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

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?

   No, there have been no changes since last report.

   As it was previously reported, since June 2018, the Ministry for Ecological Transition and Demographic Challenge holds all the competencies related to implementation of the CCS Directive (previously shared between the Ministry of Agriculture, Food and Environment and the Ministry of Energy, Tourism and Digital Agenda). Nevertheless, in the Ministry for Ecological Transition and Demographic Challenge there are two different Secretaries of States (the Secretary of State for Energy and the Secretary of State for Environment) that assume the related competencies as established in the Law 40/2010, of 29th December, of geological storage of carbon dioxide.

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, there are no processes in place in this regard.

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.

   D. Ignacio Sánchez García.
   Deputy Director General on Carbon Markets.
   Spanish Climate Change Office.
   IASanchez@miteco.es
   Tel: 00 34 91 597 68 22

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, there are not issues for the moment that Spain would like to discuss with other competent authorities in relation to the practical implementation of the Directive.

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?

   According to the Spanish Law 40/2010, of 29th December, which transposes Directive 2009/31/EC, there is no limitation to select areas if the geological formation chosen as a storage site -under the proposed conditions of use- has no significant risk of leakage and no significant risk to the environment or human health.

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, there will not be determined additional areas from which storage sites may be selected. As answered in question 5, any geological type of area may be eligible for storage under the Spanish Law, with the referred safeguards.

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?

   There is no information about environmental and/or health risks relating to the geological storage published by the Ministry for Ecological Transition and Demographic Challenges.

   Nevertheless, there is public information available coming from public research institutions such as IGME CSIC - *Instituto Geológico y Minero de España – Centro Superior de Investigaciones Científcas* (Spanish Geological and Mining Institute - Spanish National Research Center) or CIEMAT - *Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas* (Energy, Environmental and Technological Research Centre), or coming from public initiatives such as the Spanish CO2 Technology Platform[1] (PTECO2).

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?

   According to Article 8 the Spanish Law 40/2010, of 29th December, exploration permits shall be mandatory in those cases where exploration works are needed to determine the storage capacity or suitability of a given storage site.

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

   Since our last report, no new exploration permits have been given.

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.

    No new applications for storage permits are expected.

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)

    No specific measures have been taken, beyond providing information whenever it is required. No transport networks or storages sites are in operation for the moment.

[1] https://www.pteco2.es/es

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.

    Access has not been denied to facilities on the grounds of lack of capacity, as there are no storage sites in operation for the moment.

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 CO2 transport or CO2 storage sites or storage complexes? Please provide details on the status of preparations, if any.

    No, there are no plans or experience for transboundary CO2 transport or CO2 storage sites.

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/EU4? 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

    In Spain, no permit has been issued for combustion plants covered by Article 33 of Directive 2009/31/EC since last report.

Further questions

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

    The Spanish Ministry of Science, Innovation and Universities promotes different Technological Platforms, which are public-private structures led by the industry, in which all the Spanish Science-Technology-Innovation system agents interested in a particular technological field work jointly to identify and prioritize the technological, research and innovation needs in the medium and long term. Their main objective is to achieve the scientific and technological advances that ensure competitiveness, sustainability, and growth, aligning the strategies of the different agents, concentrating the research, development, and innovation efforts. One of those Platforms is devoted to CCUS issues (PTECO2).

    Also, there is a Research and Development decarbonization program, developed by the Centre for the Development of Technology and Innovation (*Centro para el Desarrollo Tecnológico Industrial*, CDTI). This program dedicates a small budget for CCS.

    Besides, the IGME (Spanish Geological and Mining Institute) developed for 2009 – 2010 a program of subsoil geology and geological storage of CO2, embodied in the so-called "*Plan for the selection and characterization of areas and structures favourable for the geological storage of CO2 in Spain*" (Plan ALGECO2). As result, there is an Atlas available

for public, where 103 potential onshore structures for CO2 storage have been identified. (Link to http://info.igme.es/algeco2/).

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

    Some ongoing research projects that may have relevance to the Directive are cited:

    National level:

    - **Research permit** for a pilot project (<100.000 tonnes) granted in March 2023
    - **Evaluation of CO2 storage potential for cement industry (OFICEMEN):** Identification of geological possibilities for CO2 storage for each cement plant, develop of a business case for CCS implementation and cost assessment.

    European level:

    - EU Funded **PilotSTRATEGY:** preparing a pre-FID investment proposal for an onshore CO2 storage site- in collaboration of reach organizations and key industrial players. Aims to advance understanding of deep saline aquifers (DSA) for geological CO2 storage in five European industrial regions. In Spain is focus on Ebro Basin. (more info https://pilotstrategy.eu/).
    - EU Funded **GSEU project (Geological Service for Europe)**: a Pan European distribution of maps and database of already known assessed capacity and resource potential, including standardized qualitative and quantitative attributes. This inventory will consider information on geothermal energy resources and subsurface storage capacities for sustainable energy carriers (hydrogen, heat and cold) and sequestration of CO2 (more info: https://www.geologicalservice.eu/areas-of-expertise/geoenergy-resources).

    In addition, there are some projects with a CO2 capture component under the Innovation Fund.

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

    Nothing specific at this stage.