine cables.
- Avoid damage to or destruction of sandbanks, reefs and defined areas where sensitive benthic communities worth protecting occur as particularly sensitive habitats.
- Consideration of known sites for cultural assets, safeguarding of cultural assets in the case of previously unknown cultural assets located on the seabed.

	<ul style="list-style-type: none"> <li>• Consideration of the interests of shipping and fisheries as well as the protection of the marine environment when deciding on the depth at which submarine cables are to be laid.</li> <li>• Overall time coordination of the laying of submarine cables to avoid or reduce cumulative effects.</li> <li>• Use of a gentle laying method to protect the marine environment.</li> </ul>														
<p>Objectives of spatial planning (<i>spatial designations</i>)</p>	<p><b>Gates</b></p> <p>(1) Pipelines shall be routed through the gates at the borders to the territorial sea, which are shown in the map and listed below:</p> <table border="1" data-bbox="454 734 1380 1124"> <thead> <tr> <th data-bbox="454 734 917 795"><u>North Sea:</u></th> <th data-bbox="917 734 1380 795"><u>Baltic Sea:</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="454 795 917 840">N-I</td> <td data-bbox="917 795 1380 840">O-I</td> </tr> <tr> <td data-bbox="454 840 917 884">N-II</td> <td data-bbox="917 840 1380 884">O-II</td> </tr> <tr> <td data-bbox="454 884 917 929">N-III</td> <td data-bbox="917 884 1380 929">O-III</td> </tr> <tr> <td data-bbox="454 929 917 974">N-IV</td> <td data-bbox="917 929 1380 974">O-IV</td> </tr> <tr> <td data-bbox="454 974 917 1019">N-V</td> <td data-bbox="917 974 1380 1019">O-V</td> </tr> <tr> <td data-bbox="454 1019 917 1124"></td> <td data-bbox="917 1019 1380 1124">O-XIII</td> </tr> </tbody> </table> <p>To (1):</p> <ul style="list-style-type: none"> <li>• It shall be ensured that cables are routed to suitable gates on the border to the territorial sea.</li> <li>• Routeing and positioning of the grid connections for offshore wind turbines is subject of the sectoral planning. The same applies to cross-border power cables.</li> <li>• In the border region to the territorial sea, gates are defined for the envisaged bundling of cables and pipelines, through which the cables and pipelines are to be routed at the border from the EEZ to the territorial sea. This is intended to concentrate cables and pipelines at these points as far as possible and bundle them for further conduction towards land.</li> <li>• Coordination with coastal federal states and their spatial planning will take place.</li> <li>• Details of the gates are regulated by the sectoral planning.</li> </ul>	<u>North Sea:</u>	<u>Baltic Sea:</u>	N-I	O-I	N-II	O-II	N-III	O-III	N-IV	O-IV	N-V	O-V		O-XIII
<u>North Sea:</u>	<u>Baltic Sea:</u>														
N-I	O-I														
N-II	O-II														
N-III	O-III														
N-IV	O-IV														
N-V	O-V														
	O-XIII														
<p>Objectives of spatial planning (regulations)</p>	<p><b>Deconstruction</b></p> <p>(2) Cables and pipelines shall be dismantled after decommissioning, taking into account the interests of subsequent use and the marine environment.</p> <p>To (2):</p>														

	<ul style="list-style-type: none"> <li>• In accordance with the spatial planning guideline that fixed installations must be reversible, i.e. only temporary and limited in time, cables and pipelines must also be dismantled after the end of use.</li> <li>• An area should be made available for subsequent use due to increasing pressure from other activities.</li> <li>• The obligation for deconstruction is intended to keep long-term options for area use open, as it enables subsequent uses and thus contributing to sustainability.</li> <li>• When dismantling, all concerns must be weighed up on the basis of the legislation in force and the best available technology.</li> <li>• The order as well as the case-by-case arrangement of the dismantling is the responsibility of the competent authority.</li> </ul>						
Principles of spatial planning ( <i>spatial designations</i> )	<p><b>Reservation area</b></p> <p>(1) In reservation areas for cables and pipelines, special emphasis shall be placed on the planning, construction, operation and maintenance of cables and pipelines. This must be taken into account accordingly when weighing up against other spatially significant plans, measures and projects. For existing cables and pipelines, the principle applies that only corridors in which at least two cables run in parallel are defined as reservation areas. Pipelines are an exception to this rule.</p> <table border="1" data-bbox="438 1120 1396 1400"> <thead> <tr> <th data-bbox="438 1120 758 1176">Planning option A</th> <th data-bbox="758 1120 1077 1176">Planning option B</th> <th data-bbox="1077 1120 1396 1176">Planning option C</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="438 1176 1396 1400" style="text-align: center;"> <u>North Sea:</u> LN1 - L15   <u>Baltic Sea:</u> LO1 - LO8 </td> </tr> </tbody> </table> <p>To (1):</p> <ul style="list-style-type: none"> <li>• By defining reservation areas for cables and pipelines, it is ensured that other uses take into account the special protection requirements of cables and pipelines.</li> <li>• Offshore wind energy areas far from the coast require onshore connections; in addition, a further expansion of cross-border cables and pipelines is foreseeable. Designations support the securing of corresponding route corridors.</li> <li>• Details are subject of the sectoral planning.</li> </ul>	Planning option A	Planning option B	Planning option C	<u>North Sea:</u> LN1 - L15  <u>Baltic Sea:</u> LO1 - LO8		
Planning option A	Planning option B	Planning option C					
<u>North Sea:</u> LN1 - L15  <u>Baltic Sea:</u> LO1 - LO8							
Principles of spatial planning ( <i>regulations</i> )	<p><b>Appropriate gates to the territorial sea</b></p> <p>(2) If the spatial capacity is exhausted in the areas of the respective border corridors with the above-mentioned routes, the route of any additional cables and pipelines that may become necessary should be bundled as far as possible and, in coordination with the coastal state concerned, be directed to suitable gates on the border to the territorial sea.</p>						

To (2):

- This principle ensures that it is possible to flexibly react to a possible changed situation that cannot be foreseen at present.
- Details are subject of the sectoral planning.

**Traffic**

(3) The laying, operation, maintenance of operations or dismantling of cables and pipelines should not impair the safety and ease of traffic.

To (3):

- Due to the great importance of transport, the safety and ease of navigation should not be impaired by the laying and operation of cables and pipelines.
- Proper navigation, conducted in accordance with the rules of good seamanship, should continue to be generally possible without danger.
- There is no conflict between cables and pipelines laid in the seabed and the safety and efficiency of navigation.

**Consideration of existing uses/ rights of use/ designation of protected areas**

(4) When deciding on the routeing of cables and pipelines, consideration should be given to existing uses and rights of use, the designation of protected areas and the interests of fisheries.

To (4):

- In order to minimise conflicts, existing use/user rights and rights analogue to property rights as well as the designation of protected areas (especially nature protection areas) should be taken into account as early as possible when deciding on the routeing of cables and pipelines.
- Routing outside these areas should be sought.
- Fisheries concerns should also be taken into account at an early stage.

**Bundling**

(5) Striving for maximum bundling in the sense of parallel routeing when laying cables. Routing as parallel to existing structures and buildings. Cables and pipelines should be routed in the designated corridors.

To (5):

- In order to minimise the impact on other uses and the need for coordination with each other and with other uses, and to create as few constraint points as possible for future uses, cables and pipelines should be bundled as far as possible. Bundling in the sense of parallel routeing also reduces fragmentation effects.
- In accordance with the guideline of efficient area use and in order to minimize impacts, cables and pipelines should be planned as space-saving as possible. The technically possible transmission capacity should be taken into account in planning and used as fully as possible.
- Details are regulated by the sectoral planning or the approval procedure.

### **Crossings**

(6) Avoid crossings of cables and pipelines as far as possible

To (6):

- Intersection structures are more vulnerable to failure and therefore require more maintenance, which in turn leads to increased traffic volumes from maintenance/repair ships, which must be avoided.
- Details are regulated by the sectoral planning or the approval procedure.

### **Coverage**

(7) In determining the permanent coverage of submarine cables, particular consideration should be given to the concerns of nature protection, shipping, defence, fishing and system security.

To (7):

- When choosing the covering of submarine cables, different interests have to be weighed against each other. The interests of shipping, fishing vessels and the protection of the marine environment should be given special consideration. On the one hand, greater coverage can reduce the potential for conflicts with other uses, such as the risk of damage from anchoring or trawling/breaking boards. The risk of submarine cables being washed out and damaged is reduced, thus reducing maintenance costs and significantly reducing the potential adverse effects of repair work on shipping and the environment. With a larger coverage, a possible temperature increase in the sediment can also be limited and the effects of electromagnetic fields be reduced.
- Details are regulated by the sectoral planning or the approval procedure.

**Marine Environment**

(8) When laying cables and pipelines, times which are particularly susceptible to disturbance due to species-specific conditions should be avoided in order to minimise possible adverse effects on the marine environment when crossing sensitive habitats. Adverse effects on the marine environment, in particular on the natural functions and ecosystem importance of the sea, caused by the laying, operation, maintenance and possible remaining after the end of operations or by the dismantling of cables and pipelines shall be avoided. The best environmental practice according to international conventions and the respective state of the art should be taken into account. Dispersion processes and widespread ecological interrelationships of animal and plant species in the sea should be taken into account when deciding on the routing of cables and pipelines.

Avoidance of damage to or destruction of biotopes in accordance with § 30 BNatSchG when laying and operating cables and pipelines.

To (8):

- In accordance with the guiding principle of protection of the marine environment, the concrete arrangement of the laying and operation of the pipelines should avoid adverse effects on the marine environment and in particular on the natural functions of the area.
- In accordance with the guideline of efficient area use and in order to minimize impacts, cables and pipelines should be planned as space-saving as possible. The technically possible transmission capacity should be taken into account in planning and be fully utilised.
- Details are regulated by the sectoral planning or the approval procedure.

**Cultural assets**

(9) When deciding on the route for laying cables and pipelines, known sites for cultural assets should be taken into account. If, during the planning or laying of cables and pipelines, previously unknown cultural assets located on the seabed are discovered, appropriate measures should be taken to secure the cultural assets.

To (9):

- The seabed may contain cultural assets of archaeological value, such as archaeological monuments, settlement remains or historical shipwrecks. A large number of such shipwrecks are known and listed in the underwater database of the BSH. The available information



from the competent authorities should be taken into account when deciding on a suitable route for cables and pipelines. However, it cannot be ruled out that, in the course of closer investigations for a suitable route or during the laying of cables and pipelines, previously unknown cultural assets may be found. In order to prevent damage in this case, suitable safety measures should be taken in consultation with the responsible authority.

### **Overall coordination**

(10) Overall time coordination for the laying of cables and pipelines to avoid cumulative effects.

To (10):

- For the laying of adjacent cables and pipelines, an overall coordination of the time required for the installation work should be aimed for. Thus, the number of disturbing impacts can be reduced and possible cumulative effects be avoided or reduced.
- In accordance with the guideline of efficient area use and in order to minimize impacts, cables and pipelines should be planned as space-saving as possible. The technically possible transmission capacity should be taken into account in planning and be fully utilised.
- Details are regulated by the sectoral planning or the approval procedure.

### **Gentle laying process**

(11) Choice of the least invasive laying method in order to protect the marine environment.

To (11):

- In order to minimise potential negative impacts on the marine environment caused by the laying of cables and pipelines, the laying method with the least impact on the marine environment should be chosen.

Details are regulated by the sectoral planning or the approval procedure.

Planning option A	Planning option B	Planning option C
(12) Sediment warming: When operating power cables, potential adverse effects on the marine environment caused by cable-induced sediment warming should be reduced as far as possible.		

To (12):

	<ul style="list-style-type: none"> <li>• Details are regulated by the sectoral planning or the approval procedure.</li> </ul>
Justification ( <i>legal/political/factual</i> )	<p>see above</p> <p>Statutory target under the EEG and WindSeeG by 2030</p> <p>Decisions of the Federal Cabinet of 20 September 2019 and 9 October 2019 (Climate Protection Programme)</p> <p>FEP 2019 (site development plan: sectoral plan for offshore wind energy and grid connections)</p> <p>Network development plan (electricity and gas)</p> <p>Ten Year Network Development Plan (TYNDP)</p> <p>TYNDP System Needs Report</p> <p>North Sea Energy Cooperation</p> <p>Studies</p>
Consultation questions	<p>At what level of use should a corridor for cables and pipelines be defined as a reservation area for cables and pipelines?</p> <p>Is it useful to designate reservation areas for individual cables or pipelines as well?</p> <p>Is it necessary to designate reservation areas for all cables and pipelines in operation?</p>

#### 4.2.3 Resource extraction

General information / background	<p>The exploration, securing and demand-oriented development of resources in the EEZ is of great importance for securing raw materials. Sand and gravel extraction at sea is necessary due to shortage of raw materials on land. The physical location of raw material deposits limits the choice for extraction sites.</p> <p>Exploration permits according to BBergG entitle permit holders to actively search for the respective mineral resources.</p> <p>In the case of raw material discoveries, the permit holder is entitled to be granted a mining permit for the extraction of the raw material.</p> <p>The exploration and extraction of mineral resources can only take place after approval of an operational plan (according to BBergG). Main operating plans shall be drawn up for the establishment and operation of a prospecting or extraction site. These are generally valid for two years.</p> <p><u>Current situation</u></p>
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	<p>North Sea:</p> <p>There are mining permits for hydrocarbons and sand and gravel as well as exploration permits for hydrocarbons.</p> <p>Baltic Sea:</p> <p>Mining permits for sand and gravel extraction have been issued, as well as permits for hydrocarbon exploration.</p> <p><u>Competition and conflicts</u></p> <p>In the North Sea, permit areas for the exploration of hydrocarbons overlap with priority areas for offshore wind energy, areas for wind energy from the FEP 2019 and the Natura 2000 site Borkum Riffgrund. Most of the permitted mining areas for the extraction of sand and gravel are located in the Natura 2000 site Eastern German Bight and Sylt Outer Reef.</p> <p>In the Baltic Sea, the permitted mining area for sand and gravel is almost entirely within the Natura 2000 site Adlergrund. Permitted hydrocarbon exploration areas overlap with the Natura 2000 site Kadetrinne and Pomeranian Bay.</p>		
MSP 2009	<p>The MSP 2009 does not contain any spatial designations for the extraction of raw materials. Existing exploration and mining permits in accordance with BBergG were displayed for information purposes.</p> <p>Designations</p> <p><u>Objectives:</u></p> <p>Deconstruction of extraction facilities, consideration and distance to pipelines and submarine cables.</p> <p><u>Principles:</u></p> <p>Enable extraction, save space and protect the environment, take other users and interests (fishing, underwater cultural heritage) into account.</p> <p>In case of simultaneous area use, resource extraction should be coordinated with other uses (e.g. wind energy).</p>		
	Planning option A	Planning option B	Planning option C
Objectives of spatial planning ( <i>spatial designations</i> )	North Sea: Priority area permitted mining for hydrocarbons (German North Sea)		
Principles of spatial planning ( <i>spatial designations</i> )	Reservation areas sand and gravel (mining permit).	Reservation areas sand and gravel (mining permit).	No reservation areas.

	Reservation areas (exploration permit for hydrocarbons).		
Objectives of spatial planning (regulations)	<p>(1) Deconstruction of extraction facilities.</p> <p>(2) Consideration and distance to pipelines and submarine cables.</p>		
Principles of spatial planning (regulations)	<p>(3) Enable and develop exploration and extraction in a comprehensive manner.</p> <p>(4) Continuous documentation of knowledge.</p> <p>(5) Concentration of extraction.</p> <p>(6) No obstruction of shipping.</p> <p>(7) Take into account the interests of fisheries.</p> <p>(8) Avoidance of adverse impacts on the marine environment.</p> <p>(9) Consideration of sites where cultural objects are found.</p>		
Justification ( <i>legal/political/factual</i> )	<p><u>Legal and political background:</u></p> <p>BBergG: Clause on securing mineral extraction (Rohstoffsicherungsklausel) of § 48 para. 1 sentence 2 BBergG.</p> <p>Raw materials strategy of the Federal Government. Securing a sustainable supply of non-energetic minerals. BMWI, October 2010 and revision of the raw materials strategy, 2020.</p> <p>Directive 2013/30/EU of the European Parliament and of the Council of 12 June 2013 on safety of offshore oil and gas operations and amending Directive 2004/35/EC</p> <p>For planning option C:</p> <p>No privileged treatment of resource extraction and thus no designation of priority or reservation areas. The background is the prioritisation of the nature conservation function in nature protection areas where the existing resource extraction areas are located. The mining of raw materials in these areas is regulated by the sectoral legislation.</p>		
Consultation questions	<p>Request by the sector: permitted exploration areas with rich deposits as priority areas.</p> <p>What are evaluation criteria for the quality of mineral deposits in existing and permitted hydrocarbon exploration areas?</p> <p>What is the state of knowledge regarding the hydrocarbon abundance of the North Sea and Baltic Sea permit areas?</p> <p>What are the prospects for gas production in the permitted exploration areas north of Borkum with regard to the use of so-called high gas?</p>		

	<p>Request by the sector: Free access to permitted exploration and mining areas.</p> <p>Which concrete requests apply with regard to the accessibility of areas, especially to areas with fixed infrastructure (e.g. wind farms)?</p>
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#### 4.2.4 Fishing

General information	<p>With the further large-scale development of the marine space for offshore wind energy, it can be assumed that these areas including safety zones cannot be used for safety reasons, especially for mobile fishing, such as bottom trawling. This may be accompanied by large-scale fisheries management measures, which are also likely to lead to restrictions on use in nature protection areas. The consultation will therefore be used to discuss to what extent this development can be taken into account in the spatial plan. Alternative fishing methods and target species in and on offshore wind farms, which may be compatible with wind energy generation, are currently being tested in projects. This may apply, for example, to basket fisheries (for crabs, etc.) and other passive fisheries.</p>
MSP 2009	<p>The principles governing fisheries are aimed at</p> <ul style="list-style-type: none"> <li>- avoidance of adverse impacts on the marine environment,</li> <li>- the sustainable exploitation of fish stocks.</li> </ul> <p>Neither of these objectives can be influenced by spatial planning.</p> <p>Besides, the consideration of known sites of cultural objects should be ensured.</p>
Objectives of spatial planning	No spatial planning objectives formulated.

	Planning option A	Planning option B	Planning option C
Principles of spatial planning (spatial <i>designations</i> and regulations)	<p>(1) In the safety zones for wind energy, special consideration shall be given to fisheries use in planning and operation.</p> <p>(2) Fishing without the use of active or passive net fishing, such as basket fishing, shall be permitted in the outer safety zone of the wind farm up to a distance of [250] m from the outer turbines, as far as external conditions permit.</p> <p>(3) The passage of fishing vessels through offshore wind farms and their safety zones should be made possible for vessels up to [...] m in overall length under appropriate weather conditions.</p> <p>(4) Reservation area for fisheries on Norway lobster (<i>Nephrops norvegicus</i>, not yet shown on the map): In the area of the "Südlicher Schlickgrund" in the North Sea, special consideration should be given to fishery exploitation during the planning, construction and operation of OWFs and pipelines.</p> <p>(5) Fishing vessels shall be given special consideration in the rules of navigation in the safety zones of offshore wind farms.</p>		
Justification ( <i>legal/political/factual</i> )	<p>To (1), (2): Fishing as a traditional maritime use should be made possible as far as this is technically and economically reasonable in safety zones of offshore wind farms. The concrete possible type of fishing is to be determined in the individual approval procedures and, if necessary, in the sectoral planning.</p> <p>To (3), (5): In the general arrangement of navigation regulation for offshore wind farms and, if necessary, specific rules for individual areas, passage for fishing vessels should be made possible in order to reduce barrier effects.</p> <p>To (4): The "Südlicher Schlickgrund" is the only fishing area for Norway lobster in the German North Sea, which is a rare and important and economically significant target species for German fisheries.</p>		
Consultation questions	<p>Up to what length should in principle (3) the passage through offshore wind farms including a safety zone for fishing vessels be permitted?</p> <p>What is the spatial delimitation of the "Südlicher Schlickgrund" for the Norway lobster fishery?</p> <p>What provisions would be necessary or useful for fishing within offshore wind farms to support the compatibility and risk assessment in the context of licensing procedures for offshore wind farms?</p>		

#### 4.2.5 Aquaculture

General information	<p>Research and projects on offshore aquaculture have already developed some proposals and conditions for implementation. The concept of shared use is preferred, and close cooperation with OWF operators in development and operation is intended. Technical solutions are, for example, lowerable installations that can be driven over by ships. Legal issues have not yet been conclusively clarified. Further projects are planned and carried out in German waters mainly by the Alfred Wegener Institute for Polar and Marine Research (AWI).</p> <p>The AWI considers economic use to be realistic for some species and only in coastal wind energy areas in the North Sea. In more distant areas there may be a chance/ potential for compensation or restoration measures (with kelp, european flat oyster and others).</p>		
MSP 2009	<p>"Mariculture" is mentioned together with fisheries in a chapter in the MSP 2009. Even though there was no marine aquaculture in the EEZ at that time, this economic use was considered to be of great future importance. One designation indicated a preference for co-use with fixed (existing) installations, without affecting their operation and maintenance. Navigation should not be hindered.</p>		
Objectives of spatial planning	No spatial planning objectives formulated.		
	Planning option A	Planning option B	Planning option C
Principles of spatial planning ( <i>spatial designations and regulations</i> )	<p>(1) Installations for marine aquaculture should preferably be constructed in close proximity to fixed installations.</p> <p>(2) The operation and maintenance of the installations should not be affected by the operation of marine aquaculture.</p>		
Justification ( <i>legal/political/factual</i> )	<p>To (1): Marine aquaculture should also be made possible as a form of co-use in the EEZ and appropriate conditions should be established.</p> <p>To (2): Only such techniques and spatial solutions shall be used that do not disproportionately impair the operation and maintenance of OWFs.</p>		
Consultation questions	<p>Should the themes of fisheries and mariculture be brought together in one chapter?</p> <p>How is the potential of certain aquacultures (e.g. kelp, european flat oyster, others) to improve the state of the environment?</p> <p>If and how can the interests of aquaculture be taken into account when planning wind farms and other infrastructure?</p>		

#### 4.2.6 Tourism

General information	The use of the marine space of the EEZ for recreational activities includes on the one hand private/non-commercial activities, but also organised as well as commercial touristic offers, such as guided sailing and fishing tours, sports events, etc. The functional and spatial relationship to the starting points on the coasts must be taken into account.
MSP 2009	No designations; note of the need for clarification of the relationship between offshore wind energy and leisure traffic by the competent authorities; impairments to tourism on coastlines / islands not to be expected due to far distances and limited visibility, depending on weather conditions; reference to the specification of limited hub height to max. 125 m.
Objectives of spatial planning	No spatial planning objectives formulated.
Principles of spatial planning ( <i>spatial designations and regulations</i> )	(1) Spatial designations for fixed infrastructure should take into account the interests of leisure and water sports traffic. (2) Navigation regulation for offshore wind farms shall take due account of the interests of leisure and water sports traffic.
Justification ( <i>legal/political/factual</i> )	To (1): In the case of large-scale fixed infrastructure, as planned for offshore wind energy, especially in the North Sea, large-scale barrier effects for recreational boating should be avoided. To (2): Recreational boating should generally be granted rights of way, which are specified in more detail in the general rules of passage.
Consultation questions	Are there any other leisure and tourism interests to be considered beyond navigation regulations for wind farms?



## 4.3 Scientific uses

### 4.3.1 Scientific Research

General information	<p>The research activities considered here relate to fisheries and their fundamentals, biology (benthos, sea and migratory birds, marine mammals, bats, non-native species, etc.), habitats, hydrography, geology, sediments, etc.</p> <p>For this purpose, fixed measuring stations (measuring masts, measuring buoys) are used; regularly sampled stations and larger research areas for recordings and long-term measurement series. Other activities include research in the context of projects which often require large-scale and multiannual mapping, but which are not on a permanent/regular basis.</p>		
MSP 2009	<ul style="list-style-type: none"> <li>• Designation of reservation areas for research (areas for fishing ecology of the Thünen Institut).</li> <li>• Ensuring long-term studies by keeping an appropriate distance from planned uses.</li> <li>• Continuous sampling and accessibility of research results to explain ecosystem interrelationships.</li> <li>• No impairment of the safety and ease of maritime transport, avoidance of adverse effects on the marine environment and consideration of cultural assets in the choice of location</li> </ul>		
Objectives of spatial planning	No spatial planning objectives formulated.		
	Planning option A	Planning option B	Planning option C
Principles of spatial planning ( <i>spatial designations and regulations</i> )	<p>(1) In the reservation areas for research, special emphasis is placed on the implementation of scientific research activities.</p> <p>(2) In order to ensure long-term research at fixed measuring stations, an appropriate distance shall be maintained to the research carried out, when planning the construction of fixed structures and pipelines and the extraction of raw materials.</p> <p>(3) Scientific research activities, including sampling, shall be made possible in areas for offshore wind energy and their concerns shall be adequately taken into account in the planning, construction and operation of OWFs.</p> <p>(4) Adverse effects on the marine environment resulting from research activities should be avoided as far as possible.</p> <p>(5) Research activities should not impair the safety and ease of shipping.</p>		

<p>Justification (<i>legal/political/factual</i>)</p>	<p>To (1): The research reservation areas match with the "GSBTS boxes" (German Small-scale Bottom Trawl Survey) of the Thünen Institute. Here, annual fishing with standardised bottom trawls is carried out with the aim of tracking long-term changes in the bottom fish fauna caused by natural and anthropogenic factors. In all planning options, all "boxes" of the TI are considered. While in the North Sea the "boxes" are located entirely in the EEZ and are thus adopted as reservation areas (exception see above), in the Baltic Sea only larger or smaller parts of the "boxes" are considered as reservation areas in the EEZ, as they extend into the territorial sea.</p> <p>To (2): The "appropriateness" of the distance has to be agreed with the operators of the measuring stations. For example, MARNET measuring masts/buoys are usually assumed to have a radius of approx. 3 nm from the wind turbine, which ensures that the measurement result is as undisturbed as possible.</p> <p>To (3): When planning and approving offshore wind farms, research institutions should be involved and existing and, if applicable, planned research activities should be recorded and taken into account in approvals.</p> <p>To (4): The impact of research activities on the marine environment must be surveyed and monitored.</p> <p>To (5): The reservation areas for marine research, where research activities are regularly carried out, overlap with some priority and reservation areas for shipping. Accordingly, consideration must be given to the flowing traffic. This also applies to further research activities that are not carried out in spatially defined areas / at fixed stations.</p>
<p>Consultation questions</p>	<p>Are there other requirements for the consideration of research activities?</p>

## 4.4 Protection and improvement of the marine environment

### 4.4.1 Nature protection

General information / background	<p>In contrast to the other types of use, marine nature protection is not a use in the narrow sense, but rather a fundamental spatial function requirement that must be taken into account when space is claimed by other uses. The transboundary nature of the marine environment should also be emphasised.</p> <p><b>Essential requirements from the query pursuant to § 9 para. 1 ROG:</b></p> <ul style="list-style-type: none"> <li>• Spatial designations of nature protection areas and for areas with special ecological function.</li> <li>• Zoning of protected areas.</li> <li>• Definition of exclusion areas for certain uses.</li> <li>• Connection of ecologically important areas ("migration corridors").</li> <li>• Consequent implementation of the ecosystem approach.</li> <li>• Application of nature conservation concerns in planning criteria (for all uses).</li> </ul> <p>The three planning options mainly differ in terms of their spatial designations.</p>
MSP 2009	<p>The spatial plans 2009 do not contain spatial designations for marine nature protection. The Natura 2000 sites existing at the time the plans came into force were presented for information purposes.</p> <p><u>Principles</u></p> <ul style="list-style-type: none"> <li>• Long-term safeguarding and development of the EEZ as a natural environment in its typical, natural characteristics and with its interrelationships and interactions for the conservation of biological diversity through efficient and careful use of natural resources in accordance with the guiding principle of sustainability in spatial planning.</li> <li>• Avoidance and mitigation of adverse effects on the ecosystem, taking into account the precautionary principle and the ecosystem approach.</li> <li>• Restoration of the functions of the ecosystem on permanently unused areas.</li> <li>• Consideration of the dispersal processes and the long-range ecological interrelationships of animal and plant species in the sea.</li> </ul> <p>Specific regulations for other uses refer to marine nature protection. In particular, the exclusion of offshore wind turbines in Natura 2000 sites serves to protect specially protected areas.</p>

	Planning option A	Planning option B	Planning option C
Objectives of spatial planning ( <i>spatial designations</i> )		(1) Designation of marine nature protection areas as priority areas for nature protection.  (Exception: resource extraction areas in the Sylt outer reef, where there are reservation areas)  In case of overlap with priority areas shipping these shall be given priority in accordance with UNCLOS.	
			(2) Priority area "Main distribution area divers" for the protection of the species group of divers  (3) Priority area "Main concentration area harbour porpoises (May to August)" for the protection of harbour porpoises.  (Exception: resource extraction areas in the Sylt outer reef, where there are reservation areas)
Principles of spatial planning ( <i>spatial designations</i> )	(1) Nature protection areas as reservation areas nature protection.  (2) Reservation area "Main distribution area divers".	(2) "Main distribution area divers" as reservation area.	(4) Reservation area 'Bird migration corridor Fehmarn-Lolland' for the protection of migrating birds.
Principles of spatial planning ( <i>regulations</i> )	<u>Principles</u> (5) Threats to the marine environment, in particular through adverse impacts on the natural functions and important marine ecosystems, from economic or scientific uses should be avoided. Unavoidable impacts should be reduced as far as possible.  (6) The EEZ is to be permanently safeguarded and developed as an ecosystem with its typical, natural characteristics and with its interrelationships and interactions for the conservation of biological diversity. The natural assets should be used efficiently and carefully in accordance with the guiding		

	<p>principle of sustainability in spatial planning. Impairments to the natural balance should be avoided and reduced, taking into account the precautionary principle and the ecosystem approach.</p> <p>(7) In principle, the best environmental practice under international conventions on marine protection and the respective state of the art should be taken into account for all economic and scientific uses and should be specified in individual procedures.</p> <p>(8) Damage to or degradation of known legally protected biotopes pursuant to § 30 of the Federal Nature Conservation Act (BNatSchG) should be avoided in the planning and construction of fixed structures.</p> <p>(9) On areas no longer in use, the functions of the natural balance should be restored to their original state or their function should be safeguarded in a state of new ecological balance adapted to the new living conditions.</p> <p>(10) Implementation measures of the MSFD Programme of Measures should be taken into account.</p>
<p>Justification (<i>legal/political/factual</i>)</p>	<p>To (1): The designation of nature protection areas as priority or reservation areas for marine nature protection is done to support the protection purposes of marine nature protection areas. The nature protection areas Borkum-Riffgrund, Doggerbank, Sylt Outer Reef - Eastern German Bight, Fehmarnbelt, Kadetrinne and Pomeranian Bay - Rönnebank are of outstanding importance for nature protection, especially for the protection of marine mammals, seabirds and habitat types.</p> <p>To (2): The main distribution area of divers - defined in the "Position paper of the division of the Federal Environment Ministry on the cumulative assessment of the loss of diver habitat due to offshore wind farms" (2009) - is of outstanding importance from a nature conservation point of view for the protection of the species group of divers which is sensitive to disturbances. The main distribution area of divers takes into account the period of particular importance for the species, which is spring.</p> <p>To (3): The main concentration area of harbour porpoises in the German EEZ from May to August, as defined in the "Noise protection concept of the Federal Environment Ministry" (2013), is of outstanding importance from a nature conservation point of view for the protection of harbour porpoises, which use the area intensively during the summer months. Reference is made to the specifications. The designation of the area in the spatial plan and the resulting requirements for any other uses in the area or adjacent areas are seasonally limited to the time sensitive to harbour porpoises.</p> <p>To (4): The definition of the reservation area "Fehmarn-Lolland bird migration corridor" takes into account the special importance of bird migration across the Fehmarn Belt, the so-called bird flight path.</p>

Further spatial designations for the protection of areas of special nature conservation importance, which were requested in the context of the consultation pursuant to § 9 para. 1 ROG, were not implemented within this concept. To date, the BSH does not have the relevant data as a basis for an assessment.

To (5): Pursuant to § 17 para. 1 sentence 1 no. 4 ROG, the spatial plan should make designations which serve to protect and improve the marine environment. For economic uses, in particular offshore wind energy, the avoidance of threats to the marine environment in the site development plan and in licensing procedures is an assessment standard which is also applied in the spatial plan.

To (6): § 2 para. 2 (6) ROG formulates principles of spatial planning which are reflected in this principle, adapted to the conditions in the EEZ:

- Nature and landscape, including marine areas, are to be permanently protected, maintained, developed and - where required, possible and appropriate – be restored.
- Natural resources should be used efficiently and carefully.
- In the case of permanently unused areas, the soil should be maintained or restored in its capacity.

In addition, the conservation of biological diversity and the characteristic habitats and functions that determine it are as well a part of sustainable planning in the sense of the principles of spatial planning according to § 2 para. 2 No. 6 ROG and of the required ecosystem approach with its holistic approach including the consideration of negative cumulative effects, interactions and interrelationships.

To (7): In accordance with the guiding principle for the protection of the marine environment, the concrete arrangement of individual economic and scientific uses should avoid adverse impacts on the marine environment and in particular on the natural functions of the area. The concrete implementation is to be regulated in the individual procedure at approval level, taking into account the special features of the project area.

To (8): If occurrences of structures mentioned in § 30 BNatSchG are found during closer investigations in the concrete approval procedure, they are to be analysed and treated with particular weight in the decision-making process and, as a rule, avoided in the planning and construction of buildings. At the present time, a concrete spatial allocation of the structures mentioned is not possible.

To (9): In principle, the functions of the ecosystem are to be restored to their original state in areas that are permanently no longer used.

	<p>To (10): The current national Programme of Measures under the MSFD (2016) contains implementation measures for achieving the good environmental status, which directly and indirectly formulate mandates to spatial planning. Besides the mandate to proof measures to protect migratory species in the marine environment, this also concerns measure 409 of the Programme of Measures. Measure 409 defines selection criteria for endangered species and biotopes (criterion 2), which, in addition to the national Red Lists, also include consideration of the Red Lists according to OSPAR and HELCOM, which should be given due consideration in approval procedures and if any other impacts in protected areas are expected.</p> <p>Further detailed regulations for the protection of marine nature can be found source-related for each designated use.</p>
Consultation questions	<p>Should there be a further differentiation of priority or reservation areas for nature protection according to the protection objectives?</p> <p>Which areas are suitable for the designation of areas for the implementation of compensation measures for impacts in nature and landscape?</p>

#### 4.4.2 Seascape/ open space

General information / background	<p>The seascape is characterised by large open spaces, which are increasingly dominated by offshore wind turbines. However, from a land or island perspective, the visibility of these turbines is usually not so dominant due to the long distance (more than 22 km) in the EEZ that a serious disturbance/impact on the resident population and tourism is assumed. Criteria for the assessment of large-scale visual effects on the high seas as an impact on the seascape, as well as on the large-scale open marine space as a "value in itself", are still lacking.</p>
MSP 2009	<p><u>Principles</u></p> <ul style="list-style-type: none"> <li>• Protection and maintenance of the seascape/ open space</li> <li>• Keeping free the sea from certain uses</li> </ul>
Objectives of regional planning	<p>No spatial planning objectives formulated.</p>
Principles of spatial planning ( <i>regulations</i> )	<p>(1) The seascape should be preserved in its natural character, and its characteristic large-scale open space should be preserved. The EEZ is to be permanently preserved and developed over a large area as an ecologically intact open space, and its importance for functioning seabeds, the water balance, the flora and fauna (biodiversity) and the climate is to be safeguarded.</p>

	<p>(2) The open space should be kept free from uses that would be similarly possible on land - in particular from structural facilities. This does not include uses that are in principle also possible on land, but which have special location requirements at sea.</p> <p>(3) The use of the EEZ, in particular by means of fixed structures, should be as space-saving as possible.</p>
<p>Justification (<i>legal/political/factual</i>)</p>	<p>To (1): Under § 2 para. 2 no. 6 ROG, nature and landscape, including marine areas, are to be permanently protected, maintained, developed and, where necessary, restored in a possible and appropriate manner. This is reflected in this principle, adapted to the conditions in the EEZ. In addition, § 2 para. 2 no. 2 ROG contains formulations on the principle of open space. According to this, the open space must be protected and the land use in the open space must be limited.</p> <p>The principle thus essentially aims at preserving the character of the EEZ as a large open space.</p> <p>Against this background, large parts of the EEZ are kept free of spatial designations for uses that may affect the open space. Uses should be concentrated on a few suitable areas if possible. The fact that offshore wind turbines are excluded from Natura 2000 sites also contributes to this.</p> <p>To (2): In order to safeguard the open space, it should be kept free of uses that would be similarly possible on land. Regular uses on land should not be readily transferred to the marine area. This refers in particular to fixed structures. This is intended as a precautionary measure to counteract a possible shift of problems from land to sea. On the other hand, it does not include uses that are also possible on land, but which have special location requirements at sea that are not comparable with conditions on land. This applies in particular to resource extraction and the production of energy.</p> <p>To (3): In order to secure and use the EEZ in the long term, the aim should be to use the area efficiently. In order to counter the increasing shortage of space, the concept of multi-use is also being implemented in some areas.</p>
<p>Consultation questions</p>	



## 4.5 Other concerns to be considered

### 4.5.1 Military use

General information	<p>Pursuant to § 2 para. 2 no. 7 ROG, spatial requirements of defence and civil protection must be taken into account. Under § 17 para. 1 ROG, safety aspects must be taken into account in spatial planning decisions. In the MSP 2009, the military exercise areas of the Bundeswehr (German armed forces) were presented for information purposes, as it is of major national interest to ensure the Bundeswehr's functional capability. Military concerns were taken into account in the spatial designations for other uses (shipping, energy production).</p> <p>Constitutional mandate for national and alliance defence as well as the foreign missions mandated by the Bundestag.</p> <p>Existing military training areas are presented for information purposes.</p> <p>Note: In the North Sea, the <i>Weser</i> training area for submarines is spatially limited by the offshore wind farm in area EN3 and can only be used for military exercises east of the LN2 cable corridor.</p>
Objectives of spatial planning	
Principles of spatial planning	
Justification ( <i>legal/political/factual</i> )	
Consultation questions	<p>Are there objections to the spatial designation of reservation areas for military exercises?</p> <p>Is a differentiation into different types of training areas necessary for the spatial designation as reservation areas? E.g. flight training, shooting area, training area for submarines?</p> <p>Are there conflicts of use in training areas for flight trainings (fixed obstacles) depending on the altitude?</p> <p>Question on the designation of cable and pipeline corridors: is there a conflict with training areas for shooting; sea shooting, air target shooting and functional shooting; mine detection areas, training areas for submarines (touch down)?</p>

#### 4.5.2 Underwater cultural heritage

General information	Underwater cultural heritage is to be understood here on the one hand as "movable" finds such as wrecks and other historically significant artefacts, but on the other hand also as settlement remains and "drowned" landscapes (e.g. "Doggerland") etc., which can provide clues to possible sites of discovery.
MSP 2009	In the regulations for uses which may come into contact/conflict with known cultural property or where further finds are made, a planning principle is included which requires that known underwater cultural property be taken into account and that measures be taken to safeguard it in the case of new discoveries. Since there is no direct administrative competence and only insufficient protection requirements, inter alia through UNCLOS, for dealing with finds in the EEZ, the designation cannot have any direct effect without further specification.
Objectives of spatial planning	No spatial planning objectives formulated.
Principles of spatial planning (spatial designations and regulations)	No spatial designations. <ol style="list-style-type: none"> <li>(1) The competent authorities should be consulted and involved at an early stage in the planning, exploration and decision on the suitability of areas for such uses that may have an impact on the underwater cultural heritage.</li> <li>(2) Evaluation and protective measures should be carried out in coordination with the responsible authorities.</li> <li>(3) Research activities on the underwater cultural heritage that go beyond exploration for other uses should be made possible in coordination with economic uses and nature conservation measures.</li> </ol>
Justification ( <i>legal/political/factual</i> )	To (1): This applies in particular to uses that involve intervention in the sediment or subsoil. Exploration measures should be coordinated with the competent authorities, and the use, evaluation and assessment of data collected in this context should be made possible. This applies particularly for drill cores in the course of soil investigations, which can contribute to the reconstruction of former landscapes in the area of the southern North Sea.  To (2) To ensure that a reasonable assessment and professionally justified measures are taken.  To (3) Is intended to enable research activities to be carried out which are not covered by exploration or monitoring for infrastructure measures.
Consultation questions	How should an appropriate and comprehensive definition of the term "underwater cultural heritage" be incorporated and taken into account in the spatial plan?

## 5 Estimation of selected environmental aspects

The present concept contains three planning options (A, B, C) for the spatial scope of the German EEZ of the North Sea and Baltic Sea in the early stages of the revision process of the spatial plans. The early and comprehensive consideration of several planning options represents an essential planning and assessment step in the preparation of spatial plans.

The estimation of selected environmental aspects in the sense of an early examination of variants and alternatives should support the comparison of the three planning options from an environmental point of view. A detailed assessment of alternatives within the meaning of ROG and Environmental Impact Assessment Act (UVP) is carried out for the first draft plan in the environmental report.

Pursuant to § 8 para. 1 ROG, the environmental report must identify, describe and assess the likely significant environmental impacts of the

spatial plan on the protection objectives. According to Annex 1 to § 8 ROG, information must also be provided on other possible planning options, taking into account the objectives and the geographical scope of the spatial plan. The draft scope for the environmental assessment is subject to consultation. In the scoping report, the foreseen tiered assessment of alternative is explained in more detail (see Chapter 4 scoping report).

Selected environmental aspects of the designations of the respective planning option are presented in the following table. The table shows the spatial area use (km<sup>2</sup>) and its share of the EEZ area (%) for the individual uses as far as possible at the present time. In addition, potential impacts on the marine environment are identified and possible prevention and mitigation measures are described.

	<b>Planning option A</b> Traditional uses	<b>Planning option B</b> Climate protection	<b>Planning option C</b> Nature protection
<b>Objective</b>	<p><i>Particular attention must be paid to the safety and ease of shipping.</i></p> <p><i>Barrier effects must be avoided, especially with regard to the possible establishment of future TTSS.</i></p> <p><i>The extraction of resources should be made possible in combination with other uses.</i></p>	<p><i>Areas for the further development of offshore wind energy beyond 2030 are to be secured.</i></p>	<p><i>Permanent protection and development of the EEZ as a natural area with typical characteristics and biological diversity.</i></p> <p><i>Exclusion of economic uses in areas for the protection and improvement of the marine environment which are incompatible with the protection purpose.</i></p> <p><i>No privileges for the extraction of sand, gravel and hydrocarbons by re-</i></p>

			<i>fraining from spatial designations for resource extraction.</i>
<b>Designations</b>	<b>Selected environmental aspects</b>		
<b>Shipping</b>	All planning options are based on the same basic assumptions such as traffic volume, ship types and ship classes; according to UNCLOS, freedom of navigation applies.  In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.		
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Avoidance effects due to underwater sound and visual disturbance.</li> <li>• Impairment / damage due to prohibited emissions and leakage of hazardous substances (accidents) and dumping of waste.</li> <li>• Impairment of the seabed due to physical disturbance during anchoring.</li> <li>• Impairment of air quality through emission of air pollutants.</li> <li>• Change in species composition through the introduction and spread of invasive species.</li> <li>• Risk of collision.</li> </ul>		
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Principle (2) on shipping (analogue to MSP 2009): The impact of shipping on the marine environment is to be reduced by complying with international conventions for the protection of the marine environment and taking into account the current state of the art.</li> </ul>		
<b>Offshore wind energy</b>	CO <sub>2</sub> savings potential under climate protection aspects: relative comparison based on installed capacity		
	Planning option A	Planning option B	Planning option C
	35-40 GW	40-50 GW	25-28 GW
		In relation to planning options A and C, the CO <sub>2</sub> savings potential is significantly higher	Compared to planning options A and B, the CO <sub>2</sub> savings potential is significantly lower
	Area use: Total area used for the designation of priority/reservation areas for offshore wind energy. In this respect, it should be emphasised that usually less than 1% of the wind farm area is actually sealed.		
	Planning option A	Planning option B	Planning option C
approx. 5,000 km <sup>2</sup> (approx. 15 %)	approx. 6,400 km <sup>2</sup> (approx. 20 %)	approx. 3,000 km <sup>2</sup> (approx. 9 %)	
Potential effects			

	<ul style="list-style-type: none"> <li>• Change of habitats by introduction of hard substrate.</li> <li>• Loss of habitat and area due to the introduction of hard substrate.</li> <li>• Attraction effects, increase in species diversity, change in species composition through introduction of hard substrate.</li> <li>• Change of the hydrological conditions through the introduction of hard substrate.</li> <li>• Habitat changes due to scouring/sediment relocation.</li> <li>• Impairment and avoidance effects due to sediment swirls and turbidity plumes as well as resuspension of sediment and sedimentation (construction phase).</li> <li>• Potential physical disturbance/injury due to noise emissions during pile driving (construction phase).</li> <li>• Avoidance effects/loss of habitat due to noise emissions during pile driving (construction phase), visual disturbance due to construction activity, obstacle in the airspace.</li> <li>• Local barrier effects due to visual disturbance caused by construction activity, obstacle in airspace.</li> <li>• Collision due to obstacle in airspace, light emissions (construction and operation).</li> <li>• Attraction effects through light emissions (construction and operation).</li> <li>• Effects of construction ships and maintenance traffic.</li> <li>• Possible positive effects by excluding (trawl) fishing within wind farms.</li> </ul>
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Objective (3): Exclusion of planning, construction and operation of OWFs in nature protection areas (exception: wind farms in operation).</li> <li>• Objective (4): Keeping reference areas free.</li> <li>• Objective (5): Decommissioning after abandonment of use, taking into account the interests of subsequent use and the marine environment.</li> <li>• Objective (6): Application of an angle-based approach to determine the maximum visible turbine height from the coast or islands.</li> <li>• Principle (2): Arrangement of the wind turbines in the corresponding areas as space saving as possible.</li> <li>• Principle (5): Striving for the best possible coordination of interests in the case of simultaneous area use by wind energy and resource extraction on the basis of criteria to be developed by the competent authorities.</li> <li>• Principle (11): Prevention and minimisation of adverse impacts on the marine environment, in particular the natural functions and marine ecosystem. Taking into account best environmental practice as defined in the OSPAR and HELCOM conventions and the state of the art.</li> <li>• Principle (11): Prevention of damage to or destruction of biotopes in accordance with § 30 BNatSchG.</li> <li>• Principle (11): Overall time coordination of the construction of wind turbines and other energy installations to avoid cumulative effects.</li> <li>• Principle (11): Impact monitoring by public authorities.</li> </ul>
	<p>Identical designations in all three planning options.</p>

<b>Cables and pipelines</b>	In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Change of habitats through the introduction of hard substrate (stone fill).</li> <li>• Loss of habitat and surface area due to the introduction of hard substrate (stone fill).</li> <li>• Change in species composition due to heat emissions from power cables.</li> <li>• Change in the orientation behaviour of individual migratory species due to magnetic fields from power cables.</li> <li>• Impairment of organisms by magnetic fields (power cables) and turbidity plumes (construction phase).</li> <li>• Avoidance effects due to turbidity plumes (construction phase).</li> </ul>
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Objective (2): Cables and pipelines are to be dismantled after they are no longer used, taking into account the interests of subsequent use and the marine environment.</li> <li>• Principle (4): When deciding on the route of cables and pipelines, consideration should be given to existing uses and rights of use, designation of protected areas and the interests of fisheries.</li> <li>• Principle (5): Striving for the greatest possible bundling in the sense of parallel laying of cables and pipelines. Routing as parallel as possible to existing structures and buildings. Cables and pipelines should be routed in the designated corridors.</li> <li>• Principle (6): Avoid as far as possible crossing of cables and pipelines with each other.</li> <li>• Principle (7): In determining the permanent cover of submarine cables, particular consideration should be given to the concerns of environment protection, navigation, defence, fisheries and system security.</li> <li>• Principle (8): When laying cables and pipelines, the species-specific periods of time that are particularly sensitive to disturbance should be avoided in order to minimise possible adverse effects on the marine environment when crossing sensitive habitats. Adverse effects on the marine environment, in particular on the natural functions and ecosystem importance of the sea, caused by the laying, operation, maintenance and possible remain after end of operations or by the dismantling of cables and pipelines shall be avoided. The best environmental practice according to international conventions and the respective state of the art should be taken into account. Dispersal processes and long-range ecological interrelationships of animal and plant species in the sea should be taken into account when deciding on the route of cables and pipelines.</li> <li>• Principle (8): Avoid damage to or destruction of biotopes in accordance with § 30 BNatSchG when laying and operating cables and pipelines.</li> <li>• Principle (10): Overall coordination of the timing of laying work for cables and pipelines to avoid cumulative effects.</li> </ul>

	<ul style="list-style-type: none"> <li>• Principle (11): Choice of the least invasive method of laying in order to protect the marine environment.</li> <li>• Principle (12): Sediment warming: When operating submarine cables, potential adverse effects on the marine environment caused by cable-induced sediment warming should be reduced as far as possible.</li> </ul>		
<b>Resource extraction</b>	Planning option A	Planning option B	Planning option C
	Reservation areas for hydrocarbons - possible disturbance by noise during seismic exploration of the area		Positive: No designation for resource extraction in the protected area
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Change of habitats by removal of substrates.</li> <li>• Loss of habitat and area due to removal of substrates.</li> <li>• Impairment of the seabed through physical disturbance.</li> <li>• Impairment and avoidance effects due to turbidity plumes.</li> <li>• Avoidance effects and potential physical disturbance/ injury caused by underwater sound during seismic surveys.</li> </ul>		
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Objective (1): Decommissioning of extraction installations.</li> <li>• Principle (8): Avoid adverse impacts on the marine environment.</li> </ul>		
<b>Scientific research</b>	<p>Identical designations for all three planning options</p> <p>In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.</p>		
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Reduction of fish stocks by withdrawal of selected species.</li> <li>• Impairment/damage due to physical disturbance by trawl fishing.</li> </ul>		
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Principle (4): Adverse effects on the marine environment resulting from research activities should be avoided as far as possible.</li> </ul>		
<b>Military</b>	<p>No spatial designations or regulations for national and alliance defence in the concept for the revision of the MSP.</p> <p>In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.</p>		
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Potential physical disturbance/ injury due to underwater sound.</li> </ul>		

	<ul style="list-style-type: none"> <li>• Impairment/damage due to the introduction/leakage of hazardous substances.</li> <li>• Avoidance effects due to underwater and surface sound.</li> <li>• Risk of collision.</li> </ul>
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• None.</li> </ul>
<b>Tourism</b>	<p>No spatial designations</p> <p>In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.</p>
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Reduction of fish stocks through withdrawal of species (fishing).</li> <li>• Avoidance effects due to underwater sound and visual disturbance.</li> <li>• Impairment due to the introduction of waste.</li> <li>• Impairment of air quality through emission of air pollutants.</li> </ul>
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• None.</li> </ul>
<b>Aquaculture</b>	<p>No spatial designations</p> <p>In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.</p>
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Impairment through the introduction of nutrients.</li> <li>• Change of habitats through the introduction of fixed installations.</li> <li>• Loss of habitat and space due to the installation of fixed installations.</li> </ul>
	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Principle (1): The construction of installations for marine aquaculture should preferably be located in close proximity to installations, which minimizes potential impacts on protected areas.</li> </ul>
<b>Fishing</b>	<p>No spatial designations</p> <p>In this respect, differences between the three planning options with regard to environmental aspects can only be identified in detailed assessments of the underlying assumptions.</p>
	<p>Potential effects</p> <ul style="list-style-type: none"> <li>• Reduction of fish stocks by withdrawal of selected species.</li> <li>• Change in the food basis through the removal of selected species.</li> <li>• Impairment/damage due to physical disturbance by trawl fishing.</li> <li>• Impact of by-catch on stocks.</li> </ul>



	<p>Possible avoidance and mitigation measures</p> <ul style="list-style-type: none"> <li>• Principle (2): Fishing without the use of active or passive net fishing, such as basket fishing, shall be permitted in the outer safety zone of the wind farm up to a distance of [250] m from the outer turbines, as far as conditions permit. Possible limitation of fishing pressure to other areas.</li> </ul>		
<p><b>Nature protection</b></p>	<p>Area protection: Proportion of the areas for the protection and improvement of the marine environment</p>		
	<p>Planning option A</p>	<p>Planning option B</p>	<p>Planning option C</p>
	<p>North Sea: approx. 9,950 km<sup>2</sup> (approx. 35 %) Baltic Sea: approx. 2,470 km<sup>2</sup> (approx. 55 %)</p>	<p>North Sea: approx. 9,950 km<sup>2</sup> (approx. 35 %) Baltic Sea: approx. 2,470 km<sup>2</sup> (approx. 55 %)</p>	<p>North Sea: approx. 10,820 km<sup>2</sup> (approx. 38 %) Baltic Sea: approx. 2,500 km<sup>2</sup> (approx. 56 %)</p>
			<p>Areas without designations: About 1,600 km<sup>2</sup> or approx. 6 % of the North Sea EEZ</p>
	<p>Possible measures to protect and improve the marine environment</p> <ul style="list-style-type: none"> <li>• Principles (1) to (4): Designation/securing of areas for the protection and improvement of the marine environment.</li> <li>• Principle (5): Endangering the marine environment, in particular through adverse impacts on the natural functions and marine ecosystem, through economic or scientific uses should be avoided. Unavoidable burdens should be reduced as far as possible.</li> <li>• Principle (6): The EEZ is to be permanently safeguarded and developed as a natural environment in its typical, natural characteristics and with its interrelationships and interactions for the protection of biological diversity. The natural assets should be used efficiently and carefully in accordance with the guiding principle of sustainability in spatial planning. Impairments to the natural balance should be avoided and reduced, taking into account the precautionary principle and the ecosystem approach.</li> <li>• Principle (7): In principle, the best environmental practice under international conventions on marine protection and the respective state of the art should be taken into account for all economic and scientific uses, and should be specified in individual approval procedures.</li> <li>• Principle (8): Damage to or destruction of known occurrences of legally protected biotopes in accordance with § 30 BNatSchG should be avoided in the planning and construction of structural facilities.</li> <li>• Principle (9): The functions of the natural balance should be restored to their original state in areas that are permanently no longer used, or their</li> </ul>		

	<p>capacity should be safeguarded in a state of new ecological balance adapted to the new living conditions.</p>
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- Principle (10): Implementing measures of the MSFP Programme of Measures should be taken into account.

## 6 Annex

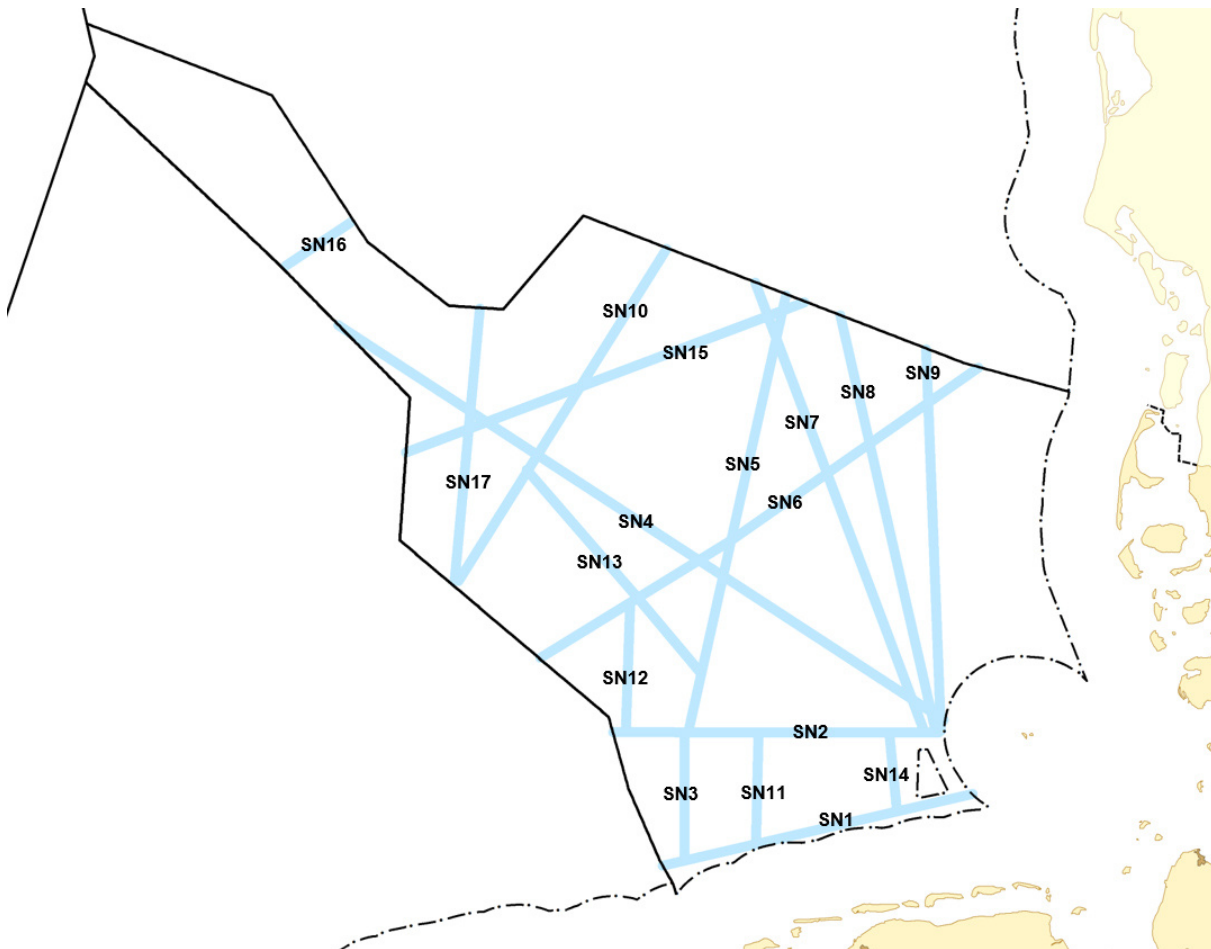


Figure 2: Numbering of shipping routes in the North Sea.

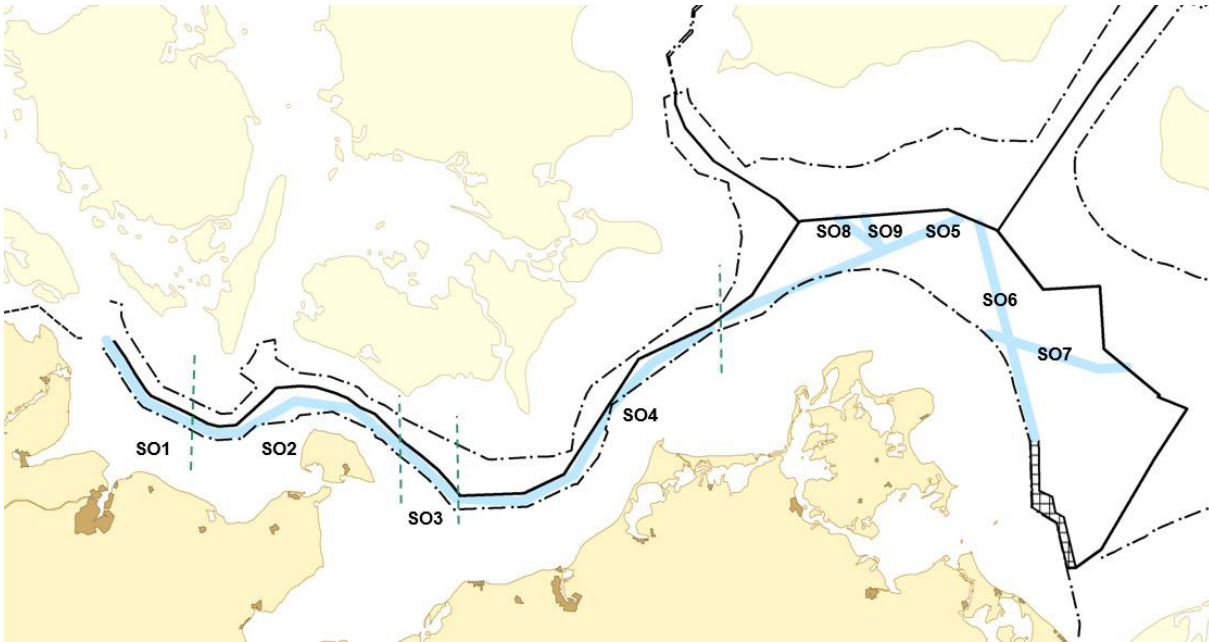


Figure 3: Numbering of shipping routes in the Baltic Sea.

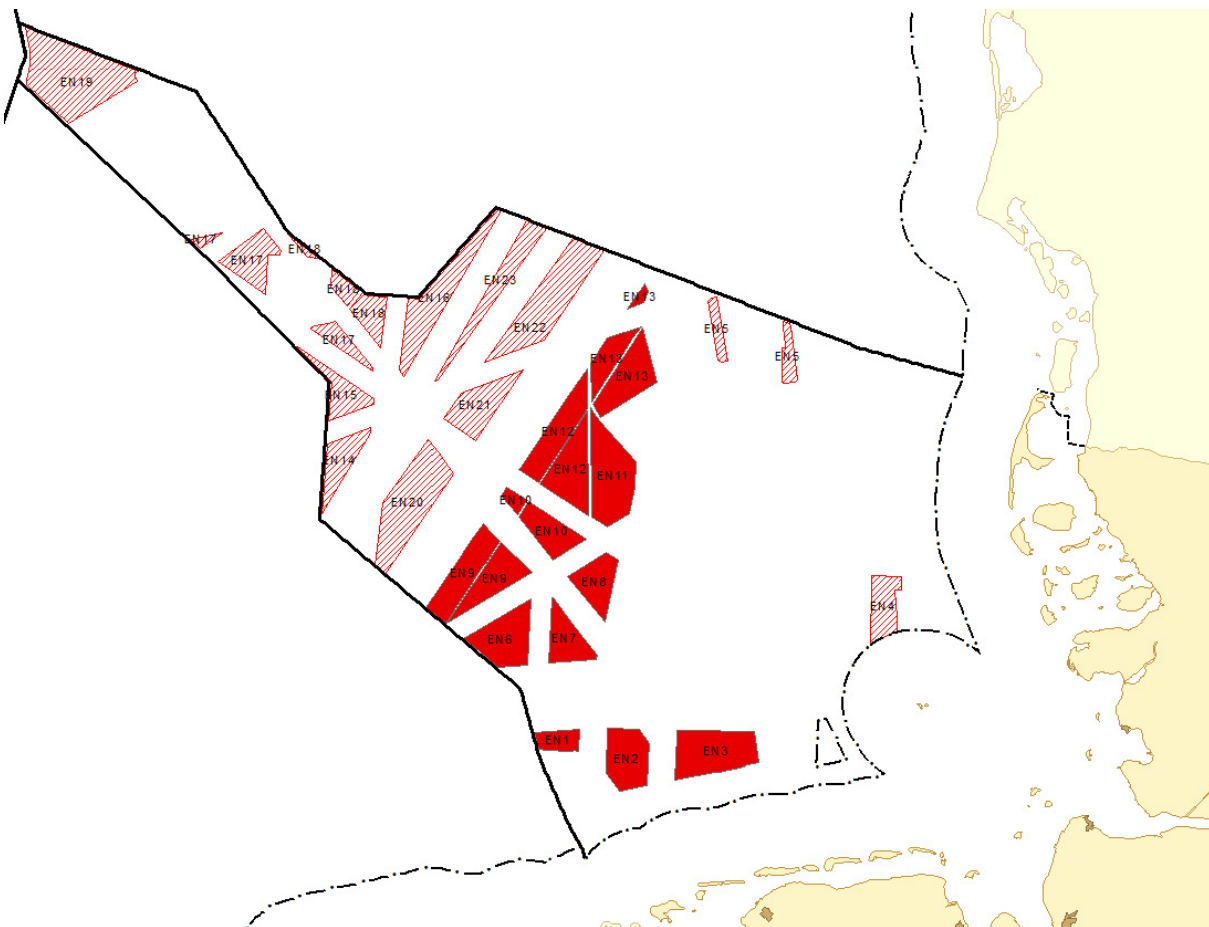


Figure 4: Numbering of the areas for offshore wind energy - North Sea (Note: Cuts and categorisation differ in the planning options)

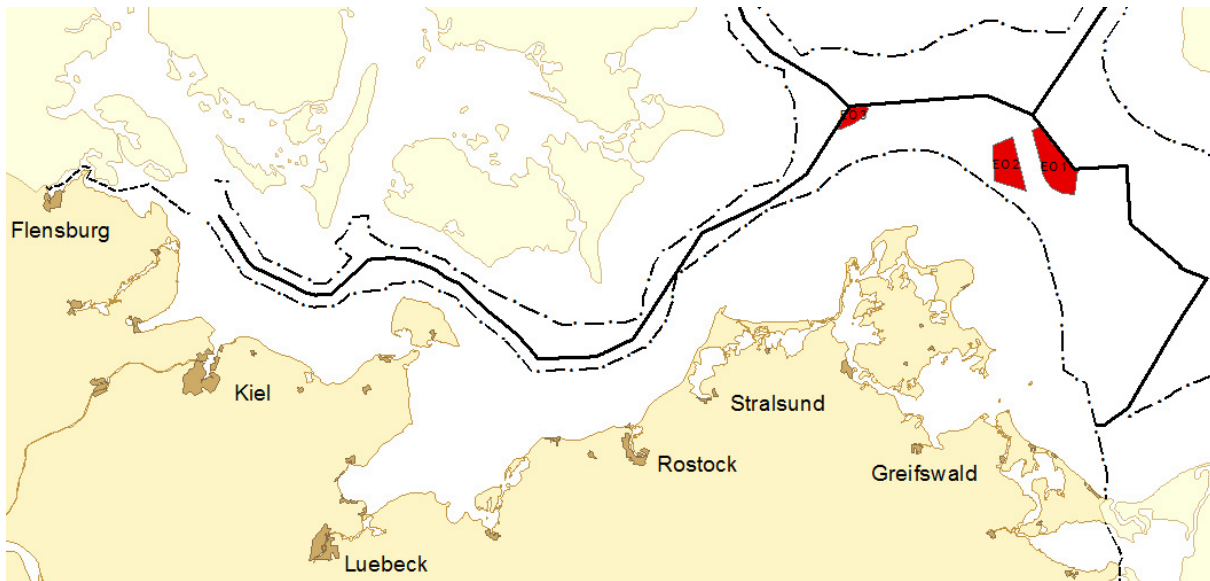


Figure 5: Numbering of areas for offshore wind energy - Baltic Sea (Note: Categorisation differs in the planning options).

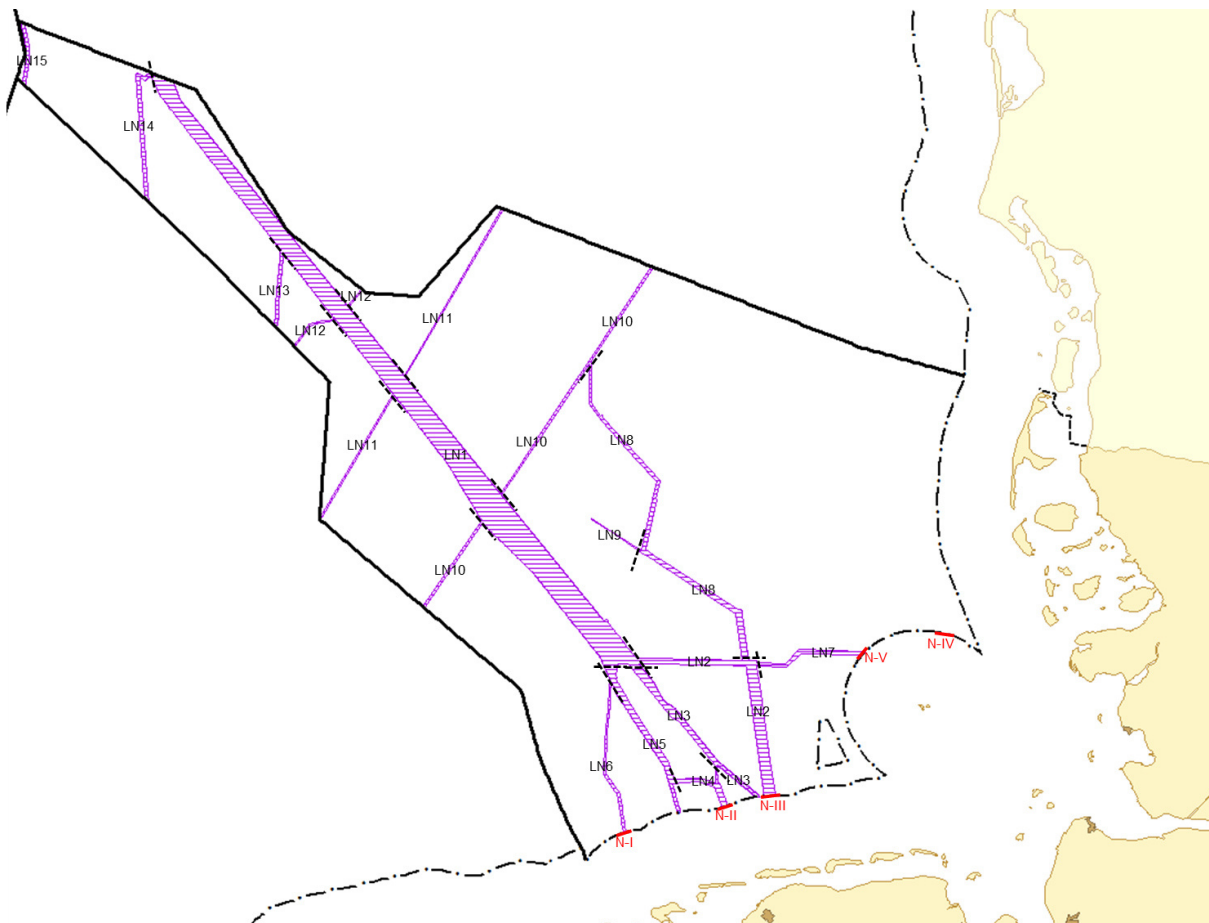


Figure 6: Numbering of areas for cables and pipelines - North Sea.

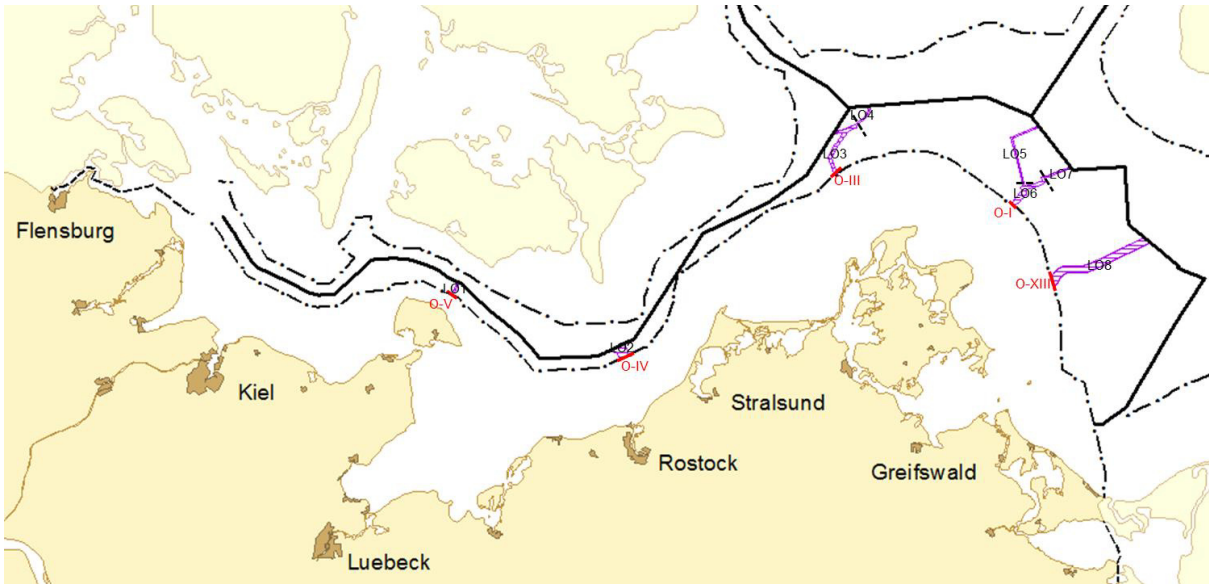


Figure 7: Numbering of areas for cables and pipelines - Baltic Sea.

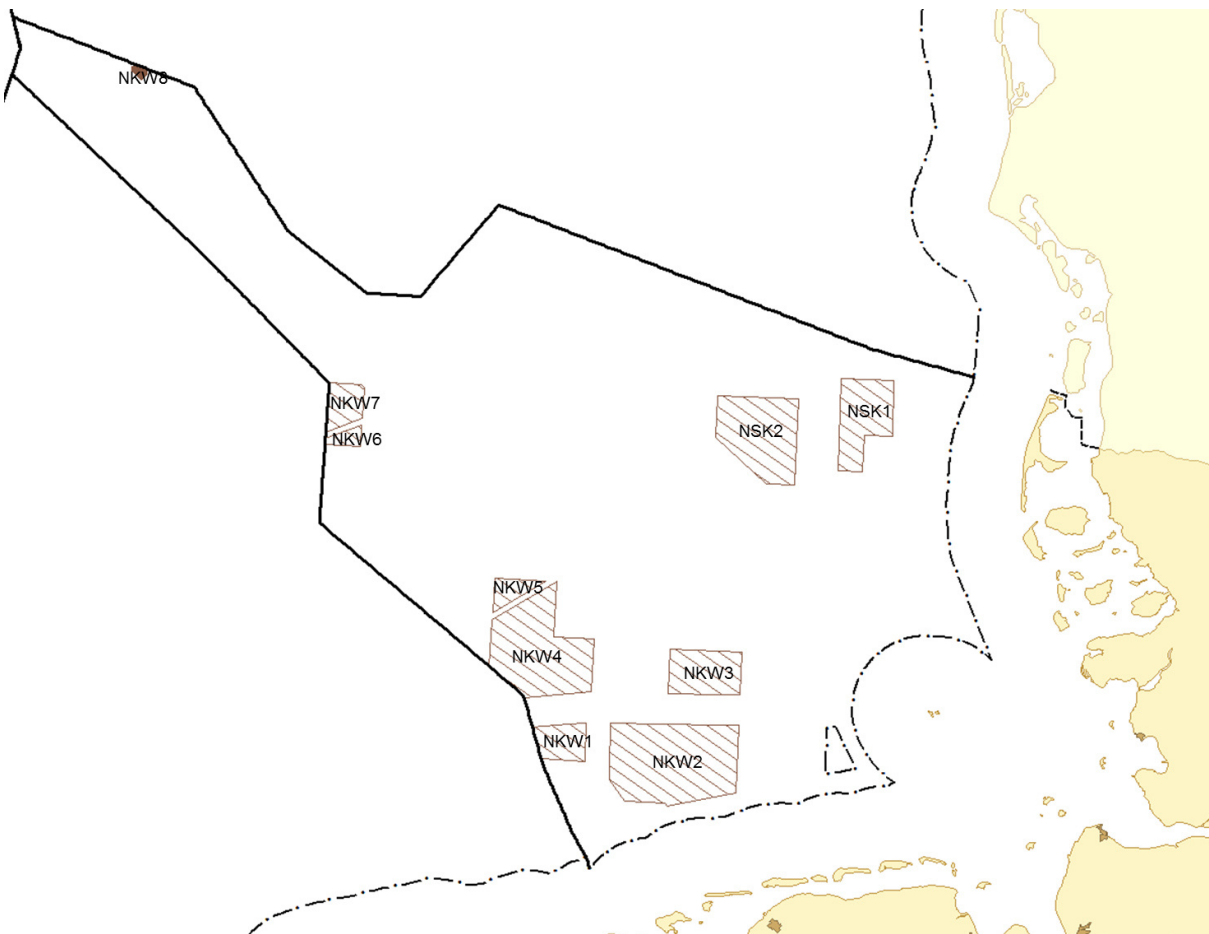


Figure 8: Numbering of areas for resource extraction - North Sea.

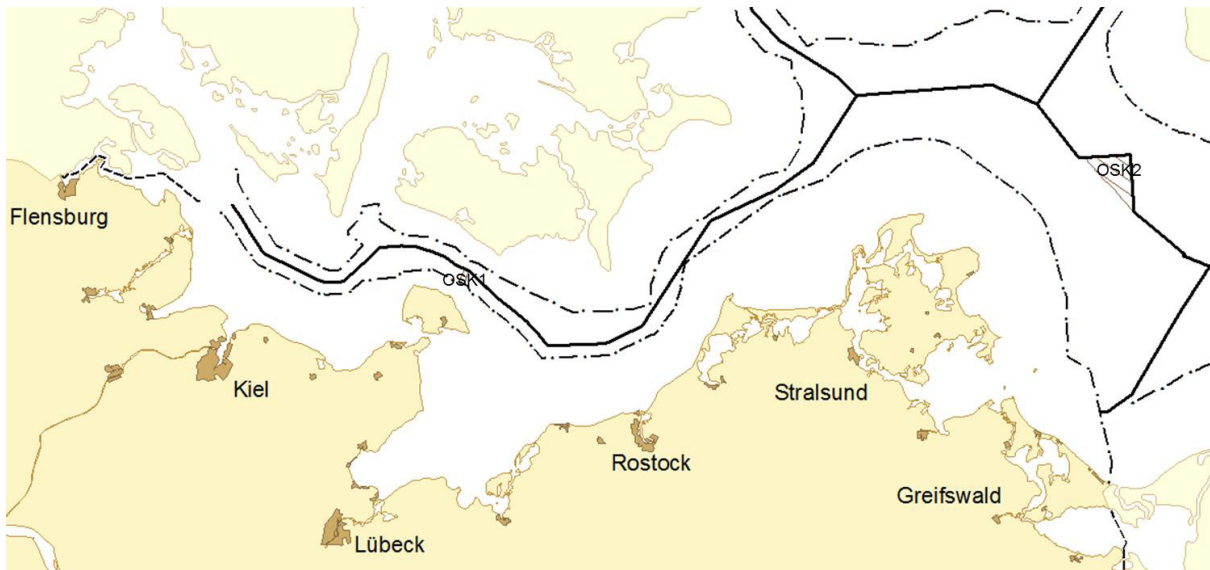


Figure 9: Numbering of areas for resource extraction - Baltic Sea.

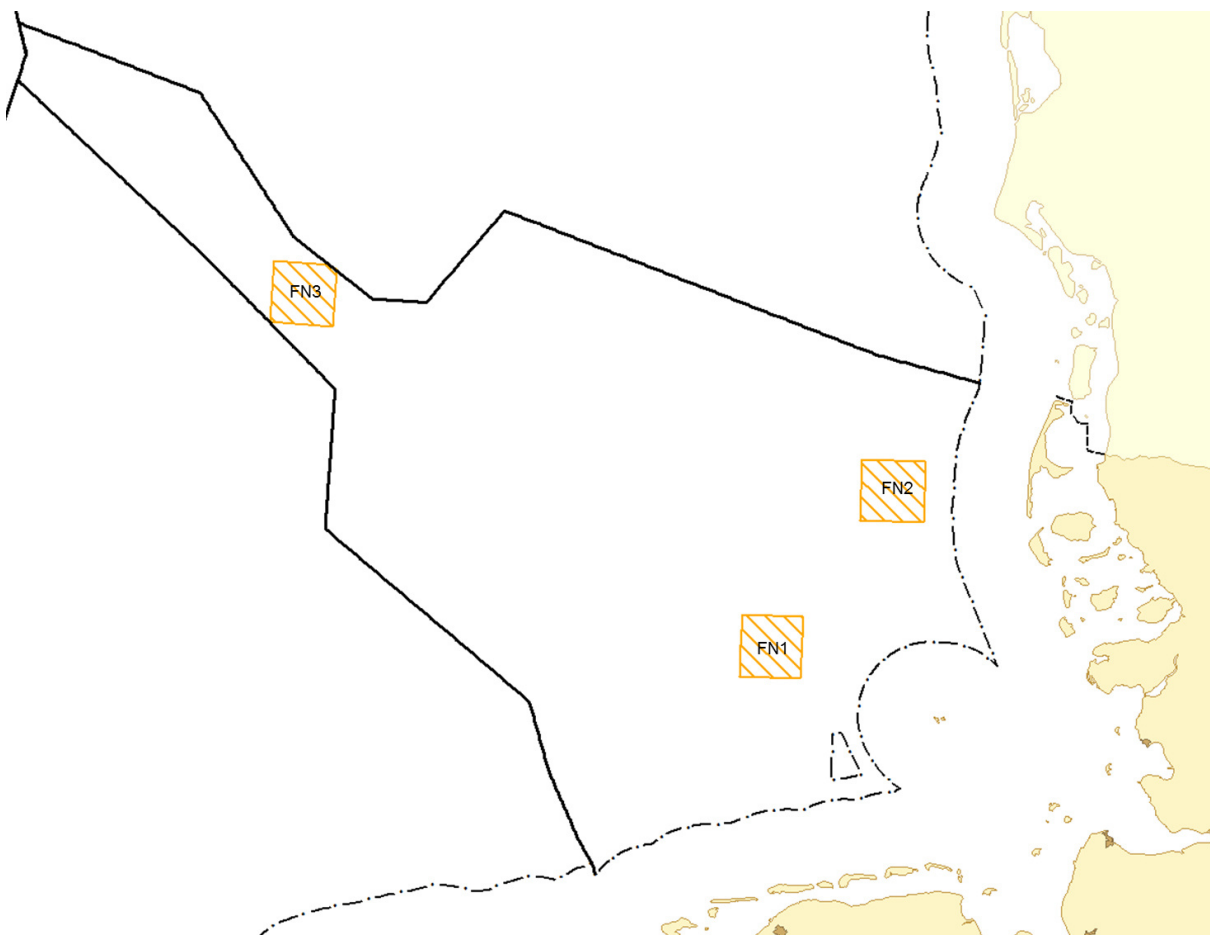


Figure 10: Numbering of areas for scientific research - North Sea.

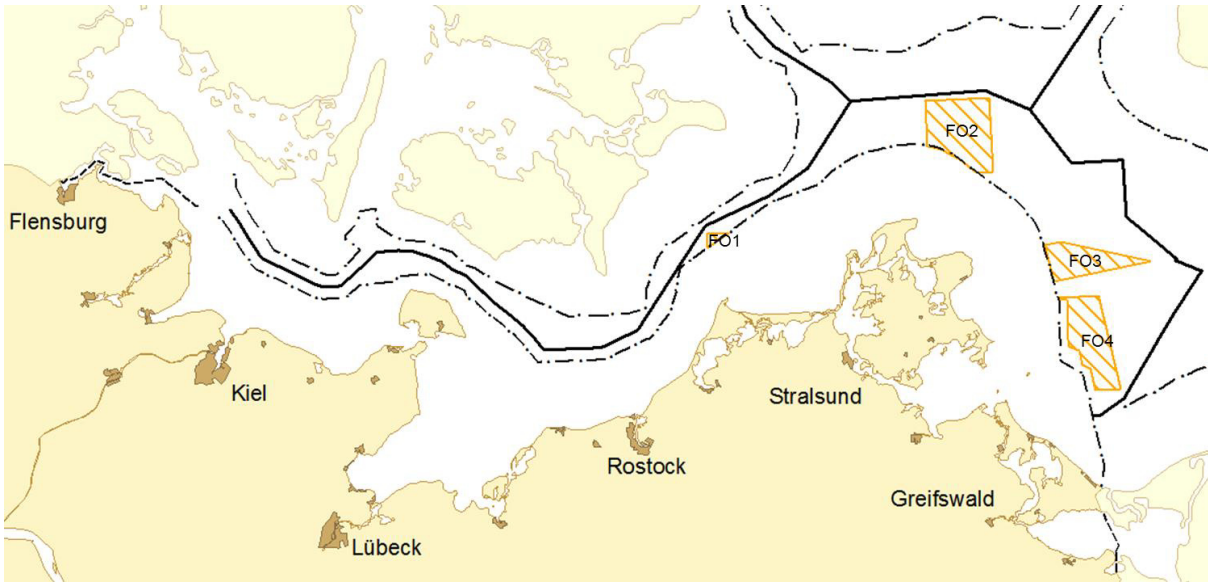


Figure 11: Numbering of areas for scientific research - Baltic Sea.



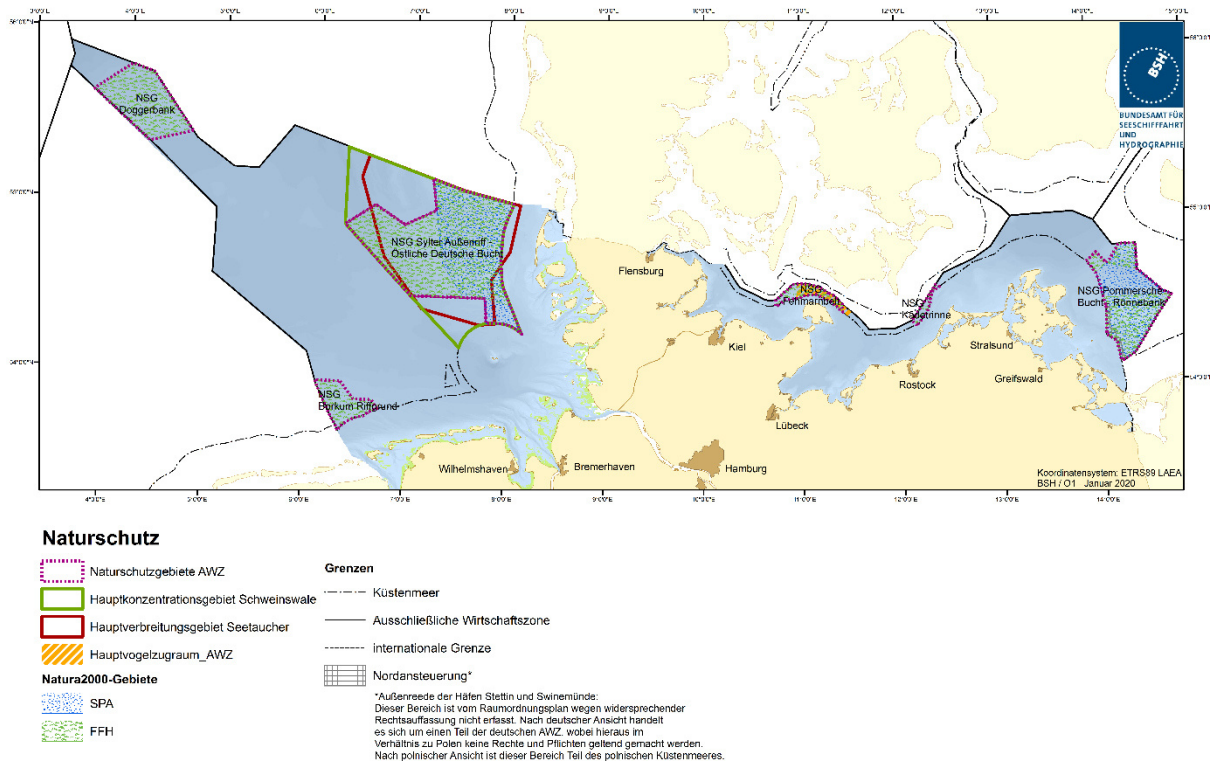


Figure 12: Explanatory map on nature protection.