# Member State report on Implementation of Directive 2009/31/EC on the geological storage of carbon dioxide ("CCS Directive")

# OUTLINE[1]

## Changes, reviews and updates of national implementation legislation

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

   *In 2020, the provisions of Art. 66 and Art. 71 of the Law on the Storage of Carbon Dioxide in the Subsurface have been amended and supplemented. These amendments and supplements are related to European Commission Inquiry EUPilot No. 7328/15/CLIM - alleged non-compliance of national measures for the transposition of Directive 2009/31/EC on the storage of carbon dioxide in geological formations. The amendments and supplements contribute to the full transposition of Directive 2009/31/EC into Bulgarian legislation.*

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[1] Please describe any changes and developments in relation to implementation of the national measures transposing Directive 2009/31/EC on the geological storage of carbon dioxide in the period after your last submission of a Member States implementation report, i.e. in April 2019.

You can consult the previous reports on the implementation of the CCS Directive here: https://climate.ec.europa.eu/eu-action/carbon-capture-use-and-storage/implementation-ccsdirective_en#reports-on-the-implementation-of-the-ccs-directive.

Please send your report to the functional mailbox: CLIMA-CCS-DIRECTIVE@ec.europa.eu.

Should you have any questions do not hesitate to contact Daniel Kitscha, Policy Officer, Unit C2 "Low Carbon Solutions (II): Research & Low Carbon Technology Deployment", Directorate C "Innovation for a Low Carbon, Resilient Economy", Directorate-General "Climate Action": 0032-2-29-56637, daniel.kitscha@ec.europa.eu.

2. Are there processes in place for storage permit applicants to engage pro-actively with the competent permitting authorities regarding relevant applications? If yes, please provide details.

   *No such processes in place.*

3. Please provide the name, email address and telephone of the contact point at the competent authority responsible for fulfilling the duties established under the Directive.

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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 auspices of Article 27(2)?

   *No.*

## Selection of areas for storage sites (Article 4)

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

   *There are no areas from which storage sites may be selected in accordance with Article 4 (1) until April 2023.*

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?

   *No additional areas will be determined from which storage sites may be selected in the period until the next report at the end of 2027.*

Member States are not obliged to justify any such decision, but an indication which territories are concerned, including their location[1], and why this has been done, would be appreciated.

7. Are there information about environmental and/or health risks relating to the geological storage of $CO_2$ in accordance with the applicable Community legislation available to the public[2]?

   *No such information.*

[1] Please provide the geospatial information of the relevant territories in line with the INSPIRE Data Specification for the spatial data theme Geology (https://inspire.ec.europa.eu/id/document/tg/ge). The information will be used for internal purposes by the Commission services and would only be published with explicit consent.

[2] Please provide the relevant URL(s).

## Exploration permits (Article 5)

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

   *There are no such areas or specific sites where no exploration permits are required.*

9. How many exploration permits have been given pursuant to Article 5 since your last reporting?

   *No new exploration permits have been granted under Article 5 since the last reporting*.

## Storage 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.

    *We are not aware of any plans by potential operators to apply for Article 7 storage permits.*

## Third-party fair and open access (Article 21)

11. What measures – if any – have been taken 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 $CO_2$ (Article 21)

    *No such measures have been taken, because no transport networks and no storage sites are available.*

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

    *Not applicable.*

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

    *Not applicable.*

## Transboundary cooperation (Article 24)

14. Is there any experience or plans for transboundary $CO_2$ transport or $CO_2$ storage sites or storage complexes? Please provide details on the status of preparations, if any.

    *There is no any experience or plans for transboundary $CO_2$ transport or $CO_2$ storage sites or storage complexes*.

## CO2 capture readiness (Article 33)

15. How many combustion plants with a rated electrical output of 300 MW or more have received a permit since the last implementation report? What was the outcome of the assessment under Article 36 of Directive 2010/75/EU [3] ? In case of negative assessment, have the combustion plants set aside suitable space irrespectively? Please provide detail for each permit according to Annex 2.[4]

    *No permits have been issued for combustion plants with a rated electrical output of 300 MW or more since the last implementation report and since the entry into force of the CCS Directive.*

## Further questions

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

    *There are no national programs and none are planned to support research, demonstration and implementation of CCS.*

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

    *There is a project approved by the European Commission under the Innovation Fund - ANRAV, which is the first project for capturing, transporting and storing CO2 not only on the territory of Bulgaria, but also for the whole of Eastern Europe. Devnya Cement AD in partnership with Petroceltic Bulgaria received grant funding in the amount of 189,694,949 euros from the European Innovation Fund. The ANRAV project started on 01.01.2023 and envisages the construction of a carbon capture plant at Devnya Cement AD, transportation and storage of approximately 800 thousand tons of CO2 per year in the existing Galata gas field in the Black Sea. The project includes a capture facility, a pipeline system for the transfer of liquefied gas and the conversion of an existing platform for its storage. The expectations are that during the implementation of the project, the entire cycle of CO2 capture, transport and storage will be covered, which is expected to be a technology implemented for the first time in Eastern Europe. It is expected that by 2030, 10 million tons of CO2 will be cumulatively saved.*

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[3] On industrial emissions (integrated pollution prevention and control), Art. 36, *Geological storage of carbon dioxide. Member States shall ensure that operators of all combustion plants with a rated electrical output of 300 megawatts or more for which the original construction licence or, in the absence of such a procedure, the original operating licence is granted after the entry into force of Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide (OJ L 140, 5.6.2009, p. 114.), have assessed whether the following conditions are met:*
*(a) suitable storage sites are available, (b) transport facilities are technically and economically feasible, (c) it is technically and economically feasible to retrofit for carbon dioxide capture. 2. If the conditions laid down in paragraph 1 are met, the competent authority shall ensure that suitable space on the installation site for the equipment necessary to capture and compress carbon dioxide is set aside. The competent authority shall determine whether the conditions are met on the basis of the assessment referred to in paragraph 1 and other available information, particularly concerning the protection of the environment and human health."*

[4] A table is provided in Annex 2, which can be used to present the answer to the questions.

18. Are there other plans to support further appraisal of $CO_2$ storage sites, to prepare for $CO_2$ transport infrastructure or for $CO_2$ hubs and clusters?

*There are no other plans.*

## Annex 1: CCS related requests as part of the Commission Notice on the Guidance to Member States for the update of the 2021-2030 national energy and climate plans - C(2022) 8263 final

*2.5 Integrating long-term geological storage of* $CO_2$

**Member States are encouraged to include in their updated NECPs the efforts planned to enable their industries to capture and store their inherent process emissions permanently in geological storage sites, in accordance with Directive 2009/31/EC.** Reaching the climate-neutrality objective requires that EU-wide remaining greenhouse gas emissions and removals from hard-to-abate sectors are balanced within the EU at the latest by 2050 and that the EU achieves negative emissions thereafter.

Several activities, including energy intensive industries, such as cement, iron and steel, aluminium, pulp and paper and refineries, as well as agriculture, have inherent process emissions resulting from the production processes themselves. Carbon capture and storage, or carbon capture and use can provide a key contribution to tackling these sectors' emissions.

Furthermore, it can help remove $CO_2$ from the atmosphere through carbon removals such as bioenergy coupled with carbon capture and storage (BECCS) and through Direct Atmospheric Carbon Capture (DACCS). BECCS deployment should be approached in the updated NECPs in full consideration of the limits and availability of sustainable biomass**.**

**Box 6: Setting objectives, targets and contributions for carbon capture and storage.**

**Member States are encouraged to provide the following information:**

- the annual aggregated projection of inherent process emissions that will have to be abated through $CO_2$ capture;
- the annual biogenic and direct air $CO_2$ that will be available for geological storage of $CO_2$;
- the geological $CO_2$ storage capacity that can be made operationally available annually;
- annual $CO_2$ storage capacity that may become available at the end of exploitation of hydrocarbon reservoirs;
- planned $CO_2$ transport infrastructure;
- public funding support available for investment in $CO_2$ capture, transport and storage;
- any other measures to support the deployment of long-term geological $CO_2$ storage opportunities.

## Annex 2: Operating licences granted to large combustion installations in accordance with Article 33

| Plant operator, name location | Status (planning/construction /operation) | Electrical output | Type of fuel | Date of operating licence, Reference to the licence and assessment | Availability of suitable storage sites | Technical and economic feasibility of transport facilities | Technical and economic feasibility to retrofit for $CO_2$ capture | Space set aside | Other measures taken or recommended to prepare for future retrofitting | Comments |
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