Study on the application in relevant member states of the Commission recommendation on minimum principles for the exploration and production of hydrocarbons (such as shale gas) using high-volume hydraulic fracturing

National Report: The Netherlands

Contract 070201/2014/690962/ETU/ENV.F.1
This report has been prepared by Milieu Ltd and Ricardo-AEA under Contract 070201/2014/690962/ETU/ENV.F.1. This report was completed by Nienke van der Burgt and Gijs Nolet (Milieu). The report is based on the situation in the Netherlands in April 2015, with an update in light of recent developments (July 2015). The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission’s behalf may be held responsible for the use which may be made of the information contained therein. These reports were not aimed at checking the conformity or compliance with existing EU legislation but were aimed only at examining how different pieces of EU legislation were applied in practice at planning, licensing and permitting level.

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1. Main findings from the report

- The three onshore exploration licences that were granted under the Mining Law in 2009 and 2010 were put on hold in 2011, awaiting the approval of a national strategy (including a Strategic Environmental Assessment (SEA)). For these permits, no Environmental Impact Assessments (EIAs) were carried out. However, in case of deep drillings (100 meters depth or more), the authorities would need to screen the activity to determine whether an EIA is required. An EIA is compulsory for production above certain thresholds (500 000 m³/day for gas; 500 t/day for oil production).
- In May 2014, the Dutch Government issued a concept note regarding the SEA’s scope, which was approved in October 2014 following public consultation. On the basis of this note, a SEA was prepared and published in July 2015, with further public participation in early 2016.
- In view of the prepared SEA, it can be concluded that the Commission Recommendation 2014/70/EU appears to be fully applied at the planning level, although this is a preliminary conclusion that would need to be confirmed once the SEA consultation process has been fully completed in 2016.
- In July 2015, the Minister of Economic Affairs informed the Parliament that the existing permits will not be extended, and that new applications will not be considered. Also, there will be no drilling for shale gas during the current government period. The government is preparing an Energy Report 2015 to present an integrated vision on sustainable energy after which a National Underground Strategy will be prepared in 2016. Considering the importance of an integrated vision, there will no longer be a separate National Strategy on Shale gas. Commercial exploitation and exploration of shale gas will not be considered for the next five years. Local governments will be actively involved in the decision making process.
- As all permits have been put on hold and will not be extended, the application of the principles of the Commission Recommendation 2014/70/EU can not be assessed at this level.

2. Background Information

2.1. Licensing and Permitting procedures in the Netherlands

For the exploration and exploitation of hydrocarbons (such as shale gas) using High-Volume Hydraulic Fracturing (HVHF), a number of different permits are necessary in the Netherlands. First, an exploration licence (‘opsporingsvergunning’) is required under the Mining Law. The exploration licence, issued by the Minister of Economic Affairs, provides the permit holder the exclusive right to explore the presence of hydrocarbons within a certain geographical area and time period (usually three years). However, for the exploratory drillings additional permits are necessary, in particular an all-in-one environmental permit for activities that impact on the physical environment (‘omgevingsvergunning’) under the Environmental Law and Law on Space Planning (Wet milieubeheer en Wet ruimtelijke ordening). To obtain this environmental permit (which encompass all environmental issues as well as other spatial aspects), the operator must execute an Environmental Impact Assessment (EIA) as required under the Administrative Order Environmental Impact

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1 https://www.flevoland.nl/wat-doen-we/ruimte-en-water/beleid/duurzaam-gebruik-van-de-f/Schaliegas-Hoofdlijnen_van_de-Mijnbouwwet.pdf
Assessment (“Besluit milieueffectrapportage”)3. Whether or not an EIA (“milieueffectrapportage”, or “m.e.r.”) is mandatory (“m.e.r.-plicht”) or subject to review (“m.e.r.-beoordeling”) depends on the thresholds defined in the Annex to the Administrative Order (See section 3.1.3). As part of the environmental permit, a building permit (‘bouwvergunning’) is required, issued by the local municipality, as well as a decision from the local authorities regarding the compliance with the spatial plan (‘bestemmingsplan’), or permission to deviate from the spatial plan. This means that local authorities are allowed to prevent drilling for shale gas in the Netherlands in their area planning, as the competent authority over the surface except in a situation of urgent reasons to implement a national spatial policy as defined in the Act on Spatial Planning (“Wet Ruimtelijke Ordening”). Under the Act (Art. 3.35), the Minister of Economic Affairs is the competent authority to issue a permit. While the Act does not define such a situation, the consent of both chambers of the National Parliament is needed.

As the competent authority for the environmental permit, the local municipality has to determine whether the project is subject to an Environmental Impact Assessment based on the Administrative Order Environmental Impact Assessment.

Under an administrative order (Besluit algemene regels milieu mijnbouw5), there is no obligation to hold an environmental permit (milieuvergunning) for erecting and having in operation a mining work with regard to exploratory drillings using mobile mining equipment, considering the temporary nature of such equipment. In such a case, however, the rules for the protection of the environment contained in the administrative order are applicable. These rules cover noise, air, soil protection and water, waste and hazardous materials, and energy use.

Before any drilling can take place, an operator also needs the approval of the State Supervision of Mines.

In case the exploration phase results in the conclusion that there is an economic case for exploitation, a so-called exploitation licence (‘winningsvergunning’) is required, issued by the Minister of Economic Affairs under the Mining Law. For exploitation activities, additional permits are necessary. For exploitation activities on land and in the territorial sea the all-in-one environmental permit (omgevingsvergunning) under the Environmental Law is necessary. This environmental permit contains a building permit, a environmental permit to erect and have in operation a mining work (milieuvergunning) and if necessary, a decision from the local authorities regarding the compliance with the spatial plan (‘bestemmingsplan’), or a permission to deviate from the spatial plan. For exploitation activities on the continental shelf, an environmental mining permit under the Mining Law is necessary (Article 40 of the Mining Law)6. Under the Mining Law, The Minister of Economic Affairs is the competent authority for mining. As such, the Minister determines whether the project is subject to an EIA and issues the permits. Although these decisions are therefore made by the same authority, there are no indications that this has led to any risk of conflict of interest, as the criteria for determining whether an EIA is required are clearly indicated in the Law.

2.2. SEAs

Following a study commissioned by the Ministry of Economic Affairs in 2011, and which was completed in 2013 (Witteveen & Bos, 2013), the Dutch Government decided in October 2013 to prepare a National Spatial Strategy on Shale Gas (‘structuurvisie shaliegas’) to determine if and where the Netherlands could exploit shale gas7. The National Strategy on Shale Gas would become an integral part of the National Underground Strategy, which is also being prepared (by the Ministry of

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3 http://wetten.overheid.nl/BWBR0006788/geldigheidsdatum_03-09-2015
4 http://wetten.overheid.nl/BWBR0023771/geldigheidsdatum_03-09-2015
Infrastructure and Environment). As part of the National Spatial Strategy on Shale Gas, the government decided to prepare a Strategic Environmental Assessment (‘planMER structuurvisie schaliegas’).

In May 2014, the Dutch Government issued a concept note regarding the SEA’s scope, which was made public as part of a public consultation process in June and July 2014, that also involved consultations with local authorities, and the EIA Committee (‘De commissie m.e.r.’). On 7 October 2014, the final scope of the SEA was published (‘notitie reikwijdte en detailniveau’). On the basis of this note, the SEA for the spatial strategy on shale gas development has been prepared with the support of a consulting and engineering firm (Arcadis). The SEA was finalised in July 2015, and was published on the website of the Ministry of Economic Affairs (in Dutch only).

2.3. Licenses and permits

In the Netherlands, three onshore licences (two licences for Cuadrilla Resources for sites in Brabant in 2009 and the North-East Polder (‘Noordoostpolder’) in 2010, respectively, and one for Hexagon Energy for a site in the Peel, North-Limburg in 2010) have been granted for the exploration of hydrocarbons in which the applicants have mentioned shale gas and or coal bed methane. For these exploration licences, no environmental permits (‘omgevingsvergunning’) and no EIAs were requested. In 2011, the Ministry of Economic Affairs agreed with the permit holders on a suspension of the licence awaiting further examination on the possible effects of shale gas exploration and production. During this so-called moratorium, no new exploration licence requests have been considered. Due to several issues (problems with the EIA, the spatial plan, the temporary spatial exemption and the building permit) related to the site in Brabant (the municipality of Boxtel), the licence holder (Cuadrilla Resources) withdrew its application. There have been no applications for offshore licences. In July 2015, the Minister of Economic Affairs informed the Parliament that the existing licences will not be extended, and that new applications will not be considered. Commercial exploitation and exploration of shale gas will not be considered for the next five years.

2.4. EIAs, screenings, risk assessments

No EIAs have been carried out in the Netherlands for the exploration licences of hydrocarbons (such as shale gas) using HVHF. The exploration licences, issued by the Minister of Economic Affairs, provides the licenceholder the exclusive right to explore the presence of hydrocarbons within a certain geographical area and time period (usually three years), and to carry out one or two exploratory drillings. However, for the exploratory drillings additional permits are necessary, in particular an

8 http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas
9 http://www.commissiener.nl
10 http://api.commissiener.nl/docs/mer/p28/p2888/a2888rd.pdf
11 http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1
13 http://www.rijksoverheid.nl/onderwerpen/schaliegas/visie-kabinet-op-winning-schaliegas
14 https://www.rijksoverheid.nl/onderwerpen/schaliegas/documenten/rapporten/2015/07/10/planner-schaliegas
15 http://www.rijksoverheid.nl/onderwerpen/schaliegas/proefboringen-naar-schaliegas
16 https://zoek.officielebekendmakingen.nl/stct-2009-16000.html
18 http://www.nrc.nl/schaliegas/
19 http://rechttenieuws.nl/34747/proeboering-schaliegas-boxtel-verboden.html
21 http://www.cuadrillaresources.nl/waarmannen/vergunningen/
22 https://www.rijksoverheid.nl/onderwerpen/schaliegas/documenten/kamerstukken/2015/07/10/kamerbrief-schaliegas
all-in-one environmental permit for activities that impact on the physical environment ('omgevingsvergunning') under the Environmental Law. This permit contains a building permit ('bouwvergunning'), issued by the local municipality, as well as a decision from the local authorities regarding the compliance with the spatial plan ('bestemmingsplan'), or permission to deviate from the spatial plan. This means that local authorities are allowed to prevent drilling for shale gas in the Netherlands in their area planning.

The local municipality has to determine whether the project is subject to an Environmental Impact Assessment. Under an administrative order (Besluit algemene regels milieu mijnbouw), dispensation is given from the obligation to hold an environmental permit (milieuvergunning) for erecting and having in operation a mining work with regard to exploratory drillings using mobile mining equipment. In such a case, only the rules for the protection of the environment in that administrative order are applicable.

Before any drilling can take place, an operator also needs the approval of the State Supervision of Mines.

In case the exploration phase results in the conclusion that there is an economic case for exploitation, a so-called exploitation licence ('winningsvergunning') is required, issued by the Minister of Economic Affairs under the Mining Law. For the exploitation activities additional permits are necessary. For exploitation activities on land and in the territorial sea an all-in-one environmental permit (omgevingsvergunning) under the Environmental Law is necessary. This environmental permit contains a building permit, a environmental license to erect and have in operation a mining work (milieuvergunning) and if necessary, a decision from the local authorities regarding the compliance with the spatial plan ('bestemmingsplan'), or a permission to deviate from the spatial plan. For exploitation activities on the continental shelf an environmental mining permit under the Mining Law is necessary (Article 40 of the Mining Law)\(^\text{25}\). The Minister of Economic Affairs issues both permits and has to determine whether the project shall be made subject to an Environmental Impact Assessment.

To date, no applications for exploratory drillings or for an exploitation licence have been submitted in the Netherlands. As noted above (section 2.3) commercial exploitation and exploration of shale gas will not be considered for the next five years.

### 2.5. Sites selected under this study

No sites have been carried out in the Netherlands for the exploration and exploitation of hydrocarbons (such as shale gas) using HVHF.

### 3. Application of Commission Recommendation 2014/70/EU

The application of the principles of the Commission Recommendation cannot be assessed in the Netherlands due to the very early stage of shale gas developments and the current suspension of exploration activities. The only section of the Commission Recommendation that can be assessed to a certain extent is Point 3 concerning the SEA and rules on possible restrictions in light of the SEA that is currently under preparation in the Netherlands.

The exploration permits granted under the Mining Law which are on hold for the moment contain only generic requirements that do not allow the assessment of the principles of the Recommendation. Note that the assessment of Point 3 is however preliminary since the SEA is on-going and has not yet been approved by the Dutch authorities. The review is based on the documents that establish the scope of the SEA.

\(^\text{25}\) [Link to website](http://www.rijksoverheid.nl/bestanden/documenten-en-publicaties/kamerstukken/2013/10/17/beantwoording-kamervragen-over-mijnbouw-vergunningverlening/beantwoording-kamervragen-over-mijnbouw-vergunningverlening.pdf)
3.1. Strategic planning and environmental impact assessment (Point 3)

3.1.1. Strategic environmental planning (Points 3.1 and 3.4)

The principles of the Recommendation, including the requirements of Directive 2001/42/EC, are fully reflected in the SEA. The consultation process of the SEA started in 2014 with the publication of the concept note (“concept notitie reikwijdte en detailniveau”), a draft of which was publicly available from 29 May to 9 July 2014 for comments. The draft note was also sent to several institutions and advisory committees, including the EIA Commission. During this consultation period, 2464 public responses as well as 336 reactions from the public sector have been provided. All those have been published. The final version was adopted on 7 October 2014, together with the opinion of the EIA Commission. It can therefore be concluded that the public concerned was provided with an early and effective opportunity to participate in the development of the scope of the SEA.

With the publication of the SEA in July 2015, the Minister of Economic Affairs informed Parliament that public participation is foreseen in early 2016 as part of the public debate on the National Underground Strategy (structuurvisie ondergrond). The anticipated National Strategy Shale Gas (structuurvisie schaliegas) will no longer be prepared separately but become an integral part of the National Underground Strategy.

It is important to note that the SEA is specific to HVHF gas extraction plans, although it also includes shale oil. Other types of underground activities are not covered by this SEA. The types of effects are assessed for all the different stages (drilling, fracking exploration, and closure). Exploitation activities are not covered and there is no reference to the post-closure phase.

The following environmental aspects are covered in the SEA:

- **Deep subsurface**
  - Sensitivity to deep subsurface migration of gases and liquids (e.g. possible presence of existing faults, fractures, abandoned wells, groundwater)
  - Interference with other functions at the surface
  - Consideration of waste remaining underground after fracturing activities
  - Potential conflicts with other sub-surface activities (e.g. extraction activities, CO2 storage and energy storage, geothermal energy, water abstraction wells)

- **Stability and vibration**
  - Risk of seismic activity
  - Risk of vibration at ground level

- **Soil**
  - Impact on the quality of soil
  - Disruption of soil structure

- **Groundwater**
  - Impact on the quality of ground water
  - Impact on the quantity of ground water

- **Surface water**
  - Impact on the quality of surface water
  - Impact on the quantity of surface water

- **Air quality**
  - Impact on air quality (increase of emissions of methane, other volatile organic compounds and other gases that are likely to have harmful effects on human health/environment)

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- **Noise**
  - Noise pollution on housing
  - Noise pollution on sensitive zones (e.g. silent zones and habitat zones)

- **Light pollution**
  - Light emissions

- **Climate change**
  - Contribution to climate change (CO2 and methane emissions)

- **Nature**
  - Pressure on public space
  - Disturbance of biodiversity fauna and flora
  - Fragmentation
  - Acidification/eutrophication from nitrogen deposits

- **Landscape and cultural history**
  - Impact on elements and patterns of the landscape and cultural past
  - Impact on the spatial and visual features of the landscape

- **Archeology**
  - Impact on known/foreseen archaeological sites

- **Traffic**
  - Flow of traffic
  - Infrastructure availability
  - Conveying movements

The SEA was prepared by the consulting engineering company Arcadis. As noted above (Section 2.2), the Dutch Government decided in October 2013 to prepare a National Spatial Strategy on Shale Gas (‘structuurvisie shaliegas’) to determine if and where the Netherlands could exploit shale gas. As part of the National Spatial Strategy on Shale Gas, the government decided to prepare the SEA (“planMER structuurvisie schaliegas”) as part of the existing EIA/SEA procedure in the Netherlands (“m.e.r.-procedure”). It was also noted that the preparation of the SEA is consistent with the Commission Recommendation28. With the publication of the SEA in July 2015, the Minister of Economic Affairs informed Parliament that the anticipated National Strategy Shale Gas (structuurvisie schaliegas) will no longer be prepared separately but become an integral part of the National Underground Strategy.

The list of environmental aspects covered by the SEA is comprehensive and covers all expected impacts and risks of unconventional gas exploration. The scope follows the requirements and Directive 2001/42/EC, including the consultation of environmental authorities, an assessment of alternatives, and the quality control measures, which will be ensured by the review of the EIA Committee.

3.1.2. Rules on possible restrictions of activities (Point 3.2)

The principles of the Recommendation are reflected in the SEA, which sets criteria to exclude a priori certain regions/areas from its scenarios on future shale gas exploration activities or pay particular attention to these areas.

The following surface areas are excluded from the scenarios for future shale gas exploration activities in the SEA:

- Protected areas such as Natura 2000 sites; (although it includes the possibility to drill horizontally in the deep underground)

28 See page 5 of the Concept Note, at: https://www.rvo.nl/sites/default/files/2015/06/A4_concept%20NRD_Schaliegas.pdf
- Drinking water catchment sites;
- Water protection areas such as sites for groundwater protection;
- Large surface water bodies;
- Urban/residential areas. (although it includes the possibility to drill horizontally underneath)

For urban/residential areas, the SEA considers the categories used by the Dutch Central Statistics Agency (“CBS”) under which an area above a certain threshold within a circle with a radius of 1 kilometre is defined as urban/residential areas.

For the depth limitations, the SEA uses a depth limitation of 1,000 meters for horizontal drilling, including for groundwater areas.

3.1.3. EIA in accordance Directive 2011/92/EC (Point 3.3 and Point 3.4)

In the Netherlands, no EIAs have been carried out yet in the context of exploration and/or production of hydrocarbons which may lead to the use of HVHF.

As noted above, for exploratory drillings an all-in-one environmental permit for activities that impact on the physical environment (‘omgevingsvergunning’) is required under the Environmental Law and Law on Space Planning (Wet milieubeheer en Wet ruimtelijke ordening). To obtain such an environmental permit (which encompasses all environmental issues as well as other spatial aspects), the operator must execute an Environmental Impact Assessment (EIA) as required under the Administrative Order Environmental Impact Assessment (“Besluit milieueffectrapportage”). Whether or not an EIA (“milieueffectrapportage”, or “m.e.r.”) is mandatory (“m.e.r.-plicht”) or subject to review (“m.e.r.-beoordeling”) depends on the thresholds defined in the Annex to the Administrative Order:

- An EIA is required in case of gas production above 500,000 m³/day and oil production above 500 t/day
- In case of deep drillings (100 meters depth or more), the Minister of Economic Affairs must review whether an EIA is required subject to the likelihood of significant environmental impacts.

4. Applicable EU legal requirements at planning, licensing and permitting levels


The exploration licences define in detail the geographical area in which the permit holder can explore the presence of hydrocarbons. The licences cover a defined concession area and are valid for a specific time period. These licences are not accompanied by any particular environmental conditions.


The scope of the SEA, which has been published in July 2015, reflects the requirements of Directive 2001/42/EC.

5. Regulatory and non-regulatory developments

In July 2015, the Minister of Economic Affairs informed the Parliament that the existing permits will not be extended, and that new applications will not be considered. Also, there will be no drilling for shale gas during the current government period. The government is preparing an Energy Report 2015

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29 http://wetten.overheid.nl/BWBR00006788/geldigheidsdatum_03-09-2015
30 https://www.rijksoverheid.nl/onderwerpen/schaliegas
to present an integrated vision on sustainable energy after which a National Underground Strategy will be prepared in 2016. Considering the importance of an integrated vision, there will no longer be a separate National Strategy on Shale gas. Commercial exploitation and exploration of shale gas will not be considered for the next five years. Local governments will be actively involved in the decision making process.

6. Judicial proceedings/case law

None identified.

7. Potential legal uncertainties

None identified.

8. Potential useful practices

A useful practice in the Netherlands is the fact that the SEA specifically addressed shale gas with a broad scope covering all phases of exploration, including closure.

Related to this, another useful practice has been the public consultation regarding the SEA, which has contributed to the political discussion on shale gas development. Ideally, the SEA would have been initiated before the three exploration licences had been granted, but the decision to put these on hold pending the development of the SEA and the associated National Strategy on Shale Gas is also a potential good practice. The recent government’s decision to integrate the National Strategy on Shale Gas into the broader National Strategy Underground does not impact those good practices, as the SEA will still be subject to further public consultation.

Annex: Tables of assessment
1. Application of Commission Recommendation 2014/70/EU

1.1. Strategic planning and environmental impact assessment

1.1.1. Strategic Environmental Assessment (Points 3.1 and 3.4)

<table>
<thead>
<tr>
<th>Text of the recommendations</th>
<th>Reference to document</th>
<th>Translated texts or summary of the SEAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1. Before granting licenses for exploration and/or production of hydrocarbons which may lead to the use of high-volume hydraulic fracturing, MS should prepare a strategic environmental assessment to prevent, manage and reduce the impacts on, and risks for, human health and the environment. This assessment should be carried out on the basis of the requirements of Directive 2001/42/EC.</td>
<td><a href="http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1">http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1</a></td>
<td>The Dutch Government decided in October 2013 to prepare a national strategy (‘structuurvisie’) on shale gas. As part of this national strategy, the government decided to prepare a Strategic Environmental Assessment (‘planMER’). In May 2014, the Dutch Government issued a concept note regarding the SEA’s scope, which was made public as part of a public consultation process in June and July 2014, that also involved consultations with local authorities, and the EIA Committee (‘De commissie m.e.r.’). On 7 October 2014, the final scope of the SEA was published (‘notitie reikwijdte en detailniveau’). On the basis of this note, the SEA has been prepared and was published in July 2015.</td>
</tr>
<tr>
<td>3.4 MS should provide the public concerned with early and effective opportunities to participate in developing the strategy referred to in point 3.1</td>
<td><a href="http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1">http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1</a></td>
<td>In May 2014, the Dutch Government issued a concept note regarding the SEA’s scope, which was made public as part of a public consultation process in June and July 2014, that also involved consultations with local authorities, and the EIA Committee (‘De commissie m.e.r.’). On 7 October 2014, the final scope of the SEA was published (‘notitie reikwijdte en detailniveau’). On the basis of this note, the SEA for shale gas development has been prepared. Public participation on the prepared SEA is foreseen in early 2016 as part of the process.</td>
</tr>
</tbody>
</table>

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32 http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas
33 http://www.commissiener.nl
34 http://api.commissiener.nl/docs/mer/p28/p2888/a2888rd.pdf
35 http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1
37 http://www.rijksoverheid.nl/onderwerpen/schaliegas/visie-kabinet-op-winning-schaliegas
38 http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas
39 http://www.commissiener.nl
40 http://api.commissiener.nl/docs/mer/p28/p2888/a2888rd.pdf
41 http://www.rvo.nl/subsidies-regelingen/structuurvisie-schaliegas-fase-1
43 http://www.rijksoverheid.nl/onderwerpen/schaliegas/visie-kabinet-op-winning-schaliegas
### Overall conclusion on the application of the EC Recommendation principles related to SEAs:

The principles 3.1 and 3.4 of the Recommendation are fully reflected in the SEA, which has recently been published (July 2015). The public concerned was provided with an early and effective opportunity to participate in the development of the scope of the SEA, as evidenced by the relatively high number of responses received. Public participation on the prepared SEA is foreseen in early 2016 as part of the preparation of the National Strategy Underground, following the development of an Energy Report in late 2015.
### 1.1.2. Rules on possible restrictions of activities (Point 3.2)

<table>
<thead>
<tr>
<th>Text of the recommendations</th>
<th>Reference to document</th>
<th>Translated texts or summary of the EIA/SEAS/Permits where relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 Member States should provide clear rules on possible restrictions of activities e.g.:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- In protected areas</td>
<td><a href="http://www.rvo.nl/subsidies-regelingen/structuurvisieschaliegas-fase-1">http://www.rvo.nl/subsidies-regelingen/structuurvisieschaliegas-fase-1</a></td>
<td>Surface installations in protected areas such as Natura 2000 sites are excluded from the SEA scenarios</td>
</tr>
<tr>
<td>- In flood prone areas</td>
<td>Same as above</td>
<td>Surface installations in large flood prone areas are excluded from the SEA scenarios</td>
</tr>
<tr>
<td>- In seismic prone areas</td>
<td>Same as above</td>
<td>Seismic zones are investigated in the SEA</td>
</tr>
<tr>
<td>- Minimum distance between authorised operations and residential areas</td>
<td>Same as above</td>
<td>Surface installations in urban/residential areas are excluded from the SEA scenarios</td>
</tr>
<tr>
<td>- Water protection areas</td>
<td>Same as above</td>
<td>Drinking water catchment sites, water protection areas such as sites for groundwater protection</td>
</tr>
</tbody>
</table>

They should also establish minimum depth limitations between the area to be fractured and groundwater

For the depth limitations, the SEA uses a generally defined depth limitation of 1,000 meters from the surface (‘maaiveld’) for horizontal drilling, including for groundwater areas, which is considered sufficiently deep for groundwater protection. However, the SEA states that in case of horizontal drilling near groundwater, it should be verified whether 1,000 meters is indeed sufficient. There is no specific distance limitation between groundwater and the fractured zone.

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**Overall conclusion on the application of the EC Recommendation principles related to rules on possible restriction of activities:**

The principles of the Recommendation related to rules on possible restriction of activities are reflected in the SEA, which includes several scenarios that are based on criteria to exclude a priori certain regions/areas from shale gas exploration or pay particular attention to these areas. It excludes the following surface areas:

- Protected areas such as Natura 2000 sites (although horizontal drilling underneath 1000 meters is not excluded)
- Drinking water catchment sites
- Water protection areas such as sites for groundwater protection
- Large surface water bodies
- Urban/residential areas (although horizontal drilling underneath 1000 meters is not excluded)

For the depth limitations, the SEA uses a depth limitation of 1,000 meters from the surface for horizontal drilling, including for groundwater areas. There is no specific distance limitation between groundwater and the fractured zone.
2. Applicable EU requirements

2.1. Directive 94/22/EC (Hydrocarbons Directive)

<table>
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<tr>
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</table>
| MS may, to the extent justified by national security, public safety, public health, security of transport, protection of the environment, protection of biological resources and of national treasures possessing artistic, historic or archaeological value, safety of installations and of workers, planned management of hydrocarbon resources (for example the rate at which hydrocarbons are depleted or the optimization of their recovery) or the need to secure tax revenues, impose conditions and requirements on the exercise of the activities set out in Article 2 (1).  
44 Article 2(1) provides that Member States retain the right to determine the areas within their territory to be made available for the exercise of the activities of prospecting, exploring for and producing hydrocarbons | Exploration permits as published in the Staatscourant | The exploration licences define in detail the geographical area in which the licence holder has the exclusive right to explore the presence of hydrocarbons. The licences are valid for a specific time period. They do not contain any particular environmental conditions. |

Conclusion on the application of the Hydrocarbons Directive

The issued exploration licences do not contain particular conditions related to public health or protection of the environment. These are typically covered in the all-in-one environmental permit that is required for any drilling.

44
### 2.2. Directive 2001/42/EC (SEA Directive)

<table>
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<tr>
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<tbody>
<tr>
<td>Obligation to carry an SEA for among others all energy, industry plans and programmes which are likely to have significant environmental effects. (Art. 3)</td>
<td>Final Note Scope SEA <a href="http://www.rv.o.nl/subsidies">http://www.rv.o.nl/subsidies</a> - regelingen/structuurvisieschaliegas-fase-1</td>
<td>A SEA has been carried out for the preparation of a national spatial strategy on shale gas.</td>
</tr>
<tr>
<td>Environmental information to be provided in environmental reports (Art. 5 read in conjunction with Annex I) - an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes;</td>
<td><a href="https://www.rijksoverheid.nl/onderwerpen/schaliegas/documenten/rapporten/2015/07/10/planmer-schaliegas">https://www.rijksoverheid.nl/onderwerpen/schaliegas/documenten/rapporten/2015/07/10/planmer-schaliegas</a></td>
<td>This requirement is covered in Part A of the SEA.</td>
</tr>
<tr>
<td>- the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- the environmental characteristics of areas likely to be significantly affected;</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Habitats and Birds Directives.⁴⁵</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- The environmental protection objectives, established at international, EU or MS level, which are relevant to the plan or</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
</tbody>
</table>

⁴⁵ Footnote added
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<tr>
<td>programme and the way those objectives and any environmental considerations have been taken into account during its preparation;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- the likely significant effects(^{46}) (on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors);</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- a description of the measures envisaged concerning monitoring in accordance with Article 10(^{47});</td>
<td>Same as above</td>
<td>Same as above</td>
</tr>
<tr>
<td>- a non-technical summary of the information provided under the above headings.</td>
<td>Same as above</td>
<td>Same as above</td>
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</table>

The draft plan or programme and the environmental report prepared in accordance with Article 5 shall be made available to the authorities designated to be consulted (Article 6(1))

| Letter Minister of Economic Affairs to Parliament | The SEA was published on the website of the Ministry of Economic Affairs. Public participation on the prepared SEA is foreseen in early 2016 as part of the preparation of the National Strategy Underground, following the development of an Energy Report in late 2015 |

\(^{46}\) These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

\(^{47}\) Article 10 provides that Member States must monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action.
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| The authorities referred to in paragraph 3 and the public shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme or its submission to the legislative procedure. (Article 6(2)) | dated 10 July 2015  
https://www.rijksoverheid.nl/onderwerpen/schaliegas/documenten/kamerstukken/2015/07/10/kamerbrief-schaliegas | Same as above  
Same as above |
| MS shall designate the authorities to be consulted which, by reason of their specific environmental responsibilities, are likely to be concerned by the environmental effects of implementing plans and programmes. (Article 6(3)) | Same as above | Same as above |
| MS must conduct transboundary consultations where the plan or programme is likely to have significant effects on the environment in another Member State (Art. 7) | N/A | N/A the SEA has not reached that stage |
| MS shall identify the public for the purposes of paragraph 2, including the public affected or likely to be affected by, or having an interest in, the decision-making subject to this Directive, including relevant non-governmental organisations, such as those promoting environmental protection and other organisations concerned (Art. 6(4)) | Same as above | N/A |

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| The designated authorities, the public and any Member State consulted under Article 7 are informed and the following items are made available to those so informed:  
- the plan or programme as adopted  
- a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report prepared pursuant to Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Article 7 have been taken into account in accordance with Article 8 and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with, and  
- the measures decided concerning monitoring (Art. 9)                                                                                                        | Same as above         | Same as above                                                      |

**Conclusion:**
The current stage of the SEA in the Netherlands is consistent with the relevant applicable requirements of the SEA Directive.