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?
   The French environmental code is referring to the French mining code which has been recently revised and some parts are still under revision. The main changes concern :
   * For the mining title (which provides the exclusivity for searching or exploiting a CO_2 storage):
   - The need to provide an environmental, economic and social analysis.
   - The possibility to refuse a project if there are serious doubts on the environmental impacts of the project.
   - From now on, the exploration permit would be issued only once but for a maximum period of 15 years (previously, 5 years max but renewable twice). An additional period of 2 years,

[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-ccs-directive_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.

called “development phase” is also possible before requesting a storage permit in order to focus on public acceptance.

* For the works : a simplification now allows a single instruction called “autorisation environnementale”. And this environmental authorisation can be assessed with the storage permit instruction if requested at the same time.

* There has been no change regarding the competent authorities.

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

   No, there is no dedicated process in place, but French authorities welcome any applicant, whether before the application or during the application process, to discuss with them.

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.

   The competent authority is the “BRESS” :
   Bureau des ressources énergétiques du sous-sol
   Direction Générale de l'Énergie et du Climat
   Ministère de la transition énergétique
   Tour Séquoia, 1 place Carpeaux
   FR-92055 La Défense Cedex
   France
   Email address : france.dgec.ccus@developpement-durable.gouv.fr

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)?

   Not specifically, as no permit for CO_2 storage has been requested yet in France. But France would like:

   - technologies involving CO_2 dissolved into geothermal waters to be considered;
   - to check if injection of CO_2 in an active gas/petroleum field WITHOUT enhancement of production (just to account the fraction of gas that would come out but that will be fully reinjected) can be acceptable – on the double condition that 100% of the CO_2 emitted is reinjected and that there is no influence on hydrocarbons production.

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?

   All France.

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?

   N/A.

Member States are not obliged to justify any such decision, but an indication which territories are concerned, including their location[2], 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 CO2 in accordance with the applicable Community legislation available to the public[3]?
   * The French "code de l'environnement" (environmental code) deals with environmental and health risks. It is in open-access at :
   https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006074220?etatTexte=VIGUEUR
   * There is alos a report from the French geogical survey:
   http://icar.dgpr.e2.rie.gouv.fr/icar/IMG/pdf/BRGM_RP-60369-FR-4-_rapport_final_avril_2012_cle8f811d.pdf.

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?
   No
9. How many exploration permits have been given pursuant to Article 5 since your last reporting?
   0.

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.
    There may be one permit request early 2024.

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 CO2 (Article 21)
    The fair and open-access is described in Article L.229-49 of the French "code de l'environnement" (environmental code: https://www.legifrance.gouv.fr/codes/section_lc/LEGITEXT000006074220/LEGISCTA000022939333?etatTexte=VIGUEUR&anchor=LEGIARTI000022964189#LEGIARTI000022964189) that also stipulates that operators have to make publicly available their general conditions and technical prescriptions for the transport or storage access.

[2] 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 pubklish with explicit consent.

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

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?
    N/A.
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)
    Article L.229-50 of the French "code de l'environnement" (environmental code) gives a list of eligible reasons to refuse the access, and article L.229-51 indicates which measures are to be taken if an operator refuses the access for other reasons.

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.
    No experience on transboundary transport. Some projects include export of CO_2 to the North Sea (NAUTILUS, GOCO2, EU2NSEA…) or to the Adriatic Sea (CALLISTO), but there is no CO_2 export planned before 2027 minimum.
    There is one project of onshore storage in Lacq (the Pycasso project) that could receive Spanish CO_2.

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[4]? In case of negative assessment, have the combustion plants set aside suitable space irrespectively? Please provide detail for each permit according to Annex 2. [5]
    Since the last implementation report, no combustion plant with a rated electrical output of 300 MW or more has received a permit

Further questions

[4] On industrial emissions (integrated pollution prevention and control), Art. 36, *Geological storage of carbon dioxide. Member States shall ensure that operators of all combustionplants with a rated electrical output of 300 megawatts or morefor which the original construction licence or, in the absence ofsuch a procedure, the original operating licence is granted afterthe entry into force of Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geologicalstorage 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, thecompetent authority shall ensure that suitable space on the installation site for the equipment necessary to capture and compresscarbon 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 andhuman health."

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

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

    The ANR (national research agency) program aims at addressing low TRL research and innovation projects.

    For higher TRL, the French Energy Agency ("ADEME") manages the "investment for the future" program, funded at nearly 6 billions euros by the SGPI ("secrétariat général pour l'investissement", https://www.gouvernement.fr/secretariat-general-pour-l-investissement-sgpi). The Ademe regularly launches calls for projects, both for innovative projects or demonstration projects related to the decarbonisation of industry, including CCS technologies. The deployment of CO_2 capture on industrial plants might be supported in the coming months. The government is planning to finance a few projects to better characterise the French storage capacities, but this is still under discussion.

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

    There is one project of onshore storage in Lacq (the Pycasso project) and one R&D project (feasibility study) near Paris called Pilot Strategy that is funded by the Horizon 2020 programme. There are also a few projects concerning capture and transport : CalCC (Innovation Fund), K6 (Innovation Fund), 3D DMX (Horison 2020)…

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?

    A funding for a study on global storage capacity based on previous R&D projects is under discussion.

    France has launched a call for project called "ZIBaC" aiming to support the decarbonisation of industrial areas through subsidies of studies. The goal is to help stakeholders to elaborate a decarbonisation strategy at the scale of an industrieal area. The development of CO_2 hubs and infrastructures can be a part of these strategies.

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