



Commissie voor de
milieueffectrapportage

Natural gas extraction in block N05–A (GEMS area)

Assessment advice on the environmental impact report and the supplement to it

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1 Opinion on the EIR and its supplement in brief

ONE-Dyas wants to extract natural gas from field N05-A and from surrounding potential gas fields. These fields are located in the North Sea, north of Schiermonnikoog, on the border between the Netherlands and Germany. For this purpose, it wants to install an unmanned production platform and drill a number of wells from a temporary drilling platform. To transport the gas, a natural gas pipeline will be installed to connect to an existing pipeline in the North Sea. The construction of an electricity cable from a nearby wind farm will provide the power supply. To support the decision-making process, an environmental impact report (EIR) and a supplementary EIR have been drawn up.

In a preliminary advice note, the Commission for Environmental Impact Assessment (hereafter "the Commission") pointed out that important information was missing from the EIR.¹ The EIR was subsequently supplemented², after which the Minister of Economic Affairs and Climate asked the Commission to advise on the EIR and the supplement.

What does the EIR and its supplement show?

The original preferred alternative has been adjusted on a number of points as a result of the opinions and the advice of the Commission:

- **New platform location.** The location of the production and drilling platform as proposed in the EIR will be shifted approximately 850 metres to the south, where the seabed consists mainly of sand and is less vulnerable to disturbance. The original location has a rich marine life due to the presence of large stones. The shift means that the new location will be further away from an oyster recovery project. The changed location will also mean that the electricity cable from the wind farm will avoid the area with large stones and that a slightly shorter pipeline will be needed for the removal of natural gas.
- **Disposal of water-based drilling cuttings and mud.** Instead of discharging the drilling cuttings and drilling mud, they will be transported to land by ship and processed or dumped. This will prevent possible suffocation of soil life at the new location.
- **Post treatment of production water.** Before being discharged, production water is passed through an activated carbon filter to reduce contamination of seawater.
- **No Vertical Seismic Profiling (VSP)³.** The new preferred alternative foregoes VSP survey, reducing disturbance to marine mammals from underwater noise.

What is the Commission's opinion?

The supplement to the EIR systematically and comprehensively addresses all the points of the Commission's earlier opinion. The environmental effects have now been sufficiently mapped out.⁴

Therefore, the Commission is of the opinion that the EIR and its supplement contain the essential environmental information to make a decision about the natural gas extraction in block N05-A.

¹ *Natural gas extraction in block N05-A (GEMS area), Preliminary assessment report on the environmental impact report*, July project 21 number 2021,3417.

² *Supplementary EIR gas production N05-A*, ONE-Dyas B.V., GEMS. Royal HaskoningDHV, December 242021.

³ With VSP, drilled earth layers are mapped in detail by sending sound waves into the ground.

⁴ For the sake of completeness, the Commission notes that it is not examining the German regulations.

The change to the preferred alternative leads to an activity with a lesser negative impact on the environment. The Committee finds that the possibilities offered by the instrument of environmental impact assessment to come to the best possible proposal by studying different alternatives have been well used here.

In chapter 2, the Commission explains its assessment and points out issues for the follow-up process.

Reason for EIR

ONE-Dyas wants to extract up to 7.5 billion Nm³ of natural gas from the N05-A field. From the proposed site, it also wants to drill exploration wells in the surrounding potential gas fields and possibly extract natural gas there. The production platform will be used for handling natural gas. It will be fully electrified. The electricity for this will come from the nearby Riffgat offshore wind farm. A pipeline is planned to transport the gas to the mainland. The preferred alternative, as formulated in the Supplement to the EIR, assumes a drilling location approximately 19 kilometres from Schiermonnikoog, where the soil mainly consists of sand.

To assess the environmental consequences of the permit for the production of natural gas in the NorthSea, an EIR has been drawn up. The Minister of Economic Affairs and Climate is responsible for the EIA procedure and is the competent authority for granting the environmental permit. The Minister of Agriculture, Nature and Food Quality is the competent authority for the Appropriate Assessment and for granting a Nature Conservation Act consent.

Role of the Commission

The Commission is independent, established by law and advises on the content and quality of the EIR. For each project, the Commission puts together a working group of independent experts. It does not write environmental impact reports; that is done by the initiator.

The composition and working methods of the Commission's working group and further project details can be found in Appendix 1 to this opinion. You can find the project documents used in the opinion by entering the number 3417 in the search box at www.commissiener.nl.

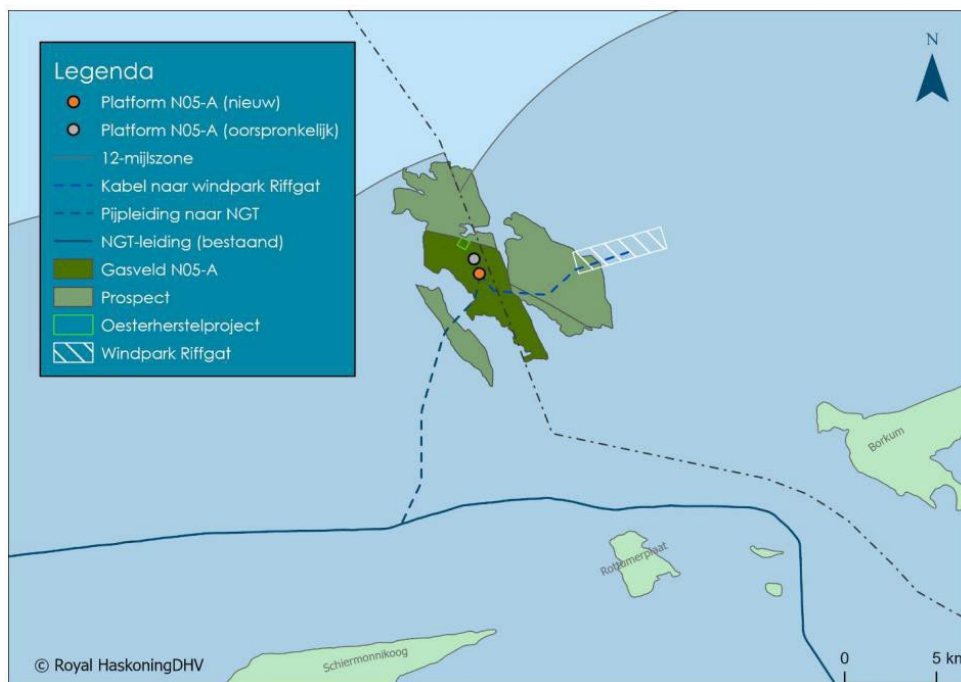


Figure 1. N05-A natural gas field, original and new location of the drilling and production platform, including the location of the gas fields and the new routes of the gas pipeline and cable from Riffgat wind farm. Source: Supplementary EIR gas production N05-A.

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The Commission intends the following recommendations to contribute to the quality of further decision-making. The comments in this chapter do not relate to missing essential information.

2.1 Site selection

For the supplement, further soil investigation⁵ was conducted into the choice of location for the platform. This resulted in a new platform location, south of the location originally chosen in the EIR. The new location is on the edge of the area with large stones of sensitive nature and 1500 metres away from the edge of the oyster recovery project.⁶ The new location choice is well researched and justified.⁷

The pipeline route has been slightly modified and three possible routes for the electricity cable from wind farm Riffgat have been described. The supplement indicates that the most southerly route is preferred (see figure for 1 location), because the most southerly route of the electricity cable avoids the sensitive area of coarse sand and large stones as much as possible.

⁵ The supplement includes a soil map that clearly shows the distribution of the large stones, section 7.1.5, figure page 7.1,58.

⁶ This was metres 650 in the original preferred alternative (the WWF opinion speaks of metres 745).

⁷ An even more southerly location proved unfeasible because the northern prospects would then be difficult to drill and might also lead to disturbance of common scoters.

2.2 Removal of drilling cuttings and mud

ONE-Dyas has decided to remove all drill cuttings and drilling mud to land and either process them there or dump them. This will prevent possible suffocation of soil life at the new location.

The Commission recommends that clear conditions for the disposal and processing be included in the permit in order to prevent the environmental impact of this. It is stated that the disposal creates a waste stream that requires 7 additional boat transports per well.

2.3 Discharge of production water

In the new preferred alternative, it has been decided to provide the production water with a purification step involving an active carbon filter prior to discharge. This reduces the concentrations of various substances⁸.

The final amount of benzene discharged does remain on the high side. The expectation is that the concentration will be lower in practice, partly because the weathering and degradation that do occur for the BTEX substances have not been taken into account⁹.

The description of the effects of the discharge focuses on the effects on sensitive areas, including the oyster restoration project. The calculations carried out¹⁰ and the way they are presented are adequate. The plume study and the ecotoxicological evaluation in the annexes provide a good insight into the distribution. ¹¹ The conclusions are thus substantiated.

The supplement mentions the possibility of re-injecting the released production water into the gas fields. ¹² The Commission recommends taking this into account when planning the production of the different fields. Simultaneous production in the various fields prevents the injection of production water. By directing production to make one of the fields available as soon as possible, the possibility of injecting production water is increased.

⁸ Among them are aliphatic compounds, mercury, and lead.

⁹ Volatile aromatic hydrocarbons such as benzene, toluene, ethylbenzene, and xylenes.

¹⁰ Delft 3D modelling with a focus on the lower water layer.

¹¹ The plume study shows only the southern tip of the oyster restoration project as a square. It would have been better to show the boundaries of this area (500 x 500 metres) as a tilted square. This could give the wrong impression that the plume is closer to the area than the maps suggest.

¹² The supplement to the EIR states on page 65 that a preliminary investigation will be started into this matter on the basis of the core material from exploration borehole N05-01. After this field is put into production, this research will be extended.

2.4 Nitrogen deposition

Both during the construction phase and the operation phase of the natural gas production, mitigating measures are applied to limit the nitrogen emission. In the pre-drilling phase (year 1), the flue gases from the diesel generators of the drilling platform are treated with Selective Catalytic Reduction (SCR). In the operational phase, the platform will be electrified, with electricity being supplied from the German wind farm Riffgat. The result of the measures is that the emissions during the construction phase and the operational phase will be ¹³strongly reduced.¹⁴ The Aeries calculation shows that in the operational phase (from year 4) this will no longer lead to a demonstrable nitrogen deposition.

During the construction phase (year 2 and part of year 3), according to the EIR, despite the measures taken, there will be a slight nitrogen emission. ¹⁵ The supplementary report gives a clear picture of which Natura 2000 areas may be affected by nitrogen deposition. Deposition in this phase varies from 0.01 mol/ha/year in most of the areas to 0.05 mol/ha/year in the dunes of Schiermonnikoog (year 2) and a maximum of 0.01 mol per hectare in year 3.

Formally, according to the Nature Protection Act, the temporary nitrogen effects from the construction phase no longer need to be included in the nature permit. ¹⁶ Nevertheless, it is important in an EIR that all significant environmental effects, including temporary effects, are mapped out. This also applies to the measures to limit these effects. For this project, this has now been sufficiently done and substantiated.

However, the Commission does not agree with the conclusion in the supplement¹⁷ that there would be no ecological effect at all. In fact, overburdened areas are often caused by cumulation, such as by a large number of projects like the N05-A natural gas field, each of which has a minimal and hardly measurable contribution but which, when added together, is certainly significant. In overburdened areas, every addition therefore has an ecological effect by definition.

2.5 Other aspects

Usefulness and necessity

The usefulness and necessity of the project are adequately described in the supplement.

The Commission appreciates the choice of electrification of the platform, which will ¹⁸minimise emissions into the air.

¹³ This applies to nitrogen, but also to CO₂, for example.

¹⁴ Due to the mitigating measures, the calculated emissions decrease from 22.9 to 5.9 tonnes in the pre-stage, from up to 90.1 tonnes in the utilisation phase 4,6 (year 3) and from 57.3 to 0.3 tonnes per year (from year 4 to end).

¹⁵ 22 tonnes in year 2.

¹⁶ On 1 July 2021, Article 2.9a of the Nature Protection Act (Wnb) came into force, along with Article 2.5 of the Nature Protection Decree. This stipulates that the nitrogen effects from the construction phase need not be included in the decision on a nature permit. This legislative amendment does not relate to the content of an EIR plan and an EIR project, nor to decision-making on plans such as zoning plans.

¹⁷ Page 46, 5.5.3, point 5 of the supplement to the EIR.

¹⁸ From greenhouse gases and nitrogen, for example.

Black Scoter

A lot of data was collected for the supplement. These have been mirrored against the depth distribution and disturbance contours. The research makes it plausible that the currently chosen platform location is still north enough to not cause any major disturbance to Black Scoters.

Sound

At the new platform location, large stones can be found under the seabed. Therefore, suction anchors cannot be used to anchor the platform in the seabed. Piling remains necessary. Compared to the description in the EIR, the Vertical Seismic Profiling is cancelled. This reduces the impact of underwater sound.

The relocation of the installations slightly shifts the sound contours compared to the original plan. Measures to limit sound emission during pile driving are still necessary, especially to meet the requirements in the German part of the North Sea¹⁹. This can be realised with the proposed measures. Noise-reducing measures will be specified in the WABO permit application.

Cumulation of environmental effects

In the study area, many other activities by different users²⁰ also take place, leading to cumulation of deposition, underwater sound, and vibration with possible damage to nature. The supplement now indicates the expected date of activities by third parties.²¹

With regard to underwater sound, the Commission suggests that the competent authority, in cooperation with other authorities, develop an activity book for the area as a whole. This can record exactly where and when which activities take place and with what impact. This would provide insight into the current space available for use and make it easier for initiators to coordinate activities.

¹⁹ This is a reduction of at least 8dB.

²⁰ Fisheries, sand and shell mining, shipping, recreation, and defense.

²¹ A clear diagram of all future activities of other third-party initiatives and ONE-Dyas, plotted against time, could have given a better overview of the various activities.

ANNEX 1: Project data review

Review by the Commission

The Commission consists of a working group of experts. This working group assesses whether the EIR contains the necessary environmental information and whether this is correct. If any information is missing or incorrect, the Commission assesses whether it is essential. This is the case if, in the Committee's opinion, additional information could lead to other considerations being made. In such cases, the Commission recommends that the missing or corrected information is made available before the decision is taken. More information on the [Commission](#) and [how it works](#) can be found on our website.

Composition of the working group

In this project, the working group consists of:

ir. Peter van der Boom MA

Jan van Dalfsen

Tjeerd Gorter (Secretary)

Sander Kabel

Dr Godfried van Moorsel

Marieke van Rhijn (chairman)

ing. Eddy Wymenga

Decisions for which this environmental impact report has been prepared

Environmental permit, mining permit and permit(s) pursuant to the Nature Conservation Act (coordinated with the environmental permit).

Why is an environmental impact report being drawn up?

In the Netherlands, an EIR may be required for activities that can have a major environmental impact. Appendices C and D to the Environmental Impact Assessment Decree indicate which [activities](#) are involved. For this procedure, it concerns activity C17.2 and D17.2 "The production of more than m³ of 500.000 gas per day" and D08.1 "The construction, alteration or extension of a pipeline for the transport of gas". Therefore, a project EIR has been prepared.

Competent authority decisions

Minister of Economic Affairs and Climate and Minister of Agriculture, Nature and Food Quality.

Initiator decisions

ONE-Dyas B.V. on behalf of EBN B.V., Hansa Hydrocarbons Limited and ONE-Dyas.

Has the Commission included views and opinions in its opinion?

The competent authority did not give the Commission the opportunity to include views and opinions in this opinion.

Where can I find the documents that the Commission has assessed?

You can find the project documents used in the advice by entering [3417](#) the project number in the search box at www.commissiemer.nl.