

Member State report on Implementation of Directive 2009/31/EC on the Geological Storage of Carbon Dioxide ('CCS Directive') – The Netherlands

On 9 December 2022, the Netherlands Government received a letter from the European Commission concerning Article 27 (1) of Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (OJ L 140) (hereinafter: Directive 2009/31). In its letter the Commission states that the article in question requires Member States to submit a report on the implementation of Directive 2009/31 to the Commission every three years.

The requested information is provided in this letter, Using the questionnaire which the Commission sent the Netherlands on 9 December 2022 (Ares (2022) 55534471 – 8553602-09/12/2022).

Changes, reviews and updates of national legislation

1. Are there any changes to national legislation, Permitting system or competent authorities that have tasks place within the last report on implementation of the CCS Directive in your country?

Reply:

Since the last report (July 2019), no changes have been made to the national legislation, the system of licensing or to the competent authority.

2. Are there processes in place for storage permit applicants to get involved with the competent Permitting authorities concerning relevant applications? If yes, please provide details.

Reply:

The Ministry of Economic Affairs and Climate Policy is responsible for issuing storage permits for CO₂. Prior to any application for a permit, applicants may contact the Mining Licensing Department (using the contact details below) and provide information on, inter alia, the steps and requirements for applying for a permit and the relevant articles of the Mining Act. For this purpose, industry documents are also available. The Mining Permit Unit can also advise an applicant on the content and level of detail on the basis of a draft application.

3. Please provide the name, email address and telephone of the contact point at the competent authority responsible for fulfilling the obligations established under the Directive (Article 23).

Reply:

The contact at the Ministry of Economic Affairs and Climate Policy is: PIM van Loon; p.vanloon1@minezk.nl; + 31 (0) 6 311 12 240.

The contact details for applying for a storage permit are:

Ministry of Economic Affairs and Climate Policy
73 Victoria Street
2594 AC The Hague
mijnbouwvergunning@minezk.nl

4. Are there any issues that the competent authority would like to discuss with other competent authorities in relation to the practical implementation of the Directive and in particular the national Permitting procedures in the Information Exchange Group under the avenues of Article 27 (2)?

Reply:

Topics that could be discussed with other competent authorities are:

- quantifying long-term liabilities, in particular the financial security in case of leakage, having regard to Article 16 and Article 19 of the CO₂ Storage Directive and the possibilities of ensuring this;
- exploring the possibility of better securing CO₂ transport by ship through better securing of CO₂ transport by ship in

the ETS Directive;

- the question of the transition from the extraction permit for natural gas from a gas field to a storage permit for CO₂ from the same gas field.
- Whether there is an interest in creating – coordinated by the European Commission – a multilateral arrangement for cross-border CO₂ transport with all Member States that have ratified the London Protocol amendment, in which Member States can easily participate after ratification.

Selection of storage sites and exploration permits

5. Which areas are determined from which storage sites may be selected pursuant to Article 4 (1) until April 2023?

Reply:

No new areas or sites where storage may or may not take place have been officially designated. In 2011 the Dutch Government did, however, announce that for the time being it would not be engaging in any onshore storage of CO₂, owing to the lack of public support, and would examine the scope for storage in depleted gas fields under the seabed. This position was reiterated in the Structural Plan for Underground Resources in June 2018.

However, storage permits have now been applied for and issued and therefore definitively designated as a place for storage. See the answer to question 9 above.

6. Will additional areas be determined from which storage sites may be selected in the period until the next report at the end of 2027, if so, which Geological type of areas are considered (e.g, saline aquifers, depleted or not depleted gas oil fields, mafic rocks) from a Geological point of view and what are the next steps?

Reply:

No, no new areas. However, new storage permits for empty gas fields and search requests for aquifers on the Dutch North Sea are to be expected.

7. Are there information about environmental and/or health risks related to the Geological storage of CO₂ in accordance with the applicable Community legislation to the public?

Reply:

Applications for storage permits will be accompanied by a comprehensive description of all possible effects, including health and nature effects. For construction (borehole, platform, injection facilities) an Environmental Impact Statement is established.

The published CO₂ storage application and decisions are publicly available and all information is therefore publicly available.

Exit permits (Article 5)

8. Are there areas or specific sites where no exit permits are required to provide the information necessary for the selection of storage sites, pursuant to Article 5?

CO₂ Storage in empty gas fields (natural gas fields produced) does not require new exploration activities. Exploration has taken place earlier in the extraction of natural gas. During exploration and exploitation of the gas field, the areas have been monitored and there is sufficient knowledge of the geological and site aspects of the gas field. These data are sufficient to produce the required modelling simulation and to identify the risks.

9. How many exploration permits have been given pursuant to Article 5 of this Regulation?

In 2021 and 2022, 2 storage permits for CO₂ storage were issued as part of the 'Porthos' project: P18-2 and the renewal of the authorisation for P18-4.

Seasonal permits applications (Article 10)

10. Member States shall make the permit applications available to the Commission within one month after receipt. Are there any plans of potential operators to apply for storage permits pursuant to Article 7? If yes, please provide an approximate timing.

Yes. In 2023, 2 – and possibly 3 – new storage permits for CO₂ storage in empty gas fields are expected, namely: K14-FA, L04 and L10.

Third-party fair and open access (Article 21)

11. What measures – if any – have tasks to ensure that potential users are able to obtain fair and open access to transport networks and to storage sites for the purposes of geological storage of the produced and captured CO₂ (Article 21)

Reply:

Article 32 of the Mining Act regulates third-party access to CO₂ transport and storage infrastructure on reasonable, transparent and non-discriminatory terms. The State Mine Supervision has been designated as the regulator for third parties' access to the infrastructure. There is also monitoring of market forces and alleged abuse of market power within competition rules. This is carried out by the Authority for Consumers and Markets (ACM) and the European Commission (EC).

12. Are you aware that prospective transport operators and/or storage operators have refused access to their facilities on the grounds of shortage of capacity?

Reply:

To our knowledge, no complaints have been submitted to the SodM, ACM or the EC about access to CO₂ transport and storage infrastructure.

13. What measures – if any – have tasks to ensure that the operator Refusing access on the grounds of capacity or a lack of connection makes any necessary considerations as far as it is economic to do so or when a potential customer is willing to pay for them? (Article 21)

Reply:

See answer to question 11.

Transboundary cooperation (Article 24)

14. Is there any experience or plans for transboundary CO₂ transport or CO₂ storage sites or storage complexes? Please provide details on the status of preparations, if any.

Reply:

In the Netherlands, the ARAMIS project is being developed. ARAMIS knows the modality of allowing the supply of liquid CO₂. This option allows cross-border CO₂ transport to the Netherlands.

For more information, see: https://www.rvo.nl/onderwerpen/bureau-energy-projects/Open_projects/aramisnl

Several issuers in the Netherlands have also planned or are carrying out feasibility studies to carry out capture and liquidatory infrastructure and then bring the liquid CO₂ per ship or pipeline to a storage provider in the inland (ARAMIS) or abroad and are engaged in cross-border CO₂ transport. This concerns in particular issuers from the Eemshaven Groningen and Zeeland.

The Netherlands is in favour of cross-border CO₂ transport within the EU. On 22 June the Netherlands also concluded a MoU with Belgium on this subject.

CO₂ capture readiness (Article 33)

15. How many combustion plants with a rated electrical output of 300 MW or more have received a permit in the last implementation report? What was the outcome of the assessment under Article 36 of Directive 2010/75/EU4? In case of negative assessment, have the combustion plants set up suitable space irrespectively? Please provide details for each permit granting to Annex 2.

Reply:

Since the entry into force of Directive 2000/31, no environmental permits have been issued for incineration plants with a capacity of 300 MW or more.

Further questions

16. What other national programmes are in place or planned to support research, demonstration and deployment of CCS?

Reply:

The Dutch Government supports the creation of CO₂ storage in various ways. One of the main instruments for this is the Stimulerende Duurzame Energie ++ Subsidy Scheme (for further explanation see the answer to question 18).

The Netherlands has 2023 different innovation programmes focusing on technology development, including CCS. The following grant programmes are relevant in this context;

- TSE Industry Studies: “First com, first serve” grant for feasibility studies.
- TSE Industry R & D- Tender targeting IO/EO of decarbonisation solutions for industry.
- DEI +/HER +: “First com, first serve” grant aimed at demonstration pilots or demonstration projects.
- BEAUTIFUL: a biennial grant targeting IO/EO decarbonisation solutions for industry. Specifically targeted at larger consortia and broader projects.

A CCS research programme, the CATO programme, was set up in 2004. The first CATO programme resulted in a number of innovations which have made the Netherlands a leader in CCS research. Although the research programmes have now been discontinued, the CATO programme office has been maintained on account of its strategic position and leading role. The Programme Office contributes to cooperation and knowledge sharing between the different studies, both nationally and internationally.

17. Are there any ongoing national or European research projects that may have been released to the Directive?

Reply:

National research projects focus on developing technology applicable to CCS. This is therefore of limited relevance to the Directive itself.

However, we have a number of international projects, funded by ERANET ACT on storage and monitoring technologies, which may have made or will make recommendations on the storage and monitoring aspects of the Directive. These projects include: DIGIMON, SENSE, ACTOM, DETECT, PRE-ACT. More information on these projects can be found on the ACT CCS website: <http://www.act-ccs.eu/>

18. Are there other plans to support further exploitation of CO₂ storage sites, to prepare for CO₂ transport infrastructure or for CO₂ hubs and clusters?

Reply:

To stimulate renewable energy and other sustainability options including CCS, we have the Sustainable Energy +++ (SDE ++) scheme. This annual competitive tender allocates funding to the most competitive projects. All technologies (RES, as well as industrial decarbonisation) compete. For each tonne of CO₂ stored, a subsidy in addition to the ETS price (for ETS entities) is given: the unprofitable top subsidy. Transport and storage costs are included in this premium. The State participation EBN contributes on a project-by-project basis by participating in the feasibility studies of several CO₂ storage projects (pre-FEED). To this end, the Supplementary Climate Package (2023) reserved an additional budget to reduce the lead time of the development of CO₂ storage capacity.

In addition to the developments around the Port of Rotterdam, which brings together the infrastructure for Porthos, ARAMIS, CO₂ Transports and the Delta Rhine Corridor, there is an early market interest in developing CO₂ infrastructure in Northern Netherlands in the industrial cluster in the Eemshaven region.

Projects in the field of CO₂ transport infrastructure: ○ Porthos ○ ARAMIS ○ CO₂ Transports ○ Delta Rhine Corridor ○ EU2NSEA ○ Noordkaap