



Ministerie van Infrastructuur
en Waterstaat

Memorandum on Scope and Level of Detail

North Sea Programme 2028 – 2033

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Colophon

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1 Introduction

1.1 North Sea Programme 2028-2033

The North Sea is one of the most heavily used seas in the world. Various interests require space on the Dutch Continental Shelf (NCP): from fisheries and aquaculture, energy production and CO2 storage and nature to international shipping, sand extraction and coastal replenishment and defence tasks. To ensure a sustainable, safe and efficient use of the limited space, within the carrying capacity of the ecosystem, integrated policy is necessary. The North Sea Programme is the government's steering instrument for the Dutch part of the North Sea.

Once adopted by the government, the new North Sea Programme 2028–2033 (PNZ 28-33) will be in force for the period 2028 to 2033 and will form the policy framework for that period. At the same time, decisions taken by the government on the basis of this policy framework may also have an impact over time. The programme will guide the development of the Dutch part of the North Sea in the light of the energy transition, the nature transition and the food transition, each with its own objectives. A balance between these three transitions is central in combination with conditions in the field of shipping safety, territorial security and water safety. This is not an easy task, because space in the North Sea is scarce and marine nature is under pressure. The good environmental status has not yet been achieved¹ and all use must also fit within the ecological carrying capacity of the North Sea ecosystem. Not everything can be done everywhere and that is why an integrated spatial assessment is needed. In addition, the North Sea Programme provides an overview of all the policy that applies in the North Sea.

1.2 Purpose of the Memorandum on Scope and Level of Detail

This is the Memorandum on Scope and Level of Detail (NRD) for the environmental impact assessment procedure (plan-EIA) that is followed in the context of PNZ 28-33. The NRD forms a basis for the approach to arrive at the environmental impact assessment (planMER). With the NRD, the government provides insight into the way in which the environmental effects of policy changes in PNZ 28-33 are investigated and assessed.

The NRD discusses the intention that is being investigated, and the scope and level of detail of the planMER.

- Intention: the total of changes (partial intentions) that is provided for in the programme text of the North Sea Programme and is laid down in a decision on PNZ 28-33, including an indication for each partial intention as to whether there are expected environmental effects that are being investigated in the context of the EIA plan.

For partial intentions that are part of a decision on PNZ 28-33 that must be examined in the EIA, the following is described:

- Scope: which areas and activities are the focus on, which alternatives or extremes are being explored, and what the time horizon is.
- Level of detail: which environmental aspects are relevant to the research, how the effects are mapped out with an explanation of the level of detail where possible and possibly which methodical choices are relevant.

¹ Parliamentary Papers II, 2025-2026, 33 450, no. 137

In addition to an estimate of the possible environmental effects for each sub-plan, the EIA will also include a chapter on 'cumulation of effects', in which the sub-intentions and their intended effects are considered in conjunction with each other.

If it cannot be ruled out in advance that a plan or programme will have significant negative effects on (conservation objectives of) Natura 2000 areas, an Appropriate Assessment (PB) must be drawn up. Therefore, in parallel with the EIA procedure for PNZ 28-33, a PB is also being drawn up in the context of the Environment and Planning Act. The PB identifies the possible significant negative effects on the conservation objectives for Natura 2000 areas as a result of the (new) policy choices in the PNZ. The PB does not have a fixed format, but will be at the same level of abstraction as the EIA and will be included as an appendix in the EIA. When drawing up the Environmental Assessment Plan, use is made of environmental information (possible ecological effects) as estimated in the EIA.

1.3 Policy and legal background to the North Sea Programme

The North Sea Programme is an independent programme under the Environment and Planning Act and gives substance to several mandatory programmes as referred to in Article 3.9 of the Act. It contains, inter alia, the maritime spatial plan referred to in Article 4 of the Maritime Spatial Planning Directive² and the Marine Strategy Programme of Measures (MS3)³ referred to in Article 13 of the Marine Strategy Framework Directive (MSFD), which is adopted as an annex to the North Sea Programme. The North Sea policy is reviewed every six years by adopting the North Sea Programme as an appendix to the National Water Programme. For the Dutch part of the North Sea, the Programme gives substance to international and European frameworks for climate (including the Paris Climate Agreement, EU climate goals).

With its policy for a healthy sea with sustainable use, the Netherlands is implementing the Marine Strategy Framework Directive (MSFD). This directive obliges every European member state with marine waters to draw up an overarching strategy to achieve and maintain good environmental status (GMT) by 2020. The Dutch Marine Strategy for the own part of the North Sea is complementary to existing international policy frameworks for the protection and management of species and habitats. These frameworks are the Birds Directive (VR) and Habitats Directive (HR), the Water Framework Directive (WFD), OSPAR, the Convention on Biological Diversity (CBD), and the policy on sustainable fisheries under the Common Fisheries Policy (CFP). These frameworks are primarily in force, the Marine Strategy integrates them and complements them where necessary.

The Marine Strategy Part I (MS1)⁴ describes the current and intended good environmental status and the operational environmental targets that have been set for this purpose in order to achieve good environmental status where necessary. The MS1 thus determines the ecological preconditions for the spatial integration of activities in the North Sea and forms the ecological framework for PNZ 28–33 and the associated EIA.

The North Sea borders on the Wadden Sea as a Unesco World Heritage Site and activities on or under the North Sea can have an effect on the Wadden Sea, for example through sediment flows, pollution, the construction of cables, the effects of

² European Maritime Spatial Planning Directive (2014/89/EU)

³ Programme of Measures of the MSFD as established in the Partially Revised North Sea Programme 2022-2027. This can be found at the [North Sea Counter](#).

⁴ MSFD targets as established in December 2025 and published on the [North Sea Desk](#).

fishing and the sand needs of the Wadden Sea. It follows from, among other things, the World Heritage Convention and the Living Environment Activities Decree (Article 14.7) that initiators are obliged to take all measures to prevent damage to the outstanding universal value (OUV). Therefore, the Heritage Impact Assessment methodology will⁵ be used in the planMER.

In addition, the European Nature Restoration Regulation (NHV) will be taken into account during the planning period. This regulation sets binding restoration targets for 2030, 2040 and 2050 and obliges member states to draw up a National Nature Restoration Plan, which includes measures for the restoration and expansion of habitats, an improvement obligation and a ban on deterioration for the habitats and species concerned. The Dutch National Recovery Plan is expected to be adopted before the start of the planning period (2028-2033) and thus describes a possible additional precondition for the MS1. Effects on species and habitats, described under the NHV, are therefore considered in the planMER.

In the context of a recently conducted policy evaluation of the North Sea Programme 2022-2027⁶, researchers recommended that, on the basis of advancing insight, the contribution of the policy taskings and the interrelationship for the effective implementation of the programme should be formulated more sharply by further concretising the central tasking. According to the researchers, an important part of this is the joint and unambiguous description of what is meant by social balance and ecological carrying capacity. For example, on the initiative of the North Sea Consultation, the Scientific Sounding Board Committee is conducting research into the concept of ecological carrying capacity from a scientific, policy and legal perspective. If the results of this study are available in time, it will be examined whether they can be included in the EIA plan for the purpose of assessing the effectiveness of the programme.

1.4 Why a plan environmental impact assessment

The North Sea Programme is a programme subject to an EIA because it is a programme (Article 16.34 of the Act) that sets a framework for projects subject to an EIA (assessment) (Article 16.36 of the Act). These projects are included in Appendix V to the Environment and Planning Decree. In addition, an environmental impact assessment is drawn up for a plan or programme if, during the preparation of that plan or programme, an appropriate assessment for nature (Natura 2000) must be made on the basis of Article 16.53c of the Environment and Planning Act (Article 16.36(2) of the Environmental Act).

The EIA instrument is intended to be able to take the interests of the living environment, people and nature into account at an early stage and in full in important and strategic decisions. An EIA is a procedure in which an investigation into the possible environmental effects is carried out. The results of the research are described in a report; the environmental impact assessment plan (planEIA). The EIA provides insight into the effects of the possible measures to achieve the goals of the policy. In this way, the EIA can contribute to the quality of the living environment in planning and decision-making. The results of the (plan) EIA must be taken into account when drawing up the policy programme.

⁵ This methodology is described in the manual *Guidance and Toolkit for Impact Assessments in a World Heritage Context* found through the [UNESCO World Heritage Convention](#)

⁶ Parliamentary Papers II, 2025/2026, 35 325, no. 11

1.5 Reading guide

Chapter 2 explains the intention and discusses all the partial intentions where adjustments are being considered in the context of PNZ 28-33. It will also be indicated whether these topics will be addressed in the EIA. Chapter 2 will show that this is the case for six subjects:

- Designation of wind farm areas
- Adjusting strategy for sand extraction
- Adjustment of the assessment framework for other uses in the sand extraction reservation zone
- Adjusting policy on shared use
- Establish agreements on multifunctional use of space by expanding defence activities in the zone between areas EHD 41 and EHD 42 (NPRD)
- Adjusting the Programme of Measures for the MSFD

All six topics are examined in one planMER. Chapters 3 to 8 describe the scope and level of detail of the above six topics. This includes the tasks to be investigated, areas and time horizons, and the level of detail of the research in the EIA. Chapter 9 discusses the procedural steps that are followed in drawing up the EIA.

2 Intention

2.1 Partial intentions and developments in other independent processes

Agreements have been made within the government on the topics that must be addressed in PNZ 28-33. With the sub-intentions described in this chapter, on which a decision must be taken in the context of the adoption of PNZ 28-33, the programme will give direction to the development of the Dutch part of the North Sea in the light of the energy transition, the nature transition and the food transition, each with its own objectives.

In addition, the North Sea Programme provides an overview of all the policy that applies in the North Sea. Similarly, all policies that are established through independent legal frameworks, such as restrictions for the fisheries sector that are established under the Common Fisheries Policy (CFP) or designated Natura 2000 areas under the Habitats or Birds Directives, will be included in the North Sea Programme. With the adoption of PNZ 28-33, a complete update will also be made of all developments in these independent processes. These are named and briefly described in section 2.3 and appendix 1 respectively. For a fully integrated picture and a balanced assessment, these developments must of course be taken into account in the decision-making process.

2.2 Partial intentions for the PNZ 28-33

The spatial and non-spatial taskings are presented below and classified according to the place where the tasking has its centre of gravity. In this way, the possible coherence and interaction between different sub-intentions is made as clear as possible. This classification has no legal or policy significance.

Within the 12+2 NM (up to the outer border of the reservation zone for sand extraction):

- a) Adjusting strategy for sand extraction
- b) Adjusting the assessment framework for the use of the sand extraction reservation zone
- c) Clarifying nearshore shellfish farming possibilities

Outside the 12+2 NM (from the outer border of the reservation zone for sand extraction):

- d) Designation of wind farm areas
- e) Making agreements on multifunctional use of space in the new zone between areas EHD 41 and EHD 42 with the expansion of defence activities for military readiness (NPRD)

Indoor wind farms:

- f) Broadening the area reconnaissance instrument to North Sea-wide area reconnaissance for shared use
- g) Clarifying and possibly adjusting the shared use policy
- h) Evaluation and possible adjustment of passage policy

Cross-regional and generic tasks:

- i) Amendment of the Programme of Measures to the Marine Strategy Framework Directive (MSFD)
- j) Adjusting the policy on cables and pipelines
- k) Adjusting shipping safety policy
- l) Further development of the methodology for the assessment of the effects of spatial limitations for fisheries
- m) Developing a policy for seaweed cultivation
- n) Adjusting the design process for the relationship between offshore mining and wind energy
- o) Adjusting policy on the protection of critical infrastructure

The above sub-intentions are explained in sections 2.4 – 2.7. It is also indicated whether environmental effects are to be expected and whether this participation intention is therefore examined in the EIA.

2.3 Developments in independent trajectories and coherence

The North Sea Programme is linked to a number of other plans and programmes that all deal with the North Sea and the activities that take place in the North Sea. PNZ 28-33 will be fully updated with regard to the outcomes of such independent processes, insofar as they have been completed in time.

- Future vision for shrimp fishing
- Designation of Natura 2000 site Hollandse Kust
- Study on the designation of a new Birds Directive area in the northern part of the NCP and its possible consequences for other uses at sea, including wind energy
- Lifting of restrictive fishing measures in the Dutch part of the Plaice Box
- New IMO policy to reduce harmful emissions from shipping
- Proposed new areas with which 15% soil protection will be achieved
- Nature Restoration Regulation (NHV) and implications for North Sea policy
- Development of Species Protection Plans
- Helicopter routes (aviation regulation)
- Agreements on the protection of cultural heritage and landscape quality
- Expansion of defence activities in the North Sea, NPRD
- PVAWOZ and PAWOZ-Eemshaven, and possible addition to this

These interrelated pathways are explained in more detail in Appendix 1.

2.4 Partial intentions within the 12+2 NM

[a] Adjusting strategy for sand extraction

Sand extraction serves several purposes, namely firstly to contribute to coastal protection and the preservation of the coast by means of coastal nourishment, and secondly to provide raw materials for construction works and infrastructure. The North Sea Policy Document 2016-2021 describes a sand extraction strategy for the first time, with a long-term vision and approach to continue to extract sufficient high-quality sand cost-effectively in the North Sea.

Due to sea level rise, more sand will be needed in the future. At the same time, the spatial pressure in the area reserved for sand extraction is increasing. This has further increased the importance of safeguarding the sand supply and keeping it accessible. This is reason to revise the current sand extraction strategy in PN Z28-33, in which deeper extraction is considered and a number of actions are formulated in the implementation agenda. According to current policy, winning deeper is also allowed, but it is not common in current practice. For the period 2027-2037, deep extraction is being considered, up to a maximum depth of 12 metres, and this is therefore being investigated in the EIA. See chapter 4.

[b] Adjusting the assessment framework for the use of the sand extraction reservation zone

With the Partial Revision of the North Sea Programme 2022-2027, the reservation zone for sand extraction has been expanded. In this reservation zone, sand extraction has priority as a national interest, but other uses are not excluded. Permits for this will be granted after going through an assessment framework specifically aimed at the (im)possibilities of other uses in the reservation zone⁷. PNZ 28-33 provides for a number of adjustments to this assessment framework. These are limited adjustments to a number of preferred corridors for cables and pipelines, which are in line with the current practice of granting permits. It is also being considered to designate a number of zones where the sand supply is extra scarce and/or where a lot of sand extraction will be necessary. The intention is to only allow temporary other uses in these zones and no permanent constructions, with a view to keeping the sand supply accessible. The above-mentioned adjustments may have spatial implications and are examined in the EIA, see chapter 5 for more information. In addition, it involves clarifying process steps and existing conditions. This has no spatial or environmental effects and is therefore not investigated in the EIA.

[c] Clarifying nearshore shellfish farming possibilities

The Vision Food from the Sea and Large Waters (food transition) focuses on making the fisheries sector more sustainable and the (further) development of a sustainable aquaculture sector. In the context of the second, various forms of aquaculture - often with a relatively low ecological footprint - have the potential to contribute to food security and the sustainability of the Dutch food supply from the sea. The Delta region and the Dutch coastal zone offer suitable conditions for aquaculture. The shellfish farming sector has a growth vision and the government tries to facilitate that growth where possible.

⁷ PNZ 22-27 refers to "assessment framework for the use of an area reserved for sand extraction", in this NRD "area reserved for sand extraction" is changed to "reservation zone for sand extraction".

That is why the government is researching how to provide more clarity about space for *nearshore* shellfish farming. It is important to make it clear that a permit application for the use of space for a longer period and on a larger scale (10-15 years and approximately 15 km²) is not excluded in advance. This is in addition to the already mentioned possibility for small-scale and short-term experiments (RWS uses the rule of thumb of max. 3 years and max. 5 km²). Because it does not concern a change, but only a clarification of existing policy, no direct spatial consequences or environmental effects are expected and therefore no further research is carried out in the EIA, for which this NRD has been drawn up.

2.5 Partial intentions outside the 12+2 NM

[d] Designation of wind farm areas

The development of wind energy – for the purpose of achieving the goals for the energy transition – is an important pillar of our future low-CO₂ and as independent as possible energy supply. Recently, the ambition for offshore wind energy was adjusted to 40 GW. With the adoption of the Partial Revision of the North Sea Programme 2022-2027 (PH) and the previously designated wind farm areas, within which some wind farms have already been realised, space has been designated for approximately 42 GW. At the same time, there are considerable uncertainties as to whether sufficient wind farms can be built within this designated area. Uncertainties concern the disturbance distance of guillemots, a possible new VR area in and around area 6/7 and possible additional space for mining activities. In addition, the assumed power density of 10.5 MW/km² may be too high for the profitable operation of wind farms. In that case, more space is needed per GW to achieve the level of ambition.

The intention is therefore to designate additional space for wind energy. This will make it possible to absorb the uncertainties about the realisation of wind farm zone 6/7 and to be able to realise the ambition for 40 GW, which is in line with the coalition agreement, in sight. The environmental effects of this plan are examined in the EIA. See chapter 3.

[e] Making agreements on multifunctional use of space in the new zone between areas EHD 41 and EHD 42 in the event of expansion of defence activities for military readiness (NPRD)

The threat from state actors against the infrastructure in the North Sea is still topical. In recent years, the strategy for the protection of North Sea infrastructure has been strengthened and expanded, as announced in the letter to Parliament sent by the Minister of Infrastructure and Water Management to the House of Representatives on 8 February 2023⁸. Space is facilitated for Defence tasks, aimed at, among other things, strengthening readiness and training in protecting the continuity and integrity of vital infrastructure with regard to energy distribution and internet and data traffic. This necessarily includes providing for the expansion of defence activities. Also on the North Sea.

The National Defence Space Programme (NPRD), which was definitively adopted by the government on 19 December 2025, includes a new contiguous zone between the areas EHD 41 and EHD 42 in the North Sea⁹. In preparation for the adoption of the NPRD,

⁸ Parliamentary Papers II, 2022/2023, 33 450, no. 118

⁹ [Parliamentary Papers](#) II, 2025/2026, 36 592, no. 55

the environmental effects to be expected from the intended defence activities have already been examined in an EIA. Now that the NPRD has been definitively adopted, partly on the basis of the views submitted on the design, further coordination will be made with other users about possibilities for multifunctional use of space. Partly on the basis of the views submitted on the design, this sub-intention will be investigated in the context of the EIA for which this NRD is in favour and will be further coordinated with other users about possibilities for multifunctional use of space. The Ministry of Defence will shape this process in conjunction with the PNZ and the result will be recorded in the PNZ as part of an integrated assessment. See chapter 7.

2.6 Partial intentions regarding policy within wind farms

Efficient and multiple use of space has been an important objective of North Sea policy since the Spatial Policy Document. The government facilitates shared use in offshore wind farms, because making use of the available space within wind farms can contribute to achieving a better balance in the three transitions at sea for nature, food and energy.

[f] Broadening the area reconnaissance instrument to a North Sea-wide area reconnaissance for shared use

With the PH PNZ22-27, the aim is to give shared use a better and earlier place in spatial planning. For the new PNZ, work will be done on a further elaboration of this commitment. The intention is to broaden the Area Exploration instrument by positioning it earlier in the wind-at-sea process (prior to the start of the procedure for the site decisions). The aim is to use this instrument to provide better insight into the potential for shared use within wind farms on a North Sea-wide scale. Also with a view to the contribution that shared use can make to improving the balance between three transitions (nature, food, and energy) on a North Sea-wide scale. The Area Reconnaissance instrument itself is not part of PNZ 28-33. Because it is only about process-based tightening without spatial consequences or environmental effects, this is not examined in the EIA.

[g] Clarifying and possibly adjusting the shared use policy

The government is investigating whether the existing policy for shared use needs to be clarified and/or amended in parts. This involves enabling new categories of initiatives within wind farms or enabling the scaling up of existing activities. Concrete adjustments depend on the results of exploratory studies, in which at least active fishing, mining activities, and charging infrastructure (for the electrification of shipping) are considered. In addition, for the function of rest as a passive form of nature restoration/development, a better legal anchoring will be sought. Passive fishing is already allowed within wind farms. With PNZ 28-33, the government aims to mark the transition to a professional roll-out of passive fishing.

The results of the exploratory studies will be included in the EIA, with a qualitative consideration of opportunities and risks on environmental themes that may be relevant to follow-up decisions. Due to major uncertainties in upscaling and development opportunities, choices still to be made in terms of technology, etc., further consideration of choices in follow-up decisions is still needed for a concrete view of implementation (location and nature of the activity and required installation). This is also the reason that this impact assessment takes place at the time when a permit is applied for for specific initiatives or in the context of a site decision if there is a concrete intention to allocate space in a plot for active fishing. See chapter 6.

[h] Evaluating and possibly adjusting the passage policy

In the run-up to PNZ 28-33, an exploratory evaluation of the passage policy will be carried out with a view to possible updating of parts of the passage policy. If the results of the evaluation are available in good time and on the basis of them it is concluded that updating (parts of) the policy is desirable, then it must be estimated whether the intended adjustments may have an effect on the physical living environment. If that is the expectation, an analysis of these effects will be included in the EIA.

2.7 Partial intentions of a generic nature*[i] Amendment of the Programme of Measures to the Marine Strategy Framework Directive (MSFD)*

Together with the adoption of PNZ 28-33, the Programme of Measures of the Marine Strategy Framework Directive (MSFD Marine Strategy part 3) will be updated. The government will publish this new MS3 as part (appendix 1) of the PNZ. The MS3 contains new, additional measures with the aim of achieving the environmental objectives set out in the Marine Strategy Part 1. These additional measures have a positive environmental impact. The EIA for PNZ 28-33 only examines the measures with expected spatial consequences or environmental effects. See chapter 8.

[j] Adjusting the policy on cables and pipelines

Due to the increase in landfall cables from wind farms, pipelines for the transport of CO₂ and, in the future, possibly hydrogen, the growing number of communication cables as a result of digitisation and the increasing number of initiatives from surrounding countries that also use the NCP, the demand for space for cables and pipelines is increasing sharply. Different conditions with regard to cables and pipelines can conflict, for example with sand extraction, shipping, nature or existing wind farms. The current method, in which a choice of location is made for each permit application and project decision in consultation with the competent authority, is for the time being the best way to achieve as much multiple and efficient use of space as possible through customization. A number of policy adjustments are necessary to make the usual working method in practice of licensing transparent.

Firstly, it concerns clarification of process steps and conditions for the granting of permits, which partly overlap with adjustments to the assessment framework for the use of the reservation zone for sand extraction. Since this concerns process agreements and clarification, no environmental or spatial effects are expected outside the reservation zone for sand extraction. There may be spatial effects within the reservation zone, which is why that participation intention is examined in the EIA (see also topic b).

A second adjustment is necessary to ensure that preferred alternatives for the landing of wind energy remain sufficient for realisation prior to realisation, by taking this into account when granting permits for other initiatives. These are preferred alternatives that the government decided on prior to the publication of the Draft PNZ 28-33. At that time, these routes were examined in an EIA for PVAWOZ and PAWOZ-Eemshaven. It is therefore not necessary to re-examine the routes in question.

[k] Adjusting shipping safety policy

Shipping safety is an important precondition for spatial choices, especially in relation to location choices for wind farm areas. The current shipping policy aims to maintain the safety level at a minimum and to improve it where possible. Recently, the Dutch Safety Board (OvV) made recommendations on improving shipping risk management in the North Sea in relation to (the placement of) fixed objects¹⁰. The government is following up on these recommendations by, among other things, updating the safety objective, applying scenario thinking and updating the shipping policy, including adjusting the Draft Criterion for Safe Distances (Appendix 3 of the PNZ). The central government aims to have updated the shipping policy before the adoption of PNZ 28-33 and to apply it to the corresponding spatial principles.

[l] Include a description of the further development of the methodology for providing insight into the (cumulative) consequences of spatial restrictions for fisheries

For the food transition, there is a generic task of change towards a sustainable and future-proof fisheries sector as described in the Vision on Food from the Sea and Great Waters¹¹. The fishing sector is facing major challenges: the climate is changing, fish populations are shifting and bottom fishing is under pressure due to the major ecological impact and declining social support. Changes to the marine ecosystem also offer opportunities for migration to other target species. The switch to new techniques is often necessary. Such a transition of the fleet requires innovative strength, motivation and significant investments from entrepreneurs and a robust sector with sufficient scale. To support the transition, it is important to provide clarity and perspective about the availability of space in time.

In recent years, there have been growing concerns about the accumulation of spatial restrictions for the fishing sector in Dutch waters and in those of neighbouring countries, and having sufficient space is no longer self-evident. That is why there is a need to provide better insight into the consequences of spatial restrictions in spatial planning processes. This concerns not only the consequences for the supply sector, but also the socio-economic impact on the fish processing chain and local fishing communities and the accumulation of effects of measures on the fisheries sector. The methodology that goes with this has mostly been concretized in the Partial Revision. In addition to this existing methodology, which is based on historical data, the newly developed PLACE model will be integrated, which provides additional insights into the socio-economic impact of spatial developments on fisheries. For PNZ 28-33, it will be investigated how the methodology for impact assessment can be further developed and – if available in time – applied in the impact assessment of new spatial developments in PNZ 28-33.

The further development of the methodology to be recorded does not in itself have any spatial consequences or environmental effects and is therefore not examined in the EIA, for which this NRD has been drawn up.

[m] Developing a policy for seaweed cultivation

The government is working on a generic policy for seaweed cultivation, which is expected to be developed in wind farms in particular. Seaweed cultivation is an emerging activity in the North Sea with promising applications. At the same time, there

¹⁰ Report of the Dutch Safety Board (OVV) 'Compromising with space Controlling shipping safety in an increasingly crowded North Sea'. June 13, 2024.

¹¹ [Parliamentary Papers](#) II, 2023/2024, 21 501-32, no. 1624

is a lack of targeted policy. LVVN is therefore working on a policy on seaweed cultivation that looks at the possibilities for seaweed cultivation in the North Sea. In principle, this concerns cultivation within wind farms. Because no direct spatial consequences or environmental effects are expected, no further research will be carried out in the EIA plan, for which this NRD has been drawn up.

[n] Adjustment of the design process for the relationship between offshore mining and wind energy

PNZ 22-27 describes the design process for mining activities in relation to offshore wind energy. Both activities require space. That is why the PNZ describes the working method for coordinating the location of wind farms and installations for the extraction of oil and gas and the storage of CO₂ in the preparation of site decisions and the granting of permits for mining activities. Based on recent research into how much space is needed for safe accessibility of mining platforms in the vicinity of wind turbines and the intention for an adapted legal set of instruments under the Environment and Planning Act, this working method will be adjusted. Instead of using a generic starting point of 5NM distance between platforms and wind farms, the obstacle-free space required for helicopter accessibility is determined in the context of a tailor-made process. The required obstacle-free space depends on the location of the platform in relation to the wind farm, and the accessibility requirement for the continuity of the operation. Guaranteeing aviation safety is a precondition in this process. It also provides clarity on how to deal with the possible space requirements of any new mining activities. Such an adjustment may influence subsequent decisions on distances between wind farms and mining platforms, but an environmental impact is not expected. The intention is therefore not examined in the EIA for which this NRD has been drawn up.

[o] Adjusting policy on the protection of critical infrastructure

The vulnerability and resilience of existing and planned (energy) infrastructure – including wind farms and cables and pipelines – is an essential point of attention for the continuity of vital functions for the Netherlands. The resilience of critical infrastructure must therefore be explicitly included in all relevant considerations. In addition, it may be necessary and desirable to formulate new policy for this purpose and to include it in the North Sea Programme, if this is also in line with confidentiality requirements.

2.8 Summary of partial intentions to be further investigated in planMER

The table below summarises which sub-intentions are further investigated in the EIA plan. It also shows for which sub-intentions this is not necessary, because they are process agreements or clarifications that do not involve any spatial or environmental effects, or because they have already been examined in another EIA plan. In the latter case, reference will be made to this.

	Intention to participate	Studies in the EIA
Within 12+2 Nm	a) Adjusting sand extraction strategy b) Adjusting the assessment framework for the use of a reservation zone for sand extraction c) Clarifying nearshore shellfish farming possibilities	a) Yes b) Yes c) No, because clarification of existing policy
Outside 12+2 NM	d) Designation of wind farm areas e) Making agreements on multifunctional use of space in the new zone between the areas EHD 41 and EHD 42 with expansion of defence activities for military readiness (NPRD)	d) Yes e) Yes, insofar as not already done in the NPRD EIA
Indoor wind farms	f) Broadening the area reconnaissance instrument to North Sea-wide area reconnaissance for shared use g) Clarifying and adjusting the policy on shared use h) Evaluation and possible adjustment of passage policy	f) No, because the process agreement g) Yes h) Yes, if policy adjustment is required and environmental impact is expected
Generic	i) Adjusting the Programme of Measures for the MSFD j) Adjusting the policy on cables and pipelines k) Adjusting shipping safety policy l) Further development of the methodology for the assessment of the effects of spatial limitations for fisheries m) Development of seaweed cultivation policy n) Adjusting the design process for the relationship between offshore mining and wind energy o) Adjusting policy on the protection of critical infrastructure	i) Yes j) Yes, with reference to planMER pVAWOZ k) As input for variant development of offshore wind energy and effect estimates l) No, because the process agreement m) No, because there are no spatial or environmental effects n) No, because the process agreement o) No, because the process agreement and elaboration are confidential

3 Designation of wind farm zones

The task of offshore wind energy must be viewed in the light of broader national and international obligations. The Netherlands is faced with the task of limiting climate change and its potentially disruptive consequences – including sea level rise and more extreme weather conditions – as much as possible, improving air quality and protecting public health and the well-being of citizens. The Netherlands is committed to the implementation of the European climate and energy targets:

- The European Climate Law stipulates that greenhouse gas emissions must be 55% lower by 2030 than in 1990. And by 2050, emissions must be net zero. The Netherlands has anchored these goals in the national Climate Act. The court has also ruled that the Netherlands must ensure a 1.5 degree target and that there are obligations to take measures against climate change. To this end, the government is drawing up a Climate Plan. The Climate Plan 2025-2035¹² states that the government considers a 90% reduction in greenhouse gases by 2040 to be a logical intermediate step.
- The European REDIII Directive sets a binding target for the share of renewable energy with a share of 39% for the Netherlands in 2030.

At the same time, current geopolitical developments call for the strengthening of energy independence and security. The ongoing electrification of industry, mobility and the built environment is substantially increasing the demand for sustainably produced electricity. Offshore wind energy plays a key role in this, as a large-scale source of renewable energy that contributes to the realisation of climate and energy objectives and to strategic autonomy. The underlying energy demand and the resulting demand for offshore wind energy have been further quantified in recent policy documents and studies and form the basis for the task described in this NRD.

3.1 Scope: Task, Areas, Reference Time Horizon

3.1.1 Assignment of wind farm areas to be investigated

With the designation of Doordewind and area 6/7 in the PH PNZ22-27 and the previously designated areas, in which partly wind farms have already been realized, a total of space has now been designated for an indicative 42 GW.

However, the availability of wind farm areas with space for an indicative 42 GW does not mean that this much wind energy can actually be realised. In particular, there are substantial uncertainties in the designated wind farm zone 6/7, such as about the width of the open zone required to prevent barrier effect for guillemots and about the use of space for mining. In addition, the designation to be investigated as a Birds Directive area (VR area) may lead to a partial or complete loss of space for wind farms in area 6/7. In addition, the assumption made for the power density may be too high for the profitable operation of wind farms (see also section 3.1.3). In that case, more space is needed per GW. Reducing density to improve the business case for wind energy will then (further) increase the shortage of space.

The task is to designate additional space for wind energy. This will allow the uncertainties about the realisation of wind farm zone 6/7 to be (partially) absorbed and the realisation of 40 GW remains in sight. It should be noted that, particularly in the event that no wind farms can be built at all in wind farm zone 6/7, there is still a risk of not achieving the 40 GW ambition.

¹² Parliamentary Papers II, 2024/2025, 32 813, no. 1501

3.1.2 *Funneling to Wind Energy Search Areas*

The identification of search areas for wind energy was based on the MRP map from the Draft PH PNZ22-27. The following funneling took place:

- a. Search areas and former wind farm areas that have been deleted on the basis of previous environmental studies and political decision-making have not been considered further. This concerns Lagelander, Hollandse Kust Noord West and Hollandse Kust Zuid West, former search area 4 due to overlap with military exercise area, former search area 5 median and search area 8 due to its unfavourable location for shipping.
- b. No new search areas have been identified in designated nature reserves, due to agreements in the North Sea Agreement. Nor have search areas been identified in the reservation zone for sand extraction, in and around (2NM distance) shipping routes and military training areas, insofar as these do not fall under the expansion in the NPRD.
- c. Subsequently, exploratory preliminary studies were carried out into possible available space. See map in Figure 3.1. In addition, natural values and various interests for use (mining, fishing, shipping, military training areas) in this possibly available space have been made clear. The chance of profitable wind farms was also examined.
- d. Areas 2a (south), 2b and 2c have been dropped. Based on estimates about the phasing out of mining, these areas will be used for mining until 2040 or later, although it is already clear that combination with wind energy is not an option. Moreover, there are fishing interests in these areas. In addition, some of these areas require space for shipping traffic in the east-west direction. Area 2c is also in the picture for the location of defence activities. Intensive research is needed to decide whether, and if so how, this can relate to the presence of wind farms. Such a job combination is not foreseen for 2040.
- e. Areas 1a, 1b and 1f have been dropped because the size is too small and it is already clear that such an area cannot become profitable for wind energy. In addition, area 1f is specifically important for flyshoot fishing.
- f. It follows from this funnelling that the search areas listed below are eligible for further investigation into the possibility of designation as wind farm areas. This is numbered on the search area map that was used for the PNZ 22-27. The search areas below are shown on the map in Figure 3.2.
 - Search area 9, to be divided into 9 (North) and 9 (South)
 - Search area 10, 11, 12 and 13

Trechtering naar zoekgebieden PNZ 28-33

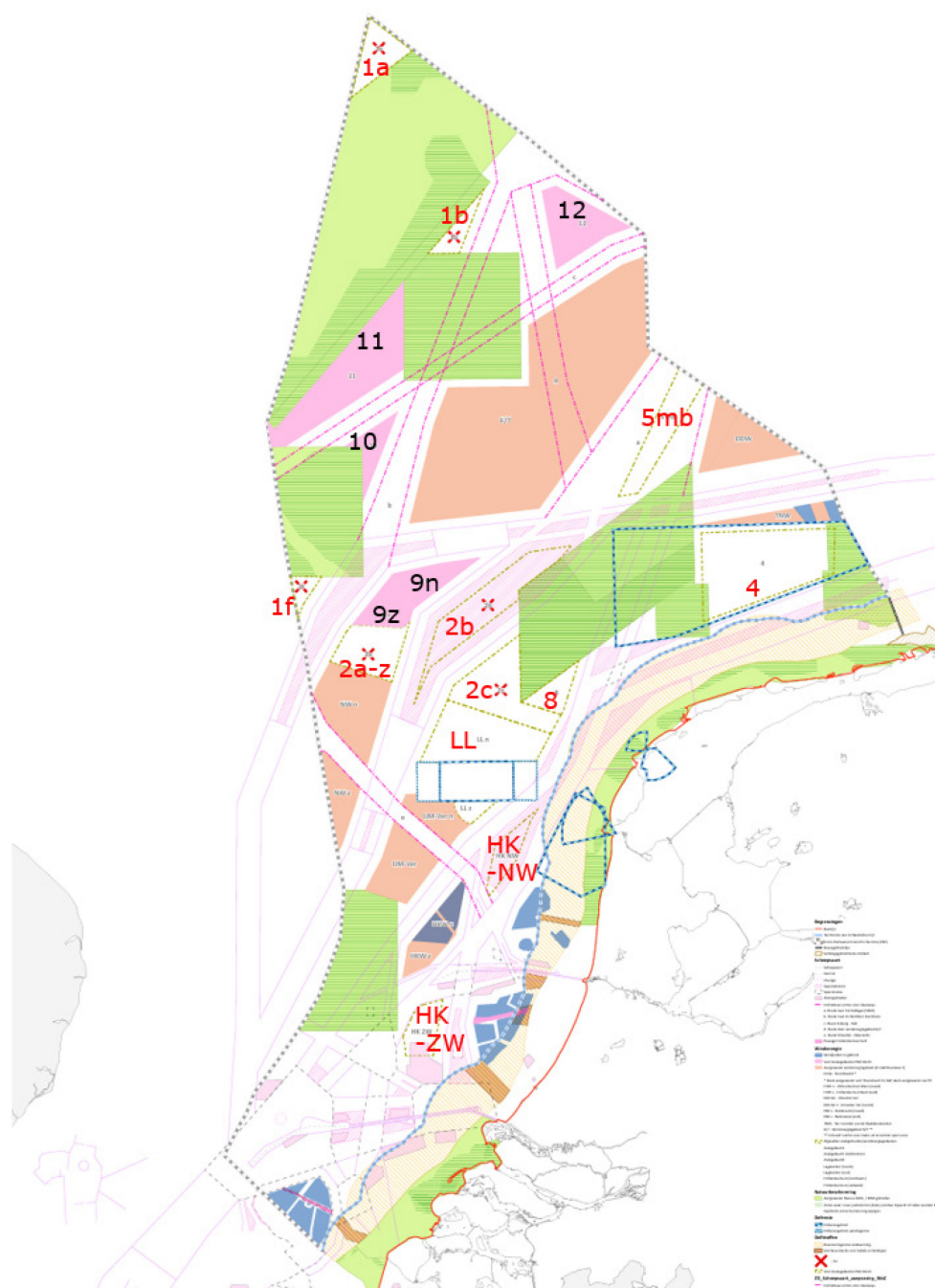


Figure 3.1 Pre-study areas map

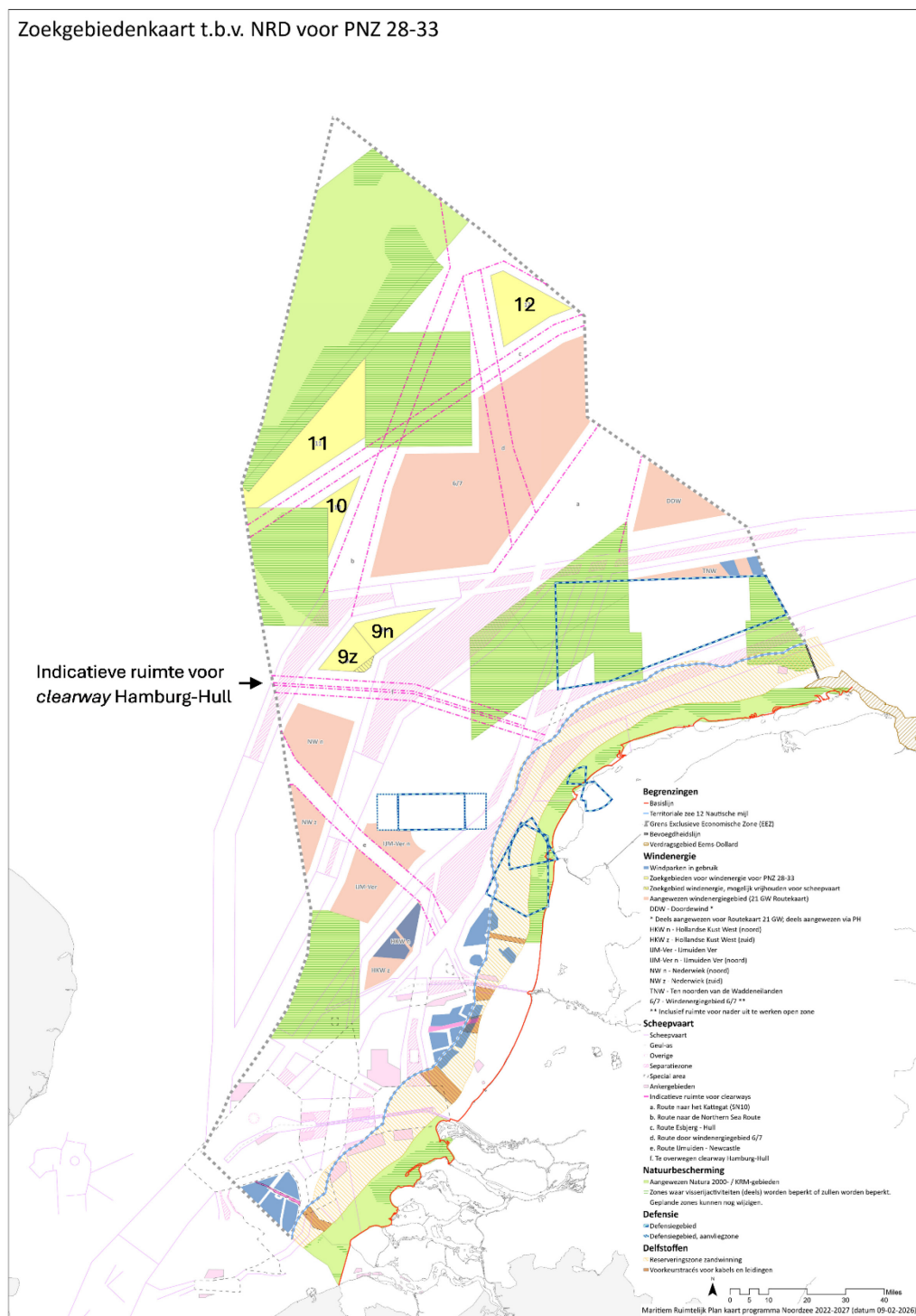


Figure 3.2 Search area map for wind energy

3.1.3 Search areas for wind energy

The search areas that are eligible for possible designation as wind farm areas after the

funnelling described above are shown in the table below. For each area, an initial estimate is shown of the maximum number of GW that would physically fit in these areas. A density of 8 MW/km² was maintained and a maintenance zone of 500 metres was maintained on both sides around existing cables and pipelines. At this stage, the estimate of the number of GW in the search areas does not yet take into account the indicative space requirement of existing or possible future mining platforms. When estimating the number of GW for areas designated in the PH PNZ22-27, a density of 10.5 MW/km² was used. In connection with new insights into the costs and benefits of wind energy, including recent information on capacity factors, it has been decided to use 8 MW/km² for this purpose. The EIA includes an uncertainty analysis in which lower and higher densities are also considered.

Search area	Surface	Maximum wind energy capacity at density of 8 MW/km ²
9	North: 262 km ² South: 253 km ²	north: 2 GW south: maximum 2 GW (to be determined)
10	188 km ²	1.5 GW
11	1053 km ²	7.8 GW
12	410 km ²	2.9 GW

3.1.4 Possible adjacent clearway and space for ship evasion

When considering search area 9 as a wind farm area, the necessity and indicative location of a possible *clearway* south of this area will also be examined in order to keep the connection between Hamburg and Hull clear. The indicative space for this *clearway* is shown on the search areas map in Figure 3.2. This will be specified in consultation with mining operators and shipping experts. In this context, the possible need to keep the south-eastern corner of search area 9 free for ships to divert will also be discussed.

3.1.5 Reference scenarios

The reference is based on the wind farms that have already been built, the wind farms that are being built in the context of the Roadmap 21 GW, and the wind farms that are being built in the context of Roadmaps as a follow-up to the PH PNZ22-27. These are shown in the table below.

Wind farms ¹³ /wind farm zones	Capacity (GW)	Status
Luchterduinen	0,129	Realized
Gemini Wind Farm	0,600	Realized

¹³ It is assumed that the Egmond aan Zee and Princess Amalia wind farms will be removed when the construction of new wind farm areas to be designated takes place.

Wind farms ¹³ /wind farm zones	Capacity (GW)	Status
Borssele I, II, III, IV, V	1,502	Realized
Hollandse Kust (zuid) I, II, III, IV	1,529	Realized
Hollandse Kust (noord) V	0,759	Realized
Hollandse Kust (west) VI, VII	1,575	Construction phase
IJmuiden Ver Alpha and Beta	4,000	Development phase
IJmuiden Ver Gamma-A and -B	2,000	Still to be realized
Nederwiek IA/B, II and III	6,000	Still to be realized
Holland Coast (west) VIII	0,700	Still to be realized
North of the Wadden Islands	0,700	Still to be realized
Doordewind I	2,000	Still to be realized
Doordewind II	2,000	Still to be realized
Wind farm zone 6/7	0.000 8.00014.000	Three reference scenarios

The wind farms that have already been completed, the implementation of the Roadmap 21 GW (including Doordewind II) add up to 23 GW of expected realised wind farms in the reference scenario.

Due to the substantial uncertainties about the number of wind farms to be built in wind farm zone 6/7, three different scenarios are being taken into account for the implementation of this. These are shown in the table below. The reason for this is that the uncertainty about the interpretation of 6/7 is so great that the inclusion of all possible feasible GWs in 6/7 gives a considerable overestimation of the possible effects. For the purpose of the considerations, it is necessary to include other scenarios for the feasible interpretation of wind farm zone 6/7.

Reference scenario	Realisation of Roadmap 21 GW + Doordewind II	Realisation of wind farm zone 6/7 (west)*	Realization Wind energy area 6/7 (East)*	Total capacity Reference scenario
1	23 GW	-	-	23 GW
2	23 GW	8 GW	-	31 GW
3	23 GW	8 GW	6 GW	37 GW

*_ According to the phased approach as described in the PH PNZ22-27, the intention is to first realize the western part of 6/7 and, after the final boundary of the open zone has been determined by 6/7, the eastern part.

The table above shows that the uncertainties about the number of GW in the reference situation are considerable. If it turns out that wind farm zone 6/7 cannot be used at all, the reference scenario offers room for 23 GW. Certainly if not all search areas can be identified (together there is room for 16.2 GW at a density of 8 MW/km²), then there is insufficient room for the government's ambition of 40 GW by 2040. Therefore, the EIA will also pay attention to the degree of uncertainty about the target attainment.

3.1.6 Time horizon

The time horizon for the policy in the PNZ for which this NRD has been drawn up is 2028-2033. Due to the preparation time, the designation of wind farm zones takes into

account a time horizon up to and including approximately 2040 for the construction of wind farms, and up to and including 2080 for the operational phase of wind farms. Possible effects of offshore wind farms can only occur from the moment that construction starts, which is not expected to be earlier than 2032.

3.1.7 *Demarcation with parallel and sequential elaboration of wind farm areas and related shipping measures*

A number of elaborations will take place in the follow-up process towards implementation. For the most part, these are sequential trajectories after the adoption of PNZ 28-33. These are therefore not part of the intention.

- **Area development for wind farm zone 6/7:** an area development is planned with a further consideration of interests within (part of) this area. This elaboration is part of the phased approach as agreed in the PH PNZ 2022-2027. This is not part of PNZ 28-33 itself, but may take place partly in parallel with the implementation of PNZ 28-33.
- **Roadmap for offshore wind energy:** phasing, when in which (sub)area site decisions will be taken and investment decisions for TenneT.
- **Site decisions:** a site decision is used to determine the exact location of a wind farm on the basis of the Offshore Wind Energy Act. Site decisions can only be taken within a designated wind farm zone. The North Sea Programme sets the framework for site decisions.
- **Routing measures and *clearways* for shipping:** Routing measures and/or *clearways* for shipping in the North Sea may be required, based on the wind energy areas that are designated and mining installations. The *clearways* around and through wind farm zone 6/7 are an elaboration of agreements in the PH PNZ22-27. The search areas for wind energy for PNZ 28-33 take this into account. Given the location of the current search areas, an additional *clearway* may be needed to keep shipping traffic between Hamburg and Hull possible. The indicative space for this is shown on the MRP map. The final *clearways* will be determined in the context of the Environmental Regulation after precise elaboration of the location. Routing measures will have to be approved by the International Maritime Organisation (IMO). The central government must draw up these measures together with neighbouring countries and submit them to the IMO.
- **Landing of wind energy.** Alternatives to the landing of wind energy have been investigated in the EIA of PVAWOZ and PAWOZ-Eemshaven. PVAWOZ also includes a view for the further growth of Offshore Wind Energy. For the new search areas, additional exploration is being carried out into how they can connect to this perspective.

3.2 **Detail level research**

3.2.1 *Approach and assumptions*

The effects of wind farms are initially examined per search area, after which the search areas can be compared with each other. By comparing this effect estimate with the reference scenarios, the severity and extent of the effect are assessed. For most impacts, this will be a qualitative assessment and assessment. Subsequently, where possible, the cumulative effects of wind farms in the search areas and the reference scenario are determined together. This is done for three reference scenarios. The cumulative effects of the three reference scenarios without search areas are also determined.

The power density in the search areas and the reference scenarios is assumed to be 8 MW/km². This is a lower power density than the 10.5 MW/km² adopted under the PH PNZ22-27. Recent insights show that it is doubtful whether wind farms are profitable. Therefore, a lower power density is now assumed. As for the PH PNZ, the capacity of the turbines is assumed to be 20 MW.

It is possible that the final density will be higher or lower, and that other turbines will be realized. Therefore, a qualitative uncertainty analysis examines the differences between a density of 6, 8 and 10 MW/km², and the differences between the placement of 15, 20 and 25 MW turbines.

3.2.2 Aspects to be assessed in the EIA

The table below provides an overview of the aspects for which possible effects are determined. In addition to the environmental effects, the effects on other uses are also estimated. This concerns the spatial consequences and the effects on shipping safety and accessibility. Where possible, the effects of wind farms are determined both per wind farm zone and cumulatively. For most aspects, the estimates will be indicative and qualitative.

Ecological effects are determined on the basis of insights from the KEC, according to a qualitative approach described as "VECI", which stands for 'Exploration of Ecological Cumulative Impact'. This is explained in the text box that follows after the table below. Incidentally, this approach can also be used to estimate the effects of individual areas.

In addition to the effects that are being investigated on the basis of the VECI, the effects on benthic fauna and fish will also be examined. Furthermore, on the basis of the descriptors included in the Marine Strategy Part 1, it is examined which aspects may need to be further investigated. By taking the MS1 as a starting point, we look as closely as possible at what the intention can mean for achieving the good environmental status.

Based on the mapped effects, an Appropriate Assessment is drawn up, which examines the expected effects on protected areas.

When estimating the consequences for shipping safety, use is made of the ISO31000 standard for risk management, for which the government is making a specific elaboration for the assessment of shipping safety risks.

Explanation of the VECI approach

The VECI ('Exploration of Ecological Cumulative Impact') is a specialization of the method used in the Framework of Ecology and Cumulation (KEC), specially developed for making less quantitative statements for the longer term, at a higher level of abstraction, but including the precautionary principle. The approach is based on the same principles as the KEC, but has a signalling character (more qualitative than quantitative), which is more in line with the planning phase, such as the adoption of the North Sea Programme and the level of detail of the EIA.

Elements of the VECI are:

- Expert analysis of the most recent density maps of birds, marine mammals and possible other relevant species (including bats) to determine for which species the area in question is relevant or of special value;
- Estimation of future critical species based on the State of Conservation, *Acceptable Level of Impact* (ALI) or other ecological threshold value;
- Additional marine mammal disturbance days based on an indicative impact assessment for the new sites;
- Indication of possible effects on the ecosystem as a result of the influence of wind turbines on hydrodynamic processes in the North Sea (temperature stratification).

Table 3.1: Aspects to be assessed in the EIA*

Category of aspects	Aspects	Qualitative or quantitative	Explanation
Energy yield and avoided emissions	Number of GW Energy yields LCoE (<i>Levelized Costs of Energy</i>) CO ₂ reduction	Quantitative	The number of GW provides information about capacity to be installed, energy yields about the energy generated, LCoE
Ecological effects	Ecosystem	Qualitative (VECI)	De-stratification Change in turbidity Change in primary production
	Benthic fauna: MSFD indicators and other species with a certain status, such as OSPAR species	Qualitative	Effects of habitat modification If possible: indirect effects resulting from possible relocation of fishing activities
	Fish: protected species and other species with a certain status (e.g. OSPAR species)	Qualitative	Underwater sound Electromagnetic fields Hard structures.

Category of aspects	Aspects	Qualitative or quantitative	Explanation
	Bats (migration)	Qualitative (VECI)	Collision risk (barotrauma)
	Birds	Qualitative (VECI)	Collision risk Habitat loss Barrier effect
	Marine mammals	Qualitative (VECI)	Underwater sound Electromagnetic fields
	Area protection	Qualitative	N2000 sites (appropriate assessment) MSFD areas
	Other MSFD descriptors with associated indicators	Qualitative	Overview of MSFD indicators and the expected effect on Good Environmental Status
	NHV goals	Qualitative	Restoration targets applicable to marine habitats
Shipping	Shipping safety	First qualitatively, then quantitatively	Assessment of shipping risk types ship-to-ship collisions and ship-object collisions/propulsions). Using an elaboration for shipping of the ISO31000 risk management standard.
	Accessibility	Qualitative	Possibly. necessity of detouring, accessibility of (call at) ports and anchorage areas
	Possibility of passage	Qualitative	Focus on smaller ships
	External safety	Qualitative	
Mining activities	Number of (potential) platforms in or near possible future wind farms	Indicative quantitative in relation to available space	Concerns oil and gas extraction and, if relevant and possible, CO2 storage and hydrogen storage.
	Available space for seismological research underground	Qualitative	Qualitative consideration of possible effects

Category of aspects	Aspects	Qualitative or quantitative	Explanation
	storage, e.g. for CCS		
Fisheries	The socio-economic importance for the (Dutch) fisheries sector and associated chain and communities; including the (relative) contribution to the total food production and to the type of fisheries, significance for sector, chain, communities	Qualitatively and, where possible, quantitatively	Economic historical data and insight into (cumulative) spatial consequences using the DISPLACE model
Offshore wind energy	Achievable capacity, energy yields, internal and external wake effects and blockage effects, avoided emissions	Quantitative	Concerns the calculation of effects on existing or planned wind farms in the Dutch EEZ, and where relevant in the EEZ of neighbouring countries.
Potential impacts of energy infrastructure	In addition to the above aspects: environmental effects of hydrogen electrolysis (heat, brain)	Qualitative	
(Cultural) heritage	Archaeological heritage (wrecks) Prehistoric landscapes OUV Wadden Sea	Qualitative	Chance of archaeological finds and prehistoric landscapes, due to possible archaeological remains and paleontological layers.

* Where relevant, cross-border effects are described in the EIA

4 Sand extraction strategy

4.1 Assignment to be investigated

Sand extraction serves several purposes. Firstly, sand extraction is necessary for coastal nourishment that contributes to coastal protection and the preservation of the coast. Secondly, sand is extracted as a raw material for construction and infrastructure. The North Sea supplies all the nourishment sand and about a third of the fill sand for construction and infrastructure in the Netherlands. Due to sea level rise, more sand will be needed in the future to ensure flood protection. In order to be able to continue to secure the available sand supply, even in the face of increasing spatial claims (including the increase in cables and pipelines for the landing of wind energy, CCS and telecommunications, for example), the following solutions are being pursued.

- a. It is necessary to reserve sufficient space for sand extraction. That is why the reservation zone for sand extraction has been expanded in the PH PNZ22-27.
- b. In order to keep the sand stock in the reservation zone accessible, the assessment framework for other uses of this zone will be adjusted, including investigating whether permanent structures can be excluded in specific areas within the reservation zone (see Chapter 5).
- c. In the current situation, the presence of Explosive Objects (OO, old ammunition remnants) considerably limits the accessibility of the sand supply. In an exploration that is not linked to the preparation of PNZ 28-33, it will be investigated whether sand can be extracted within legal health and safety frameworks and in a safe manner with less loss of space. The results of this have no implications for policy in the PNZ.
- d. Deeper extraction can increase the recoverable sand supply, but can also have environmental effects. That is why this possibility is being investigated in the EIA.

Deeper extraction is also possible within the current policy, but so far only applied incidentally. For the period 2028-2037, consideration is being given to deeper extraction. Deeper extraction is not expected to be possible or desirable in the entire reservation zone for sand extraction. Therefore, when preparing for implementation, an additional assessment per location is required to determine whether deeper extraction can be made. Research at this level of detail is taking place in the context of the (ten-year) EIA project for sand extraction. The option of extracting deeper to a maximum of 12 metres is currently being explored in the EIA sand extraction project. This project EIA is being drawn up with a view to granting permits within sand extraction sections¹⁴. PNZ 28-33, and therefore also the planMER, focuses on a higher level of abstraction and more generically on possible conditions and points of attention.

4.2 Scope

4.2.1 Reference and intention to consider

The reference situation for sand extraction is based on the current sand extraction strategy and current policy. Sand extraction takes place in the reservation zone along the entire coast between the continuous -20 m NAP line 'up to 2 NM seaward of the 12

¹⁴ The intention in question is described in the Memorandum on the Scope and Level of Detail on Sand Extraction in the North Sea 2028-2037.

NM line¹⁵. In the reference situation, a trailing suction hopper dredger is used to suck up sand from the seabed between the extraction and replenishment location, to a maximum depth of 6 metres.

The alternative to be investigated concerns the same type of sand extraction and the same quantities of sand as in the reference situation, but up to a maximum depth of up to 12 metres. It is not expected that large-scale deep extraction will become the standard in the entire reservation area for sand extraction, partly because of the presence of so-called disturbance layers, which make the deeper sand supply inaccessible. Nevertheless, the possible effects of deep extraction are mapped out for the entire reservation zone for sand extraction, in order to be able to provide points of attention and frameworks for the granting of permits. On the basis of the planEIA study, there is also direction for further research in a project EIA, in which local effects can be investigated in more detail if necessary.

The assumption in the impact assessments of both the reference situation and the alternative to be investigated is that a total of 300 million m³ of sand, 150 million m³ of replenishment sand and a maximum of 150 million m³ of fill sand for buildings and infrastructure will be extracted over the next ten years.

4.3 Detail level research

In formulating possible conditions and points for attention with regard to deeper extraction, use will be made of insights from ecological research (recolonisation) that has been carried out in recent years. A geographical distinction is made when estimating the effects in the EIA. The table below shows the aspects in respect of which the possible effects are being investigated. On the basis of the descriptors included in the Marine Strategy Part 1, it is examined which aspects may need to be further investigated. By taking the MS1 as a starting point, it is investigated as well as possible what the intention can mean for achieving the good environmental status.

Based on the possible effects, the possible consequences for site protection in relevant Natura 2000 areas are estimated in an Appropriate Assessment.

¹⁵ This is based on the 12 nautical mile baseline established on 11 April 2024, Maritime zones and maritime boundaries | Hydrography | Defensie.nl

Table 4.1: Aspects that are identified for proposed policy adjustments with regard to sand extraction (where relevant, cross-border effects are described in the EIA plan).

Category of aspects	Aspects	Qualitative or quantitative	Explanation
(Hydro) Morphology	- Sand transport - Current - Morphology of the soil after extraction - Silt and turbidity	Qualitative	Effects on water movement and the consequences for the transport of sand and silt
Ecological effects	Habitat characteristics	Qualitative	Disturbed surface of the seabed Primary production Direct additional effects on abiotic factors Underwater disturbance
	Benthic fauna	Qualitative	Expected direct disruption
	Birds	Qualitative	Disruption
	Marine mammals	Qualitative	Underwater sound Electromagnetic fields
	Area protection	Qualitative	N2000 areas MSFD areas
	Other MSFD descriptors with associated indicators	Qualitative	Overview of MSFD indicators and the expected effect on Good Environmental Status
	NHV goals	Qualitative	Restoration targets applicable to marine habitats
Emissions	CO ₂ , NO _x	Qualitative	Additional emissions, pollution
Fisheries	- Effect on spawning and foraging areas - Spatial overlap	Qualitative	Expected impact of ecosystem effects and additional spatial overlap
Shipping	- Spatial overlap - Shipping safety	Qualitative	Additional spatial overlap and expected impact on shipping safety
(Cultural) heritage	Archaeological heritage (wrecks) Prehistoric landscapes OUV Wadden Sea	Qualitative	Possible impact on acreage with cultural heritage and paleo landscapes

5 Assessment framework for reservation zone for sand extraction

5.1 Assignment to be investigated

In the reservation zone for sand extraction, sand extraction has priority, but other uses are not excluded. Regulation takes place through the granting of permits, whereby the assessment framework for other uses in the reservation zone for sand extraction is used. Due to increased spatial pressure and an expected increase in the quantities of sand required for coastal nourishment in the long term, it is necessary to update this assessment framework.

Determining the locations of new cables and pipelines is an important part of the assessment framework for use in the reservation zone. The aim is to bundle cables as much as possible, and to situate them in such a way that the sand supply is safeguarded. Of course, other conditions and aspects also play a role, such as shipping safety, ecological carrying capacity and cost-efficiency of tracing. For landing locations for offshore wind energy, preferred routes for cables and pipelines have previously been determined. These are laid down in the 2016 North Sea Policy Document. The wind farms in question have now been completed and there is no more room for new cables in parts of these preferred routes. The reservation zone for sand extraction has also been expanded, and there are no preferred routes in the expanded part. That is why existing preferred routes will be slightly adjusted in terms of location where necessary. They will also be extended seaward so that the routes cross the entire width of the reservation zone. The adjustments take into account the safeguarding of the sand stock and the prevention of effects on nature and shipping. The term 'preferred routes' has been changed because it is not so much a question of specific routes as of preferred corridors for bundling. It is also being investigated whether it is useful and feasible to impose additional conditions on specific parts of the reservation zone with scarce sand resources, these are called exclusion areas.

5.2 Scope

5.2.1 Reference and intention to consider

The reference concerns the current reservation zone for sand extraction, including the expansion to 12+2 NM, and the preferred routes included therein.

The modifications concern the extension up to 12+2NM of all preferred routes, which will also be renamed preferred corridors. These are limited shifts of a number of preferred corridors, one preferred corridor that may be scrapped (no more suitable space) and one new preferred corridor, where cables and pipelines are already present and are being planned. See the red arrows in map 5.1.

For the purpose of investigating the possibility of designating exclusion zones, areas are considered off the coast off Walcheren, the Kop van Schouwen, Katwijk-Egmond, Texel, Vlieland, Terschelling, Ameland and the Groninger Wad. It is possible that additional conditions will be imposed in (parts of) these areas, as a result of which only temporary use other than sand extraction can take place and no permanent constructions can be realized. Search areas for this are indicated on the map in Figure 5.1.

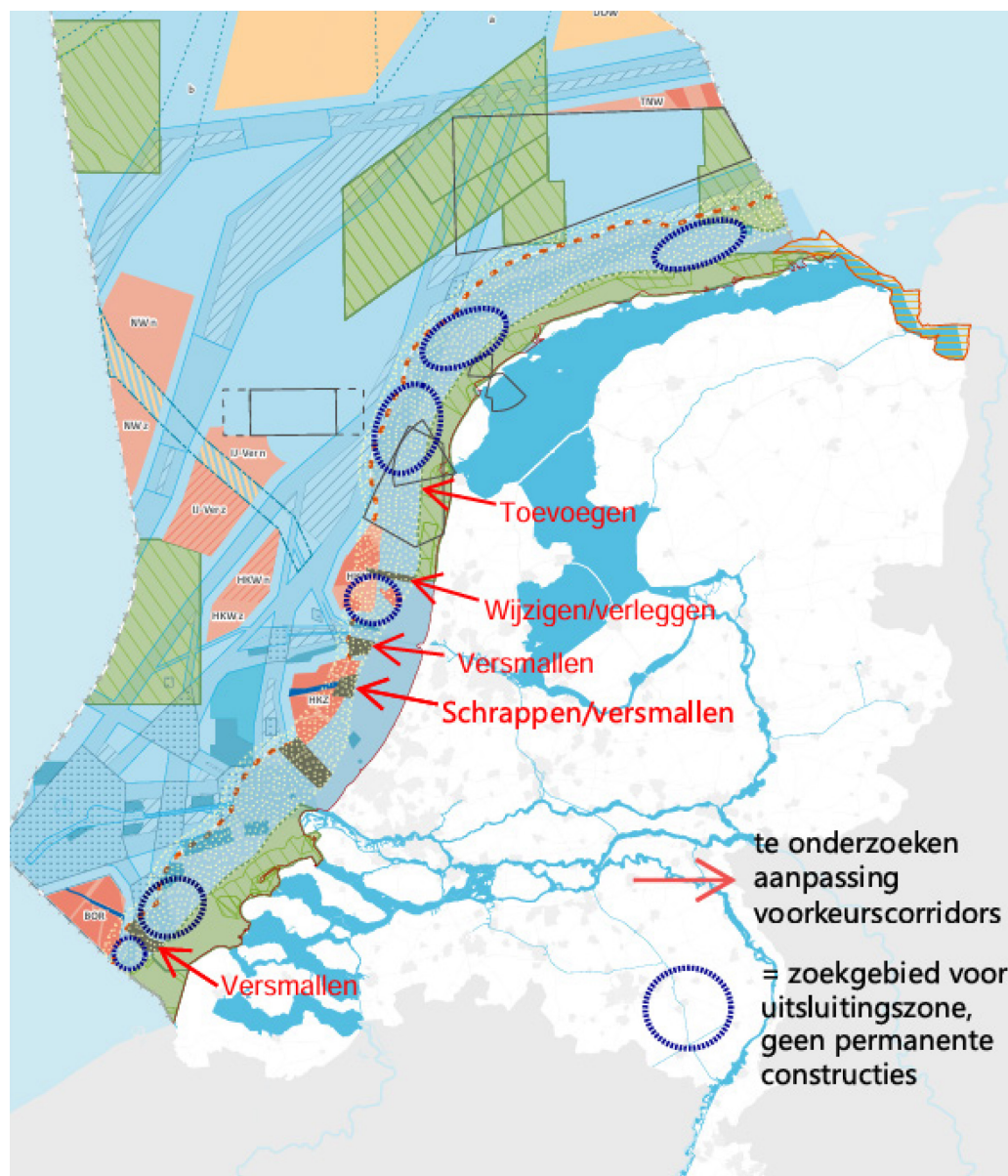


Figure 5.1. Adjustments to be investigated to preferred corridors and search areas for exclusion areas where only temporary and no permanent use is permitted.

5.3 Detail level research

The proposed changes are in line with the current practice of granting permits, where cables and pipelines are already bundled and where important areas for sand extraction are also avoided as much as possible in the granting of permits. Bundling is also already being used in terms of policy. Therefore, a brief description of possible differences in the impact of the adjustments to preferred corridors and exclusion areas is sufficient. This will concern possible ecological effects, possible restrictions on shipping (anchoring) and other uses such as mining, and consequences for the accessibility of the sand stock specifically in the areas with bottlenecks. The available space for cables and pipes, the required customization and limitations are also discussed.

6 Shared use in wind farms

6.1 Assignment to be investigated

Efficient and multiple use of space has been an important objective of the North Sea policy since the 2004 Spatial Policy Document. The government facilitates shared use in offshore wind farms, because making use of the available space within wind farms can contribute to achieving a better balance in the three transitions at sea for nature, food and energy.

The Partially Revised North Sea Programme sets out a preference for the forms of co-use in the future wind farms within the wind farm zones Doordewind ('active fishing, provided it is safe, feasible and feasible') and Area 6/7 ('nature restoration and nature-enhancing measures'). The government announced that it would review the co-use policy in good time for this purpose.

In preparation for PNZ 28-33, the central government is investigating whether the existing policy for shared use needs to be clarified and/or amended in parts. This involves enabling new categories of initiatives within wind farms. Concrete adjustments depend on the results of exploratory studies, in which at least active fishing, mining activities, and charging infrastructure (for the electrification of shipping) are considered.

In addition, a better legal anchoring will be sought for the function of rest as part of nature restoration/development. Nature restoration and development is a form of shared use, for which preferred areas can be designated for each wind farm in the Area Passport Guide. Nature can also recover and develop in the preferred area for nature by leaving the area alone. However, leaving it alone is not an 'activity requiring a permit' with legal guarantees for the permit applicant. The Partially Revised PNZ 2022-2027 stipulates that other co-users cannot obtain a permit for activities in the preferred area for nature. The government is currently investigating whether additional possibilities are (necessary) to guarantee peace and quiet even better as a function in the co-use form of nature restoration and development. If this leads to an adjustment of the policy, this will have no further environmental consequences as a procedural decision.

Passive fishing is already allowed within wind farms¹⁶. With PNZ 28-33, the government aims to mark the transition to a professional roll-out of passive fishing. The experiments carried out with passive fishing¹⁷ in wind farms have shown that the activity can be done safely in wind farms, but that bottlenecks with regard to the business case still need to be solved before passive fishing in wind farms can also become an economically viable activity.

¹⁶ Fishing activities in the North Sea are regulated through the regulations for fishing and are therefore not subject to a permit requirement under the Environment and Planning Act. For fishing activities, a fishing license is required for the vessel and the fishing gear on the basis of (European) fishing laws and regulations. In principle, fishing can be carried out in the entire Dutch part of the North Sea, except in areas where this is prohibited, such as in the safety zones of installations at sea. A safety zone has been established around a wind farm zone, within this zone access is limited and specific rules apply in connection with safety and the installations to be protected. A fishing permit does not grant access to the wind farm zone. Access to this area outside the passage passages will only be allowed to fishermen who have been allocated space by the government to carry out passive fishing activities.

¹⁷ The studies have been published on the [North Sea Desk](#).

The PNZ 2028-2033 will clarify the possibilities for mining activities within wind farms. At the time of the PNZ 2022-2027, the government already indicated that it is not the intention to exclude the extraction of hydrocarbons and CO₂ storage in existing wind farms in advance. On the basis of the Living Environment Activities Decree, it is possible to apply for an environmental permit for a mining site activity for an area designated in a site decision¹⁸. Mining activities do not fall within the scope of the assessment framework for shared use in wind farms. The decision in principle not to rule out possible future initiatives for the extraction of hydrocarbons and/or CO₂ storage in existing wind farms in advance will not change in the PNZ 2028-2033. Without a concrete view of implementation (location and nature of the activity and required installation), a further impact assessment in advance is not yet possible and will take place as soon as there is an initiative.

In PNZ 28-33, adjustments and further conditions can be included in the Assessment framework for shared use in wind farms and the Design process: distance between mining sites and wind farms. It is also possible that any necessary amendment to the Policy Rule on the Establishment of the Safety Zone for Offshore Wind Farms will be announced in the PNZ. This contains the (nautical) conditions for passage and fishing activities within offshore wind farms.

6.2 Scope

6.2.1 Reference and policy options to be considered

Currently, PNZ 22-27 allows the following forms of shared use in offshore wind farms: nature restoration and development, food production (passive fishing, aquaculture) and renewable energy generation and storage (energy from or on water and energy storage installations such as hydrogen production or submarine batteries). The current policy framework does not rule out the extraction of hydrocarbons and CO₂ storage in a wind farm in advance. This is also already possible for the installation of a charging infrastructure on the basis of the Assessment Framework for Activities in the North Sea that require a permit. These policy frameworks form the reference situation for possible adjustments. In the context of PNZ 28-33, the following adjustment options are examined in the EIA.

Enabling the allocation of space to active fishing as a new co-use within wind farms

In order to be able to make a careful assessment of the possibility of active fishing within wind farms, an exploratory study is being carried out. Promising options for the possible application of different types of fishing gear for active fishing will be investigated in the context of the exploration, including in the areas of safety, costs for modifications to the wind farm and/or fishing techniques, fishing yields, insurability and ecological effects¹⁹.

Facilitating charging infrastructure for electrification of shipping

¹⁸ Section 8.4 of the Living Environment Quality Decree provides that the permit is only granted if the activity can be carried out in accordance with the interests of the interests of electricity generation using wind in a wind farm and of the safety of the wind farm.

¹⁹ See also [Letter to Parliament on a number of fisheries topics](#) dated 26 June 2024 and [Letter to Parliament on progress on fisheries dossiers](#) dated 30 May 2025.

With the Power2Tow project, Rijkswaterstaat is investigating²⁰ the feasibility of deploying virtually emission-free emergency tugboats (ERTVs), which require charging infrastructure in ports and at sea. In preparation for PNZ 28-33, it is therefore being investigated how the policy in wind farm zones should be clarified and/or adjusted so that charging infrastructure (such as offshore charging points and connecting cables) can be realised within or near wind farms. Although there will be different needs in the charging infrastructure of emergency tugboats and other users (e.g. in terms of charging capacity and three-phase voltages), this exploration can/will look at coupling opportunities for electric vessels from other users. This combines the sustainable renewal of the government fleet with efficient use of space in the North Sea and is in line with the broader ambition of making shipping more sustainable.

Evaluation and possible adjustment of passage policy

In the run-up to the PNZ 2028-2033, an exploratory evaluation of the passage policy will be carried out with a view to the possibility of updating parts of the passage policy. If the results of the evaluation are available in good time and on the basis of them it is concluded that updating (parts of) the policy is desirable, then it must be estimated whether the intended adjustments may have an effect on the physical living environment. If that is the expectation, an analysis of these effects will be included in the EIA.

6.3 Detail level research

6.3.1 Methodology

The results of the exploratory studies will be included in the EIA, with a qualitative consideration of opportunities and risks on environmental themes that may be relevant to follow-up decisions.

Due to major uncertainties in upscaling and development opportunities, choices still to be made in terms of technology, etc., further consideration of choices in follow-up decisions is still needed for a concrete view of implementation (location and nature of the activity and required installation). This is also the reason that this impact assessment takes place at the time when a permit is applied for for specific initiatives or in the context of a site decision if there is a concrete intention to allocate space in a plot for active fishing.

6.3.2 Aspects to be assessed in the EIA

The ongoing exploration of active fishing within wind farms gives an indication of the additional environmental consequences that may occur in the wind farm with active fishing (compared to a wind farm where no active fishing takes place). The exploratory study will address the following environmental themes, among others:

- (Cumulative) ecological effects, including a possible increased risk of bird strikes
- Maritime safety

If, during the exploratory study into offshore charging infrastructure, it turns out that parts of the current policy need to be adjusted, an indication of the additional environmental consequences that may occur in the wind farm will be given as part of the exploratory study. For example, during the operation of the wind farm, an ERTV

²⁰ See the news item [Rijkswaterstaat selects three consortia for follow-up tender Power2Tow](#) and the recently launched initiative of the [CoP North Sea DBE transition process, with a focus on the charging infrastructure in the North Sea](#).

may result in possible nuisance in the vicinity of the wind farm due to the proximity of the charging facility (e.g. shipping, noise, air emissions and light).

If the results of the evaluation are available in good time and on the basis of them it is concluded that updating (parts of) the policy is desirable, then it must be estimated whether the intended adjustments may have an effect on the physical living environment. If that is the expectation, an analysis of these effects will be included in the EIA (e.g. effects on shipping, fish and birds).

7 Multifunctional use of space by expanding defence activities for the purpose of military readiness.

7.1 Assignment to be investigated

The Ministry of Defence needs more opportunities for defence activities than is currently available with the current training areas in the North Sea: areas EHD 41 and 42. This strengthens the readiness of the Royal Netherlands Navy. For this reason, the National Programme for Space for Defence (NPRD) has designated a zone that lies between areas EHD 41 and 42 (see Figures 7.1 and 7.2).

There are various forms of use in the designated zone: fishing, shipping, mining activities such as oil and gas extraction, possibilities for future CO₂ storage and helicopter traffic. In contrast to the current areas EHD 41 and 42, the starting point for the new zone is multifunctional use of space. The implementation of multifunctional use will be coordinated with these sectors and, where necessary, will be laid down in policy in the North Sea Programme 2028-2033. The EIA of the North Sea Programme examines whether the expansion with this multifunctional use will lead to new or additional environmental effects than those already found in the EIA of the NPRD. Think of any new cumulative effects, in conjunction with the other users, due to the multifunctional use.

7.2 Scope

7.2.1 *Reference and area to consider*

The geographical scope includes the contiguous zone between EHD 41 and 42 within the Dutch territorial sea and the Exclusive Economic Zone (EEZ), as shown in the maps below

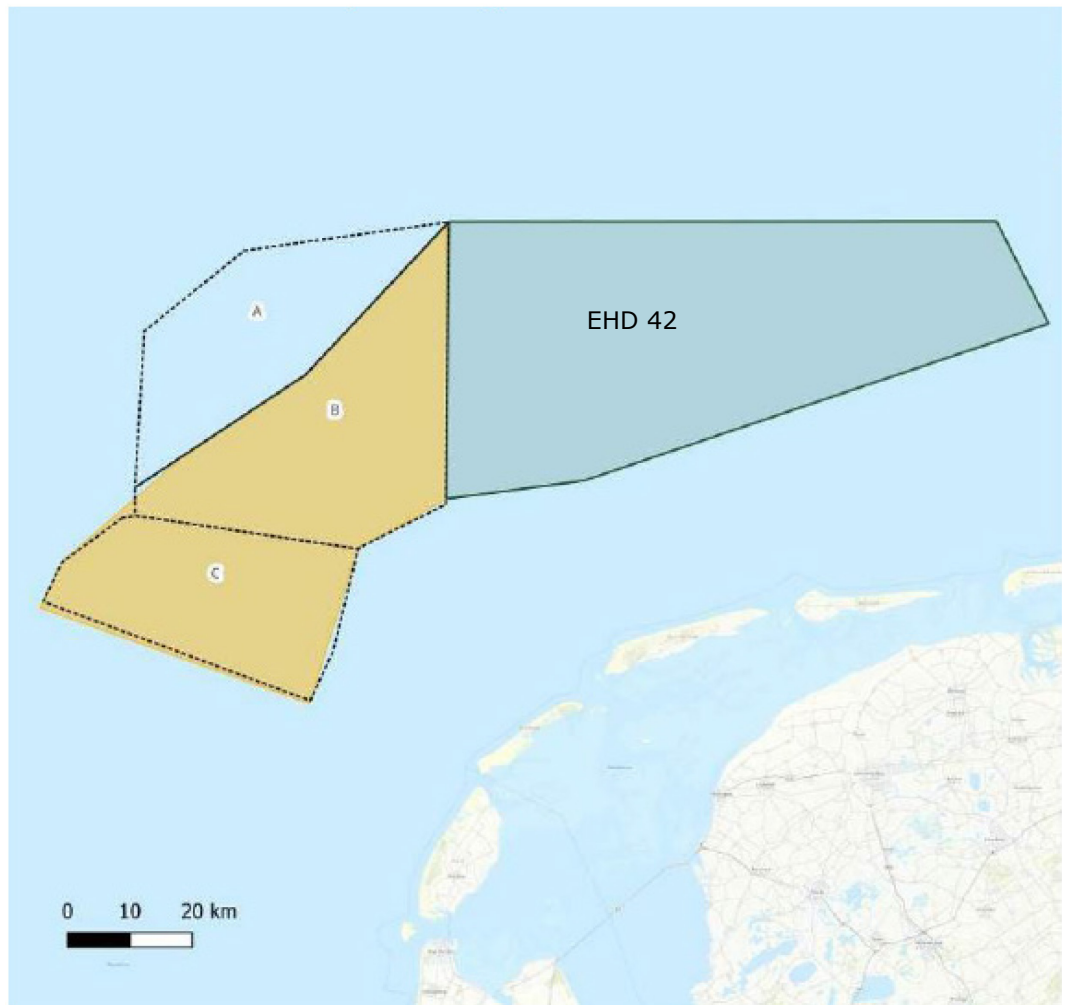


Figure 7.1: Area EHD 42 and the zone to enable more defence activities. (Green = existing training area EHD 42. Yellow = definitively designated zone for expansion of activities)

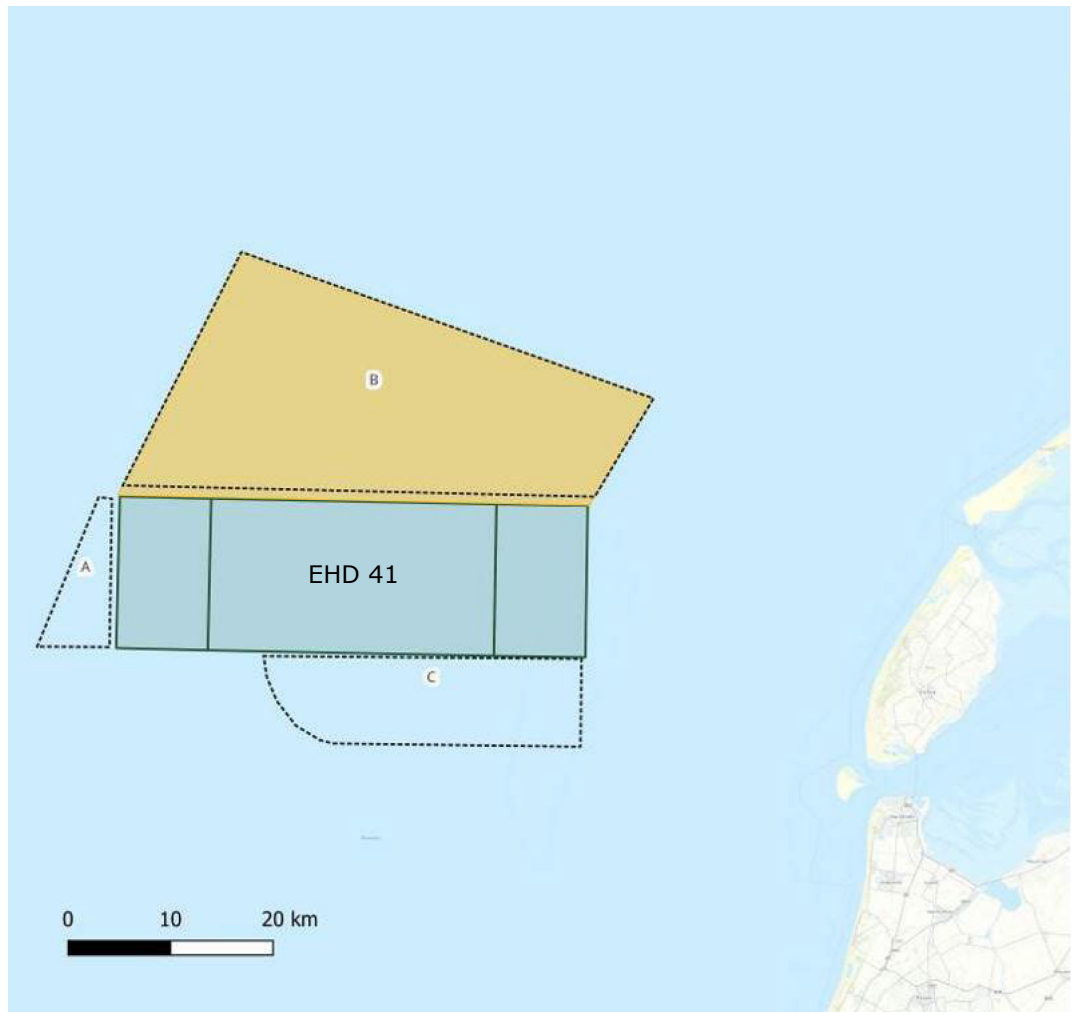


Figure 7.2: Area EHD 41 and the zone to enable more defence activities. (Green = existing training area EHD 41. Yellow = definitively designated zone for expansion of activities)

Current use situation of the zone between the existing areas EHD-41 and EHD-42.

The current actual use consists of shipping, cables and pipelines, mining activities (including helicopter traffic) and fishing, with the Ministry of Defence only being present in the area in special cases. Think of mine clearance or ad-hoc incidental exercises. With the final adoption of the NPRD on 19 December 2025, the zone between EHD 41 and 42 has been designated as an area that the Ministry of Defence can use to improve the preparedness of the Royal Netherlands Navy in combination with multifunctional use. Before the Ministry of Defence can carry out activities in the area, follow-up agreements and follow-up processes in legislation and regulations are required.

Expected use situation for the new areas

Multifunctional use of space is the starting point in the zone between EHD 41 and EHD 42. This is also in line with the generic starting point of the North Sea Programme, to focus as much as possible on multifunctional use of space. The aim is to combine existing and future use with the exercise needs of the Ministry of Defence as much as

possible in terms of space and/or time. This offers the navy more opportunities to practice realistically and contributes to the resilience at sea for the other user ("more grey at sea"). The current use forms the basis for the impact study. In addition to environmental effects, safety aspects are also considered.

The expansion of the defence activities will require coordination at the operational and logistical level in order to be able to take place safely. To this end, additional agreements will be drawn up with the users concerned. This expansion of defence activities, as included in the NPRD, will not result in the introduction of an additional permit requirement for mining activities.

Reference situation in the EIA for the newly designated expansion

In the context of the reference situation for the new areas to be considered in the EIA, the following have been identified as current uses: food (fishing and farming), mining activities (extraction and storage, distinguishing between fixed objects above and in the water and on/in the soil and air- and water-side accessibility), shipping (including recreational shipping) and cables and pipelines.

7.2.2 Time horizon

With the adoption of the NPRD, a policy decision has been taken, but the zone cannot be used directly for defence activities. The Ministry of Defence is working out a realisation plan for this. This may include, for example, an amendment to the Airspace Regulation, if necessary also the Environmental Regulation under the Environment and Planning Act and relevant permits. After that, the expansion of defence activities can actually take place. This is expected to be after the adoption of the North Sea Programme 2028-2033.

7.3 Detail level research

7.3.1 Methodology

For the purpose of establishing agreements on multifunctional use of space, military activities are considered in combination with various other uses.

In the existing training areas (EHD 41 and 42), shared use of shipping, cables and pipelines, and fishing is already possible. The focus of the research will therefore be mainly on the connection with mining activities. Mining involves fixed objects in and above water, and defence activities in such an obstacle environment are still used to a limited extent in the Netherlands. There are only a few specially adapted mining platforms in the current training areas. In the multi-purpose operation in the area between EHD 41 and EHD 42, it is assumed that mining rigs can stand without modification.

In addition, in addition to the results already found from the NPRD planMER, the various activities are considered cumulatively for the multifunctional use only, with a view to safety and any additional ecological impact. These environmental impacts are determined as a derivative of the impact on use by other users. Given the commitment

to effective multifunctional use, it is assumed that the various activities do not need to be substantially and/or structurally adjusted in the business operations and implementation. Therefore, the environmental effects without multifunctional use are not considered here. The effects of the combination of the current uses and the activities of the Ministry of Defence are central here.

Mining activities

For the combination of defence and mining activities, a combination of a government-wide internal and social coordination process and a desk study is used by an independent expert agency that carries out the EIA for the North Sea Programme. In the coordination process, relevant authorities, regulators and sector parties are involved to identify and interpret safety, accessibility and implementation aspects. The desk study focuses on identifying potential additional environmental effects and safety risks of combining fixed (new) mining objects in and above water with defence activities. This explicitly looks at cumulation with already assessed effects from the NPRD EIA and at possible preconditions for safe multifunctional use of space. This concerns external safety, height, accessibility (air and sea side, including SAR), incident and calamity risks and spatial flexibility for the Ministry of Defence.

Shipping (including recreational boating)

For the combination of defence activities and shipping, including recreational shipping, a desk study is being carried out by an independent expert agency that carries out the EIA for the North Sea Programme. This study assesses the extent to which combining military activities with existing shipping use can lead to changed security risks, (international) accessibility, smooth flow/passage and possible displacement effects (shipping concentration elsewhere) compared to the reference situation.

Cables and pipes

For the combination of defence activities and cables and pipelines, a desk study is being carried out by an independent expert agency that carries out the EIA for the North Sea Programme. The study focuses on possible interactions between military exercises and the presence, construction, maintenance and repair of cables and pipelines on and in the seabed.

Food production (fishing and farming)

For the combination of defence activities and food production, including fisheries and aquaculture, a desk study is being carried out by an independent expert agency that carries out the EIA for the North Sea Programme. The study assesses the extent to which combining military exercises with existing use can lead to changes in accessibility, external safety, and possible displacement of fishing pressure.

7.3.2 Aspects to be assessed in the EIA

The aspects to be considered for each function will be inventoried through a series of participation moments with the relevant sectors. On the basis of an initial broad meeting with the participation of various parts of the government, the preliminary assumption was made that the combination of the mining sector with activities of the Ministry of Defence explicitly requires further investigation and possible laying down of conditions, both from the Ministry of Defence and the mining sector.

In addition, the EIA examines the environmental effects of combining a different degree of intensity of mining and defence activities. Both the extremes of the playing field and intermediate scenarios are considered. The implementation of the scenarios will take place in consultation with the Ministry of Defence and the Ministry of Economic Affairs and Climate Policy

With the adoption of the Partial Revision of the North Sea Programme 2022 – 2027 and the search areas for offshore wind energy proposed for the North Sea Programme 2028 – 2033, there is now no concrete ambition or plan to combine this function with defence activities. That is why this is now not taken into account in this impact study.

For the other functions, variants are not used, but a more generic consideration.

Table 7.1: aspects to be assessed in the EIA

General	Aspects	Qualitative or quantitative	Explanation
Ecology (in cumulation)	Sound	Qualitative	Extent to which the noise under and above water cumulatively increases or decreases.
	Ecological	Qualitative	Extent to which the impact on flora and fauna cumulatively increases or decreases.
	Soil	Qualitative	Whereupon the impact on the soil cumulatively increases or decreases.
Function specific	Aspects	Qualitative or quantitative	Explanation
Mining activities	External safety	Qualitative	Risks due to concurrence of military activities and fixed objects.
	Height	Qualitative	Only relevant for airside accessibility and for the variant in which the Ministry of Defence is allowed to shoot over objects using the English model.
	Accessibility of platforms (air and sea side; including SAR accessibility)	Qualitative	Effects on air- and sea-side accessibility and emergency aid.
Shipping (including recreational boating)	External safety	Qualitative	Risk of incidents due to overlap with defence activities.
	SAR accessibility	Qualitative	Effects on search and rescue operations.

	(International) accessibility	Qualitative	Impact on the accessibility of seaports and nautical safety
	Passage and circumnavigation	Qualitative	Possible impact of shipping routes and extra sailing time in the relevant parts of the traffic separation system.
Cables and pipes	Integrity of infrastructure and maintenance	Qualitative	Risks of additional damage or disruption.
	Construction and maintenance	Qualitative	Constraints on construction and repair.
Food production (fishing and farming)	External safety	Qualitative	Safety of fishermen and floating installations.
	Accessibility	Qualitative	Impact on the accessibility of fishing grounds and possible relocation of fishing pressure to other areas

8 Programme of Measures Marine Strategy Framework Directive (MSFD)

8.1 Assignment to be investigated

Together with the adoption of PNZ 28-33, the Programme of Measures of the Marine Strategy Framework Directive (MS3) will be updated. The government will publish this new MS3 as part (appendix 1) of the PNZ. The proposed measures in the Programme of Measures contribute to the environmental objectives set out in the Marine Strategy Part 1. Achieving environmental goals are steps towards achieving good environmental status. The proposed measures therefore all aim to have a positive environmental effect.

The following draft measures are examined in the EIA because they have a spatial effect and a direct environmental effect:

- Not to allow sand extraction in areas where measures have been taken to restrict fishing on the basis of the MSFD;
- In principle, no activities or physical structures that cause significant negative changes in hydrographic conditions that affect marine ecosystems and in particular the bottom communities in those parts of Natura 2000 sites under the Habitats Directive and MSFD areas where seabed-disturbing fishing is prohibited.

The other proposed MSFD measures do not have any direct spatial consequences and are therefore not examined in the EIA for which this NRD was drawn up.

Separately from the EIA, a Cumulative Impact Assessment (CIA) will be carried out in the context of choices about the new Programme of Measures. CIAs contribute to a more complete, integrated picture of the cumulative effects of various pressure factors on the North Sea in relation to the available (ecological) space for use and may prove to be an informative tool for choices about MSFD measures to be taken. In addition, the socio-economic impact of each proposed MSFD measure has been mapped out and for some measures a social cost-benefit analysis is being carried out for the purpose of decision-making.

8.2 Scope

Do not allow sand extraction in areas where fishing measures have been taken on the basis of the MSFD

The aim of the measure is to prevent negative effects of sand extraction on hydrographic processes and habitats in ecologically sensitive areas. Sand extraction causes local deepening of the seafloor and can lead to altered flow patterns, increased turbidity, disruption of sediment transport and loss of benthic habitats. Excluding sand extraction in areas where fishing pressure is already being reduced will prevent the effectiveness of those measures from being undermined.

The rationale for this measure lies in the cumulative effects of human activities. Both fishing and sand extraction cause physical disturbance of the seabed. If sand extraction were to take place in areas where fishing measures were to take place, the recovery capacity of habitats and species would be severely limited. Monitoring and research show that sand extraction can cause measurable changes in hydrodynamics and sediment dynamics. The effects are not always temporary, because potholes and depressions in the seabed can persist for a long time and thus also affect the natural sediment flows. The measure ensures that natural morphological and hydrographic processes are maintained in protected areas. This increases the chance that benthic habitats and species populations can recover.

In principle, no activities or physical structures that cause significant negative changes in hydrographic conditions that affect marine ecosystems and in particular the soil communities impacts in those parts of Natura 2000 sites under the Habitats Directive and MSFD areas where seabed-disturbing fishing is prohibited.

The introduction, scope, design of this measure are still the subject of discussion. It is still being investigated which activities and physical structures in which areas lead to loss or permanent degradation of the bottom habitat and which habitat types are most sensitive to these activities, and what the extent and duration of the degradation is. The consequences of the possible exclusion of activities and physical structures for the relevant social goals and interests are also investigated. Based on the results, it will be determined whether the measure will be introduced and, if so, the measure will be further shaped.

This draft measure currently concerns a prohibition/policy rule to prevent human activities that significantly change flow patterns, sediment dynamics or tidal relationships to such an extent that this leads to loss or permanent degradation²¹ of bottom habitats. Exceptions can be considered when there is a clearly demonstrable social need and when mitigation measures and/or ecological compensation are possible.

The measure is applied to: (1) Natura 2000 sites in those areas where soil or habitat types are protected under the Habitats Directive and seabed-disturbing fishing is prohibited; 2) MSFD areas in the area closed to seabed fishing.

The measure is based on the objectives of Descriptor 7 (hydrographic characteristics) of the Marine Strategy Framework Directive, which aims to ensure that human activities do not cause significant negative changes in hydrographic conditions affecting marine ecosystems and in particular the soil communities. The measure is also in line with Descriptor 6 (seabed integrity) and the Natura 2000 policy, in which the conservation of habitat types and species is central. By limiting hydrographic disturbance in these areas, it contributes to the preservation and restoration of natural processes and the quality of benthic ecosystems.

8.2.1 Reference and area to consider

Do not allow sand extraction in areas where fishing measures have been taken on the basis of the MSFD

The reference is the current situation and current policy. The measure relates to the MSFD areas of Central Oyster Grounds, Frisian Front and Borkumse Stenen.

In principle, no activities or physical structures that cause significant negative changes in hydrographic conditions that affect marine ecosystems and in particular the soil communities impacts in those parts of Natura 2000 sites under the Habitats Directive and MSFD areas where seabed-disturbing fishing is prohibited.

The area to be considered for the measure is still broadly defined, namely Natura 2000 areas (under the Habitats Directive) and MSFD areas. The EIA examines various variants:

- Natura 2000 sites under the Habitats Directive or,
- Natura 2000 sites under the Habitats Directive with the exception of the coastal zone or,

²¹ In the MSFD, permanent impairment means a change for 12 years.

- Only the MSFD areas.

8.2.2 Time horizon

Impact is expected immediately after implementation of the measure, which will take place in the period 2028-2033. It is relevant for possible future sand extraction in MSFD areas and activities or structures with hydrographic impact in protected areas.

8.3 Detail level research

8.3.1 Methodology

For the EIA plan, it is investigated what the measure maintains in terms of benthic habitats. In addition to assessing the ecological effects, the effects of the measure on other uses are also estimated, which concerns the spatial consequences of the measures.

8.3.2 Aspects to be assessed in the EIA

The measure shall be assessed against the MSFD indicators set out in the Marine Strategy Part 1 and threshold values for descriptors D6 seabed integrity and D7 hydrographic properties.

D6 Integrity of the seabed and benthic habitats.			
Descriptor/Criterion	Good environmental status	Indicator	Thresholds
D6C4 Physical Loss of benthic habitats.	The loss of Wide habitat types in Dutch part of the North Sea as a consequence of human activities is limited and complies with the European threshold.	BH4 Area of habitat (OSPAR). BH4 Area of habitat loss (additional analysis, national).	2% 2%
D6C5 Quality benthic habitats.	The impact of Human activities on the quality of benthic habitat types in the Dutch part of the North Sea is limited.	BH2b relative Margalef Diversity (OSPAR). BISI index (national). BEQI-2 (WFD; national)	In development (EU threshold not yet usable). Under development (EU threshold not yet usable). ≥0.6
D7 Permanent change in hydrographic properties.			
Descriptor/Criterion	Good environmental status	Indicator	Thresholds

D7C2 Affected benthic habitats by permanent Modification of hydrographic properties.	N/A (This criterion includes the size of the of benthic habitats that have been harmed by permanent hydrographic changes. The results and the assessment criterion D7C2 serve as input for the assessment of criterion D6C5.)	Size of loss and deterioration benthic habitats by hydrographic Changes (national).	There is no threshold value, but a limit value above which is of 'damage'. The used here limit values are for the time being (national).
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In addition, the measure is examined in relation to the environmental objectives set out in the Marine Strategy part 1, in particular:

- Environmental objective 7.2: To limit the effects of permanent changes in hydrographic properties as a result of medium and deep sand extraction (extraction pits of 6 metres or more) to temporary disturbance of seabed habitats, and to limit permanent disturbance (degradation or loss) per broad habitat type (in conjunction with the threshold value for criterion D6C4).
- Environmental goal 6.5: Continue to meet the EU threshold by minimising physical loss of bottom habitat from infrastructure projects, sand extraction and fisheries.

In addition to ecological effects, the spatial consequences for other uses are also assessed qualitatively. This involves looking at at least the following functions.

Category of aspects	Aspects	Qualitative or quantitative	Explanation
Sand extraction	Availability of sand stock	Qualitative	Spatial overlap and impact on the availability of sand supply
Renewable energy (offshore wind)	Space availability	Qualitative	Spatial overlap
Mining activities	Space availability	Qualitative	Spatial overlap
Cables and pipes	Constraints on construction, maintenance and disposal	Qualitative	Spatial overlap and impact on construction, maintenance and removal

9 Procedural steps

This chapter describes in general terms the process that will be followed for the realisation of the North Sea Programme 2028-2033 and the EIA including PB that will be drawn up for this purpose. The North Sea Programme 2028-2033 must be adopted by 31 December 2027. The draft North Sea Programme 2028-2033 and the EIA plan, including the associated EIA, will be made available for inspection at the same time. The views on the draft programme will be incorporated into the final North Sea Programme 2028-2033. This means that the environmental impact assessment will take place in parallel with the preparation of the North Sea Programme 2028-2033 and interim findings from the EIA and PB will be introduced into the process for the creation of the North Sea Programme 2028-2033. The following section provides a brief description of the participation process for the creation of the North Sea Programme 2028-2033. This is in line with the steps of the planMER. It also explains how the consultation on the scope and level of detail for the environmental impact assessment for the North Sea Programme 2028-2033 will be implemented.

9.1 Process preparation

The EIA is linked to the procedure for the adoption of the North Sea Programme 2028-2033. The (process) steps to arrive at a final decision on the programme are described in outline below.

- For the preparation of the PNZ, early participation, careful research for the EIA and deadlines for inspection are taken into account.
- The NRD will be made available for inspection in March/April 2026 for a period of six weeks. Advice is also requested from the EIA Committee.
- After participation and the processing of the responses to the views and the committee's advice in the response note, this can be adopted by the Minister of Infrastructure and Water Management and then forms the scope and approach for the EIA together with the NRD.
- In the course of 2026, work will be done on impact studies and the preparation of the EIA plan, and participation moments will again take place, so that (political) guiding choices can be made by the end of 2026.
- The draft for the PNZ, together with the EIA, will be adopted by the Minister of Infrastructure and Water Management (in agreement with the Minister of Climate and Green Growth, the Minister of Spatial Planning and Housing, the Minister of Agriculture, Fisheries, Food Security and Nature (LVVN), the State Secretary for LVVN and the State Secretary for Defence) in early 2027 for the purpose of consultation and possible discussion in the House of Representatives.
- After processing views and after advice from the EIA Committee, the final text of the North Sea Programme 2028-2033 together with a Memorandum of Response can be adopted in the autumn of 2027 after discussion in the Council of Ministers – as an appendix to the National Water Programme – by the Minister of Infrastructure and Water Management in agreement with the other ministers and presented to the House of Representatives.

9.2 Initiator and competent authority

The Programme for which this environmental impact report is being drawn up is the North Sea Programme 2028-2033. For activities that may have significant environmental consequences, an EIA may be required in the Netherlands (see also section 9.3 Environmental Impact Assessment).

The competent authority for the decision is the Minister of Infrastructure and Water Management (IenW), in agreement with the Minister of Climate and Green Growth, the Minister of Spatial Planning and Housing, the Minister of Agriculture, Fisheries, Food Security and Nature (LNVN), the State Secretary of LNVN and the State Secretary of Defence. Decision-making takes place in the Council of Ministers.

9.3 Environmental Impact Assessment

Under the Environment and Planning Act, an EIA must be completed if it concerns plans that are required by law and that set the framework for projects listed in Appendix V of the Environment and Planning Decree or for which an Appropriate Assessment for nature must be drawn up. All three apply to the partial intentions included in this NRD that are part of the adoption of PNZ 28-33. Therefore, for PNZ 28-33, an EIA procedure must be followed and an Appropriate Assessment drawn up.

The EIA procedure guarantees that the environmental interest is fully taken into account at an early stage in the decision-making process. This is legally regulated in the Environment and Planning Act and the Environment and Planning Decree, which translates the European regulations on environmental impact assessments. The EIA must be drawn up before the draft PNZ can be made available for inspection and the PNZ can be adopted.

9.4 Notification NRD and views

The intention to draw up the North Sea Programme 2028-2033 and to go through an EIA procedure will be publicly announced. The public notice is published in the Government Gazette and a national newspaper. A notification is also sent to the competent authorities of neighbouring countries under the Espoo Convention. The main points of the NRD are translated insofar as relevant to the neighbouring countries concerned. Publication indicates how stakeholders will be involved and when views on the plan can be submitted.

9.5 Participation

The various transitions in the North Sea are a complex task that directly and indirectly affects many themes, topics and interests. This requires an approach with a lot of focus on dialogue. It is important to give the involvement of (social) parties a good place. Good involvement of interested parties contributes to better decision-making, enrichment of policy and better implementation of policy.

The participation plan will be made available for inspection at the same time as the NRD. This describes which parties will be involved in the realisation for what purpose and at what times.

9.6 Consultation and advice on the NRD

The Minister of Infrastructure and Water Management, in consultation with the relevant ministers, will make the NRD and the participation plan available for inspection so that anyone can submit a response. The minister also requests advice on the NRD from the Environmental Impact Assessment Committee (EIA Committee) and the legal advisors are asked for advice. The NRD will be discussed in outline in the North Sea consultation prior to the NRD being made available for inspection.

Pursuant to Articles 10.12 and 10.14 of the Environmental and Planning Decree, the Minister of Infrastructure and Water Management consults with the competent authorities of other states bordering Dutch marine waters.

After everyone has been given the opportunity to respond, the competent authority will indicate in a response document how these responses will be included in the EIA. Together with the NRD, this forms the framework for the planEIA to be drawn up.

9.7 Follow-up process preparation procedure draft PNZ and planMER/PB

Pursuant to Article 16.27 of the Environment and Planning Act, the uniform public preparation procedure (section 3.4 of the General Administrative Law Act) applies to the adoption of a programme.

After the EIA has been drawn up, the Minister of Infrastructure and Water Management, in agreement with the ministers concerned, notifies the draft PNZ and the EIA, including the Appropriate Assessment (PB), and makes them available for inspection.

Anyone can submit an opinion on the draft PNZ and the EIA and PB. The neighbouring countries (Belgium, Germany, the United Kingdom, Denmark and Norway) are consulted about the EIA and the draft. If the EIA shows that cross-border effects may occur, the EIA and draft North Sea Programme 2028-2033 will also be made available for inspection in the neighbouring countries concerned.

In the period for submitting opinions, the EIA Committee is also asked for advice on the correctness and completeness of the EIA.

Finally, the competent authority takes a decision. The decision states how the environmental consequences described in the EIA, the views, the advice of the EIA Committee and the legal advisors have been taken into account. It also indicates how interested parties and stakeholders are involved in the preparation of the plan. After that, the decision will be announced.

Appendix 1: Description of topics in independent trajectories

Inclusion of future vision for shrimp fishing

LVVN is drawing up a future vision for shrimp fisheries, in which a set of measures is laid down to ensure sustainable shrimp fishing for the next 10 years. This concerns both generic measures (e.g. on fishing effort or fishing gear) and spatial measures (zoning, restrictions on fishing within the Natura 2000 site of the North Sea Coastal Zone). Agreements on measures are made in consultation with Rijkswaterstaat and stakeholders. The vision will take existing agreements from the VIBEG II agreement into account and reconsider them where necessary. The vision for the future is aligned with the updating of the Natura 2000 management plans. An EIA is carried out in the management plan process and the measures in question therefore do not have to be examined in the EIA for the PNZ, for which this NRD is drawn up. Because spatial aspects are limited to sub-areas within Natura 2000 areas (and therefore countries in management plans), no direct implication of this process for the integral spatial assessment is necessary during the process of drawing up PNZ 28-33. The results of the independent process will only be included in the text of PNZ 28-33 on a one-to-one basis, if available in time.

Inclusion of designations or adjustments to VHR areas and their management plans

With a view to nature conservation and restoration, the possible designation of the Hollandse Kust site as a Birds Directive area as a result of an independent procedure may be a fact by the end of 2027. The designation of this area will then be included on the Maritime Spatial Planning Map. The management plans of the three current protected areas along the coast are also currently being updated (Vlakte van de Raan, North Sea Coastal Zone, and Voordelta). Finally, it will be investigated whether the Borkumse Stenen and Vlakte van Raan qualify as a VR area. Insofar as available in time, all new instructions and measures laid down in management plans will be included in PNZ 28-33. In view of the independent process that is being followed, no further research is being carried out into possible positive effects of (adaptation to) these areas in the EIA for which this NRD has been drawn up.

Research into the designation of a new Birds Directive area in the northern part of the NCP and the possible consequences of this for other uses at sea, including wind energy.

For the purpose of nature conservation, a new Birds Directive area may be needed in the Northern North Sea. This area is of special and great importance to many migratory seabirds. Designation of Natura 2000 areas is done through an independent legal procedure. If there is clarity about designation in time, any newly designated or to be designated areas will be included on the Maritime Spatial Plan Map as a result of the aforementioned independent procedure. New ecological knowledge resulting from the current research project can also be used in considerations regarding the designation of wind farm areas, provided that it is available in time. Because this independent legal procedure provides for a nature test, no decision is taken in the context of the adoption of the PNZ and no research into the effects of this development is envisaged in the context of the EIA for the PNZ 28-33 for which this NRD has been drawn up.

Food vision and implementation agenda

The elaboration of the food vision takes place at the so-called "working table" where all relevant stakeholders from the fisheries sector (supply sector and chain), local and regional administrators and nature organizations sit at the table. The implementation agenda will be adopted this spring as a joint product and consists of a list of concrete actions, clearly indicating who does what, with whom and when. The actual implementation of the actions takes place through existing and/or new bodies and projects.

Inclusion of possible lifting of restrictive fishing measures in the Dutch part of the Plaice Box

In the context of space for fisheries and the implementation of the North Sea Agreement, the government is committed to the lifting of restrictive fishing measures in the Dutch part of the Plaice Box, outside the 12-mile zone, and with the exception of the MSF area Borkumse Stenen. The plaice box and its restrictions on fishing are laid down in EU regulations, namely the Technical Measures Regulation (EU) 2019/1241 and associated delegated regulations. If the Dutch efforts lead to an adjustment of the restrictions, that result will be included in the PNZ. In view of the independent process that is being followed, including the associated advisory process on ecological impact, no decision will be taken in the context of the adoption of the PNZ and no further research will be carried out in the EIA for which this NRD has been drawn up.

Inclusion of new IMO policy for reducing harmful emissions from shipping

In recent years, agreements have been made in the IMO context on reducing harmful emissions from the shipping sector. IMO measures against air pollution and greenhouse gas emissions are legally enshrined through MARPOL Annex VI, and are implemented in the Netherlands through the Act and the Decree/Regulation on the Prevention of Pollution from Ships. The North Sea Programme refers to these frameworks and is updated where necessary in PNZ 28-33.

The IMO substantiates its decisions with large-scale studies and impact analyses (such as the Fourth IMO GHG Study and specific assessments for sulphur and GHG measures), which quantify the expected positive environmental and health effects. In view of the above, no further investigation is carried out in the EIA for which this NRD has been drawn up.

Inclusion of new areas that will achieve 15% soil protection

In the coming period, work will be carried out for the new PNZ on the protection, development and restoration of the marine ecosystem. In any case, a number of concrete developments will have a place in this, which must be included in the new programme text. Think of the elaboration of the agreement in the North Sea Agreement (NZA) to keep 15% of the bottom habitat within the NCP in ecologically valuable areas free of all forms of bottom fishing. For 2030, this percentage will increase to first 13.8%, and then 15%. In 2026, the decision will be taken on the locations of the remaining 1.2% of soil protection. This development will be included in the North Sea Programme 2028-2033 and the proposal for seabed protection will be submitted to the European Commission.

Inclusion of reference to Nature Restoration Plan under the Nature Restoration Ordinance (NHV) and implications for North Sea policy

The Nature Restoration Ordinance (NHV) sets spatial nature objectives for 2030, 2040 and 2050. By means of a Nature Restoration Plan, Member States indicate which restoration measures are being taken for different habitats. The measures included to meet the 2030 targets must be in force in that year. In addition, from September 2027, a deterioration ban will apply to the current specific habitats, for which measures must also be taken. In this context, a draft Nature Restoration Plan will be drawn up before mid-2026, including any measures to be taken. The European Commission will assess the plan, after which it will be finalized by September 2027 at the latest. If knowledge about measures is available in a timely manner, this information can be taken into account in variant development and decision-making in the context of PNZ 28-33.

Because the process for establishing the Nature Restoration Plan has its own EIA, it will not be examined in the EIA for which this NRD is being drawn up. In addition, the nature restoration plan is assessed for the intended effectiveness of identified measures, after policy embedding, through review after submission to the European Commission.

Include reference to development of Species Protection Plans

LNVN is working on the elaboration of species protection plans in accordance with the agreement in the North Sea Agreement (NSA). The plans lay down for each species (group) – for example seabirds (such as gannets, guillemots, sandwich terns), marine mammals (porpoises, seals), fish and benthos – what additional knowledge and protection measures are needed to improve the conservation status. They are not separate policy documents, but they contain building blocks for, among other things: Natura 2000 management and MSFD measures and conditions for offshore wind.

The plans are being drawn up in collaboration with NSO working groups and consultations involving NGOs, fisheries, the energy and mining sectors, and other users. The PNZ will be updated on the basis of the plans under development. For the above, they are not examined for intended environmental effects in the EIA for which this NRD has been drawn up.

Record on map of helicopter routes

The government will include the helicopter routes over the North Sea, as published in the Aviation Guide, in the North Sea Programme. Helicopter use is essential for, among other things, transporting personnel between the mainland and installations in the North Sea. The helicopter routes serve primarily to ensure flight safety and predictability for civil aviation, in connection with activities at sea (such as mining, offshore wind and shipping). In principle, the helicopter routes follow the spatial planning of the North Sea, in order to prevent them from being located over wind farms where possible. In the case of new developments, it can be assessed whether relocation of routes is desirable and feasible. Because this is not an introduction of new policy, but the provision of insight into existing policy, no research is carried out in the EIA for which this NRD has been drawn up.

Include existing agreements on the protection of cultural heritage and landscape quality

It is important to protect cultural heritage, including archaeological values. In accordance with legal provisions, this is already taken into account in the implementation of projects, but it is desirable to include these agreements in the North Sea Programme as well. Because it concerns the inclusion of agreements that describe

current practice, there are no direct spatial consequences or environmental effects and are therefore not examined in the EIA for which this NRD has been drawn up.

Expansion of defence activities in the North Sea (NPRD)

The Ministry of Defence needs more space to exercise so that the Netherlands and its allies remain safe. This is necessary because the security situation in the world is changing. The Dutch armed forces are increasingly focusing on protecting their own territory and that of NATO allies. In order to be able to carry out this task properly, the Ministry of Defence also needs more space at sea.

The National Programme Space for Defence (NPRD) describes the need for more opportunities than are currently available in the current maritime training areas in the North Sea to strengthen the readiness of the Royal Netherlands Navy. The current size of the EHD 41 and 42 exercise areas is too small for this. In addition, the current training areas also offer limited opportunities to practice in conjunction with other activities at sea, to practice as may also have to be fought in the event of a conflict. On 19 December 2026, the government adopted the NPRD, thereby designating a contiguous zone between the areas EHD 41 and EHD 42. In contrast to the current EHD 41 and 42, the starting point for this zone is multifunctional use of space. The coherence with other users (e.g. mining, shipping, fishing, etc.) and interests (nature and the environment) in the area will be coordinated with the parties involved and, if necessary, will be laid down in the North Sea Programme 2028-2033. See chapter 7.

Input on preferred alternatives for wind energy landing, to be decided in the framework of PVAWOZ and PAWOZ-Eemshaven

In the context of the Exploration of the Landing of Offshore Wind Energy and the Landing of Wind Energy at Sea-Eemshaven Programme (PVAWOZ and PAWOZ respectively), decisions are being made about preferred alternatives for the landing of offshore wind energy. The results of this will serve as input for the adjustment of the assessment framework for cables and pipelines and for the creation of the MRP map. Part of the intention is to take the locations of the preferred alternatives into account when granting permits.

Appendix 2: Abbreviations used

Abbreviation	Meaning
ALI	Acceptable Level of Impact
BG	Competent authority
DBE	Sustainable Blue Economy Programme
DG WB	Director-General Water and Soil
EEZ	Exclusive Economic Zone
EHD	Defence training area
EIPN	Energy Infrastructure Plan North Sea
GNSBI	Greater Northern Sea Basin Initiative
GW	GigaWatt
IMO	International Maritime Organisation
IN	Initiator
KEC	Ecology and Cumulation Framework
KRM	Marine Strategy Framework Directive
LCoE	Levelized Costs of Energy
I&W	Infrastructure and Water Management
KGG	Climate and green growth
LVVN	Agriculture, fisheries, food security and nature
VRO	Public Housing and Spatial Planning
EZK	Economic Affairs and Climate
MS1	Marine Strategy Part I
MS3	Marine Strategy Part III
NM	Nautical Mile
NOVI	National Environmental Vision
NPE	National Energy System Plan
NRD	Memorandum on scope and level of detail
NWP	National Water Program
NZA	North Sea Agreement
NZO	North Sea consultations
OW	Environment and Planning Act
PAWOZ - Eemshaven	Offshore Wind Connection Programme – Eemshaven
PH	Partial revision (of the North Sea programme 2022-2027)
EIA	The environmental impact report (the booklet)
EIA plan	The environmental impact assessment plan (the procedure)
PNZ	North Sea Programme
pVAWOZ	Exploration of the landing of offshore wind energy programme
VECI	Exploration of ecological cumulative impact