WP4 -Deliverable 4.7

Compiling of environmental impact assessment legal frame and permit requirements for CO_2 geological storage

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2. Executive summary

This report is part of Work Package 4 (WP4) of the European PilotSTRATEGY project, funded by the Horizon 2020 program, in which five European regions are studied for CO_2 storage. This report aims to compile the regulatory framework, applied for each country, that includes all the necessary steps to request the Exploration Permit and perform the field activities.

Paris Basin (France):

This report summarizes the main regulatory requirements for the exploration phase of CO_2 geological storage projects in France. Governed by the Mining and Environmental Codes, this phase begins with the application for an Exclusive Exploration Permit (PER), which includes:

- Justification of technical and financial capabilities
- A technical report justifying the boundaries of the requested permit area
- Work and study program
- A preliminary Environmental, Economic, and Social Impact Assessment (EESIA)

The PER is essential but does not authorize field operations. Depending on the planned activities (e.g. seismic surveys, drilling, CO_2 injectivity tests), additional environmental procedures may apply from a simple declaration to a full environmental authorization with an Environmental Impact Assessment for the activities.

The EESIA informs early strategic decisions, while the EIA evaluates specific environmental impacts of field works. The PER application process must be completed within 2 years.

Lusitanian Basin (Portugal):

This report outlines the legal, regulatory, and procedural framework for the Environmental Impact Assessment (EIA) and permitting processes associated with CCS projects in Portugal. Several EU directives related to CCS were transposed into national law, creating a multi-layered permitting and compliance process. Key laws include:

- **Decree-Law No. 60/2012**: Governs geological storage of CO_2
- **Decree-Law No. 151-B/2013**: Establishes the Environmental Impact Assessment (EIA) regime
- **Decree-Law No. 38/2015** and **Law No. 17/2014**: Address maritime spatial planning and licensing (TUPEM)

The legal framework distinguishes between pilot and commercial projects, with corresponding licensing pathways and oversight bodies. The pilot phase can be categorized as a scientific research activity:

- **Exempt from full Decree-Law No. 60/2012** requirements due to small CO_2 volumes (<100 kt)
- Requires **TUPEM** license from DGRM, potentially granted as an exempt “authorization”

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- May be exempt from an **allocation plan** depending on governmental decision
- Is subject to **EIA** under Directive 2011/92/EU and Decree-Law No. 151-B/2013

For larger-scale operations (>100 kt CO_2) a **full licensing under Decree-Law No. 60/2012** is required:

- The CO_2 storage site must be granted a **concession contract** and exploration license
- Applications must include reservoir modelling, risk assessments, monitoring plans, and post-closure provisions
- **Pipeline infrastructure** also requires TUPEM and maritime spatial approval

CCS projects are subject to EIA by default due to their potential environmental impacts. The process can take up to 1.5 years and includes: a) **Assessment of effects** on biodiversity, climate, water, air, soil, and human health; b) **Public consultation** through the Portuguese Environment Agency (APA); and c) **Mitigation and monitoring plans**, including leak detection and emergency response. Key institutions involved are **DGEG** (authorizes geological CO_2 storage); **APA** (oversees EIA); **DGRM** (manages maritime permits and spatial planning); and **ICNF** (evaluates impacts on the environment).

This report also outlines specific compliance steps for 3D seismic acquisition and exploration well drilling. **Seismic acquisition** requires APA approval (or exemption), DGRM-issued TUPEM, and DGEG notification, while **well drilling** requires an exploration license from DGEG, EIA from APA, DGRM safety plan, and a maritime space occupation permit. This report highlights the need to have dedicated EIA's for seismic acquisition and well drilling phases.

This national framework aligns with EU Directives (e.g., 2009/31/EC, 2011/92/EU, 2014/89/EU) and international conventions like OSPAR, ensuring environmental protection and sustainable maritime spatial planning.

Ebro Basin (Spain):

The purpose of this document is to identify the permits required to carry out the initial phases of the project (exploration and execution of injection wells), as detailed in the following section.

The development of the project involves the implementation of a series of phases and/or subprojects necessary to first determine the characteristics of the selected area and its suitability for project development, and subsequently, to implement the project development actions (execution). Therefore, the following subprojects or implementation phases have been considered for the identification of the required permits (in bold are shown those considered most relevant):

In the Ebro Basin, Spain, the applicable permits for the geological storage of CO_2 are divided into two main phases -Research Phase and Operation Phase-. The legal frame applicable is the Law of CO2 storage 40/10 , a transposition of the European Directive of CO2 storage.

By the **Research Permit**, It is granted the exclusive right to investigate the feasibility of geological storage of CO_2 in a defined area. It is Initially validity of up to 4 years, with the possibility of extension for an additional 2 years, and it includes the declaration of public utility or social interest for the temporary occupation of land. A research permit requires the submission of a work plan and technical documentation.

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Additional permits must be granted -no cover directly by the research permit- for well-defined activities carried out during the research phase, and in particular:

- Seismic Campaign: (1) **Permit for access and occupation of land,** when it is necessary to install geophones and carry out seismic studies. It may require agreements with private landowners or administrative authorizations for public lands. (2) **Authorization for the seismic campaign**, explaining specific measures and conditions for exploration, and (3) A**pproved environmental Impact Assessment** (EIA), that is, according with *simplified* procedure if applicable if the impacts are minor, or *ordinary procedure* if significant impacts are identified.
- Research Wells: (1) **Land occupation permits**, similar to permits for the seismic campaign; (2) **Authorization for drilling**, including a technical project approved by the national authority, and (3) **Approved Environmental Impact Assessment** for the well, following, in general unless significant impacts are identified, simplified procedure.

The **Operation Phase** includes storage concession or permitting for CO2 storage. This is the legal framework permit for CO_2 storage. Its initial validity is 30 years, with the possibility of extensions to 50 years. It requires a work plan, investment approval, environmental guarantee ordinary environmental impact study. It includes the approval of post-closure monitoring and management plans, following European Directive requirements.

Additional permits to carry out other activities during the operation phase are:

- Injection Wells: Including (1) Authorization for the execution or adaptation of research wells Requires technical and (2) environmental approval (EIA); (3) Land occupation permits and urban planning licenses, being necessary for the location of the wells and their auxiliary facilities.
- Other Permits for the operation activities are energy supply (access and connection to the electricity grid or installation of photovoltaic panels); Water supply; Use of vehicles and heavy machinery (requires specific permits depending on the activities.

Several **limitations** have been identified for the permit application and approval, in particular: (1) The lack of precedent in geological CO_2 storage projects in Spain and the absence of regulatory development of Law 40/2010 complicate the process. (2) It is recommended to establish communication with the competent authorities to clarify requirements and facilitate regulatory interpretation, in some activities with the national authorities, and in other regional authorities (3) These permits must ensure compliance with the environmental, technical and administrative regulations necessary for the development of the project in the Ebro Basin, a complex process with administrations no always aligned and with low interaction between them.

Upper Silesia Basin (Poland):

This report summarizes the main **regulatory requirements for the geological reconnaissance phase** of CO_2 storage projects in Poland. Governed by the Geological and Mining Law, Environmental Protection Law, and related executive acts, this phase is initiated by the preparation and submission of a Geological Works Plan (PRG) to the Ministry of Climate and Environment. Key requirements include:

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- justification of the research objective and scope of works;
- technical description of the planned geological and hydrogeological investigations;
- environmental protection and safety measures;
- land access agreements;
- screening for the environmental decision, based on a Project Information Sheet (KIP).

A **critical legal condition** is the prior inclusion of the selected storage site in the ministerial regulation defining eligible areas for CO_2 underground storage. The approval of the PRG authorizes geological works but does not replace other administrative requirements. Depending on the scope of activities (e.g. drilling, injection tests), either a simplified or full Environmental Impact Assessment (EIA) may apply.

The environmental decision defines operational constraints, while the PRG provides the technical foundation for exploration. Following reconnaissance, **hydrogeological and geological-engineering documentation** must be prepared to evaluate the suitability and safety of the complex. A successful identification of a storage site grants the investor a temporary exclusive right to apply for a storage concession.

Macedonia Basin (Greece):

This report outlines the regulatory and permitting framework relevant to the geological storage of CO2 in Mesohellenic Basin, West Macedonia (Northern Greece) The Mesohellenic Basin offers favourable geological conditions fo CO2 storage into deep saline aquifers. This pilot case would be part of Greece's broader energy transition strategy, following the scheduled decommissioning of lignite-fired power plants by 2028, as the national and EU decarbonisation objectives request. The project falls under Category A1 of environmental classification and is therefore subject to a full Environmental Impact Assessment (EIA).

The permitting framework is based on Greek legislation transposing Directive 2009/31/EC and other EU environmental directives. The responsible authority for exploration and storage licensing is the Hellenic Hydrocarbons and Energy Resources Management Company (HEREMA). While current national legislation restricts CO_2 storage in all types of saline aquifers, this pilot project highlights the need for targeted legal amendments to enable the development of CO_2 storage infrastructure. West Macedonia offers strategic potential for CO_2 storage at regional scale, provided that the necessary regulatory updates are adopted to enable deployment.

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3. Introduction

This report is part of Work Package 4 (WP4) of the European PilotSTRATEGY project, funded by the Horizon 2020 program, in which five European regions are studied. Each region has defined (elements, activities, and schedule) selected scenarios, reviewed them, and carried out a techno-economic evaluation with the goal of comparing regional alternatives and selecting the optimal development scenario (Deliverable 4.3, "*Final concept description and preliminary consideration by regions*" (Canteli et al., 2025b)). Subsequently, the most suitable surface facilities for each project have been evaluated and selected, including a more detailed study of aspects related to CO_2 quality, capture, and transport (Deliverable 4.5, "*From capture to the injection facilities definition: capture, transport and CO_2 stream quality*" (Lachen et al., 2025)).

This document (Deliverable 4.7, "*Compiling of Environmental Impact Assessment legal frame and permit requirements for CO_2 storage*") aims to define the regulatory framework for conducting a permitting process. By consensus, the scope has been limited to the application for an Exploration Permit, which includes the execution of a seismic campaign (2D–3D) and the drilling of storage wells. In some cases, the regulatory framework related to the application for a Storage Permit has also been addressed, but in less detail.

The first and most important activity related to the application for CO_2 storage permits is to request an Exploration Permit for the area of interest. Based on this Exploration Permit, field operational activities will be carried out, such as the acquisition of 2D and 3D seismic data and the drilling of a validation well. These tests aim to demonstrate the existence of the storage reservoir and seal. Additionally, once the well is drilled, an injectivity test must be conducted to verify whether the petrophysical properties of the reservoir-seal pair are sufficiently present to store CO_2 in the expected and defined quantities in the previous deliverables (D4.2 (Canteli et al., 2024), D4.3 (Canteli et al., 2025b), D4.9 (Canteli et al., 2025a)).

These field activities inherently involve an Environmental Impact, which must be thoroughly evaluated. As explained, prior to applying for a CO_2 Storage Permit, the Exploration Permit must be requested to carry out these activities.

This deliverable aims to compile the regulatory framework, applied for each country, that includes all the necessary steps to request the Exploration Permit and perform the aforementioned field activities.

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4. Previous Considerations

4.1 Paris Basin (France)

The French case is based on a pilot-scale injection for a next-to-the-area emitter, which provides CO_2 stream at the commercial rate (300 kt/y), and with a limit of total injection of 100 kt of almost pure CO_2. The outlet stream of the emitter is issued from a Steam Methane Reformer with a composition of 99% CO_2 and 1% H_2 (Canteli et al, 2025). The main source is associated with ammonia production plant process via natural gas reforming. D4.9 (Canteli et al, 2025) analysed the economics of the scenario and primarily consider an off-site injection location to minimize interferences with other wells in the area.

The main scenario for detailed dimensioning studies includes the following equipment:

- Compression
- Pipeline between the emitter site and the well head
- Slightly deviated injection well

However, following exchanges with local stakeholders within WP6, an alternate case with an extended deviated well is investigated where the well-head is located near an existing well within the plant premises and the target area being the same location. This alternative will not require a pipeline at the expenses of a longer and strongly deviated well. This scenario includes the following equipment:

- Compression
- Long deviated injection well

The targeted storage formation is the Ooolithe Blanche (Bathonian) in the Dogger which is a brine aquifer at a depth of about 1900 m. The wells are planned to cover the Albo Aptian aquifer with two cemented casings to prevent any impact. CO_2 resistant cement and metallurgy is planned to ensure well integrity.

4.2 Lusitanian Basin (Portugal)

The Lusitanian Basin case comprehends the area surrounding the Figueira da Foz port, with an offshore storage site located about 23 km away from the coast, and the possible sources emitters previously identified. We considered the CIMPOR Souselas cement plant as the main source emitter, and the NAVIGATOR pulp and paper facility in Figueira da Foz as a possible backup supplier. The primary source of CIMPOR's emissions is the fuel burned in kilns. According to the roadmap for achieving these targets, the facility will still emit 0.5 Mt of CO_2 in 2050. The operability and safety engineering principles can be achieved with a composition of 96 mol% CO_2 and a maximum of 0.75 mol% H_2 (Canteli et al, 2025).

The project comprehends two injection phases: Phase 1 – Pilot-scale injection of up to 180 kton of CO_2 in 3 years, and Phase 2 – Commercial upscaling injection of ca. 0.5 Mton/year. During the pilot phase, CO_2 would be mostly captured from the CIMPOR Souselas cement site and transported via railway and

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shipping from the Figueira da Foz port to the offshore injection. The commercial phase will scale up the capture and transport infrastructure, including the construction of pipelines for continuous CO_2 transport. This phase aims to inject up to 0.5 Mt/year over a 30-year period, with the potential to expand to 4.7 Mt/year, to encompass further source emitters.

The pilot phase will use temporary infrastructure at the Figueira da Foz port, including loading/unloading facilities and onboard injection systems. The commercial phase will replace these facilities to include an onshore pipeline from Souselas to the Figueira da Foz intermediate hub, which would have a boundary station (with an eventual injection pump) before CO_2 is pumped by offshore pipeline to the injection site. These facilities are designed to handle increased CO_2 volumes and ensure long-term efficiency and safety.

The project targets the injection of CO_2 within the bottom section of the Early Cretaceous Torres Vedras Group (Aptian-Albian), composed of alternating sandstone and shale. The injection simulations demonstrate that the CO_2 plume does not reach the nearby legacy well and avoids the major identified faults. The injection well is being planned to cover this reservoir with cemented casings to prevent any leakage, particularly along the well.

4.3 Ebro Basin (Spain)

The scope of the Permit Plan shown covers the following phases of the geological carbon dioxide storage project:

(i) RESEARCH PHASE:

The Permit Plan outlines the permits applicable to the research phase, considering the planned execution of a 2D/3D seismic survey and the drilling of one or two exploratory wells, which would later also be used for gas injection during the operational phase.

The proposed location for the potential wells is within the municipalities of Fuente de Ebro (fixed and optional well) and Quinto (optional wells). The perimeter of the seismic survey planned by REPSOL includes up to 15 municipalities in the provinces of Zaragoza and Teruel (Belchite, Codo, Mediana de Aragón, Zaragoza, Fuentes de Ebro, Osera de Ebro, Pina de Ebro, Quinto, Gelsa, Velilla de Ebro, La Zaida, La Puebla de Híjar, Azaila, Almochuel, and Vinaceite).

(ii) OPERATION PHASE:

This Permit Plan limits the analysis of this phase to the permits required for the execution of the injection wells (initially by adapting the exploratory wells drilled under the research permit).

The following are excluded from the analysis:

- Permits applicable to the CO_2 transport network (which, according to Article 4.22 of Law 40/2010, includes the pipeline network, including associated pumping and monitoring stations, for transporting CO_2 to the storage site).
- Specific permits applicable to the construction and operation of auxiliary surface facilities for the injection wells (which, according to the information provided, would include compression

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systems and storage tanks), without prejudice to the need for the developer to consider them as part of the project subject to the storage concession.

Finally, permits applicable to the CLOSURE phase of the site are also not included in this analysis.

LIMITATIONS

It should be noted that the content of the Permit Plan applicable to carbon dioxide storage is subject to the following limitations:

- Firstly, the absence of precedents for geological CO_2 storage projects that have been fully developed since the approval of Law 40/2010 to date. In the Autonomous Community of Aragón, several research permits promoted by Endesa Generación S.A. were granted in 2011 under the First Transitional Provision of Law 40/2010, one of which led to the drilling of a well in the municipality of Pina de Ebro in 2012. However, there is no available information on other research activities carried out under those permits or their outcomes (there is no record of a storage concession application resulting from them).
- The lack of regulatory development of Law 40/2010, which has also not been amended since its original approval.
- The inability to consult with competent public authorities regarding any specific issues related to the CO_2 storage project due to the recent changes in legal framework regarding subsurface research and exploitation. This restriction is particularly significant considering that, under the current prohibition in Law 7/2021 of May 20 on climate change and energy transition, regarding the granting of new permits for hydrocarbon exploration, research, and exploitation, it has also not been possible to consult on this second type of project in cases where some issues might be extrapolated to the project under study. As a result, consultations with competent authorities have only been possible regarding aspects of the project that can be generally related to mineral resource exploration projects.

Therefore, it is advisable that, simultaneously with the start of the project's permitting process—or even beforehand, if REPSOL deems it appropriate—communication channels be established with the relevant authorities to fully clarify the applicable requirements and potentially contribute to the interpretation of the regulations by the authorities.

4.4 Upper Silesia Basin (Poland)

The Polish case (Upper Silesia) is based on a pilot-scale CO_2 injection site located north of the Upper Silesian Industrial Region, an area with a high concentration of potential emitters such as cement plants, steelworks, waste incinerators, and CHP units. While initial considerations in the project STRATEGY CCUS focused on coal-fired power plants, the current emphasis has shifted towards industrial sources.

Following stakeholder consultations within the WP6, the most promising scenario identified is the "Pilot for commercial development to attract investors." This concept foresees a demonstration installation of up to 100 kt/y injection capacity, aimed at proving technical feasibility and enabling future scale-up.

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The main scenario includes the following equipment:

- road transport of liquefied CO_2 using cryogenic tankers,
- injection well designed for pilot injection,
- environmental safeguards for transport and well operations.

In the commercial phase (up to 300 kt/y), the design assumes pipeline transport from the emission site over a distance of approximately 80 km. Both phases consider environmental constraints such as gas purity requirements, well integrity, and potential transport impacts. Initial economic analysis performed during previous period suggests that financial viability of CCS in the region depends on high CO_2 allowance prices to ensure positive investment returns.

The permitting procedure in Poland includes an environmental decision, approval of a Geological Works Plan (PRG) by the Ministry of Climate and Environment, landowner consents, and notification to the mining supervision authority. One of the key legal preconditions is the inclusion of the selected location in the ministerial regulation defining eligible areas for underground CO_2 storage.

Further work will include definition of permitting and monitoring procedures and refinement of storage complex geometry as well as post-closure monitoring strategy.

4.5 Macedonia Basin (Greece)

In terms of energy, West Macedonia has been Greece's energy since the 1950s, when lignite mining and power generation activities were first systematically developed, contributing to the electricity supply more than any other region [1]. Following the EU's decarbonisation directives, the Greek Government decided in 2019 to decommission all lignite plants by 2028 due to the Greek Government's alignment with European Green Deal (COM (2019) 640/11.12.2019). However, Ptolemaida V remains operational till 2028 [1]. After 2028, it will operate on natural gas or biomass.

While this project constitutes a pilot-phase initiative for the geological storage of CO_2 in West Macedonia, it is essential to investigate its compliance with European and National legal frameworks related to environmental laws for regulation and permitting.

The Mesohellenic Basin (MHB) is located in West Macedonia in Northern Greece. This sedimentary basin is 130km long and 40km wide in the NW-SE direction. This basin extends from Albania to northern Greece, at the boundary between the two main structural zones of the Hellenides: to the east, the internal zones, that were submitted to obduction in the Jurassic, and, to the west, the external zones which were only tectonized during the Cenozoic [2] (Figure 4.1). The Mesohellenic Basin (MHB) is located in the middle of continental Greece and part of it is based in West Macedonia. Thus, the Mesohellenic Basin could serve as a regional storage solution, enabling neighbouring countries to store CO_2 under optimal conditions.

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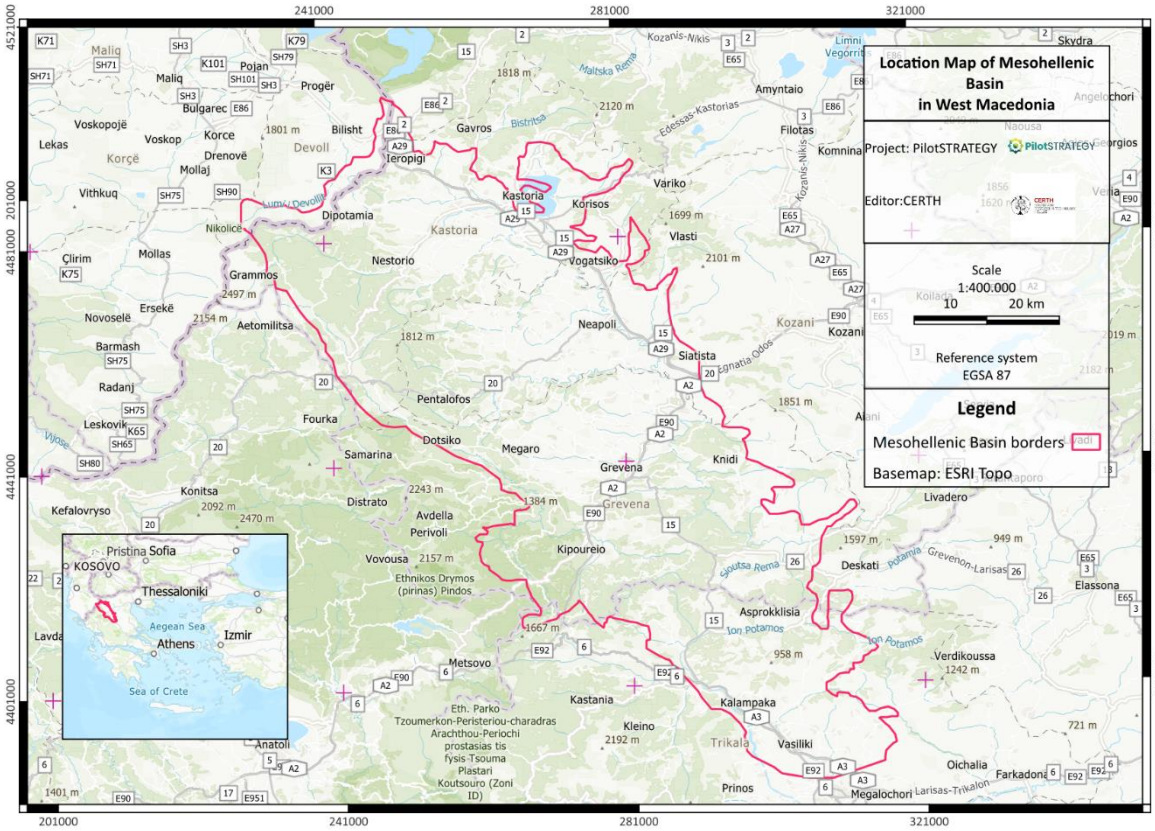

Figure 4.1. Location of Mesohellenic Basin in West Macedonia

5. Permitting Plan

5.1 Paris Basin (France)

5.1.1 Regulatory Context for CO_2 Geological Storage

Geological storage of carbon dioxide (CO_2) is a central component of France's strategy for achieving carbon neutrality by 2050, as laid out in the National Low-Carbon Strategy (SNBC). This process involves capturing CO_2 emissions from industrial sources and injecting them into deep geological formations where they can be safely and permanently stored. The implementation of such projects in France is governed by a dual legal framework:

- The French Mining Code, recently updated through the Climate and Resilience Law (2021) and accompanying ordinances in 2022, which regulates subsurface activities including exploration and storage.
- The Environmental Code, outlining requirements for environmental protection and permitting procedures in accordance with the requirements of the European CCS Directive (2009/31/EC),

This framework defines a sequential permitting process across three phases:

- Exploration Phase: regulated by the granting of an Exclusive Exploration Permit (PER), allowing the holder to evaluate the suitability of subsurface formations.
- Exploitation Phase: requiring both a geological storage concession and an exploitation authorization.
- Post-Closure Phase: including site monitoring for a minimum of 30 years, followed by the possible transfer of responsibility to the State.

5.1.2 The Exclusive Exploration Permit (PER)

The Environmental Code regulates exploration activities for CO_2 storage formation mostly like other mining exploration activities: exploration for CO_2 storage formation is considered as mining exploration activities (Env. Code art. L. 229-29). The Mining Code applies for attribution of exploration permit ('Permis Exclusif de Recherche' or PER) without any specificities related to CO_2.

The PER is mandatory for any entity wishing to carry out geological investigations to assess the suitability of a formation for CO_2 storage. It is issued under the Mining Code and Decree No. 2006-648 and is considered as a mining title. The key features of the PER process include:

- A maximum legal review period of 2 years,
- Permit validity of up to 15 years,
- Publication of a call for competition in the Official Journal of France if multiple applications are expected.

The application must be comprehensive and include:

- A technical report justifying the boundaries of the requested area based on the geological context, and providing, if applicable, information on any previous exploration activities and their results.

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- A detailed work and study program, outlining the planned activities in two stages: an initial phase and, where relevant, a follow-up phase that will depend on the results of the initial stage.
- Evidence of the applicant's technical and financial capacities
- A financial commitment, specifying the minimum amount the applicant plans to invest in the initial phase, and a projected budget for the optional follow-up phase, if applicable.
- A financing plan, demonstrating how the proposed investments will be funded and ensuring consistency with the applicant's financial capacity which shall be finalized prior to any activities.
- Mapping documents, including a location map and detailed cartography of the area concerned.
- An Environmental, Economic, and Social Impact Assessment (EESIA),
- A non-technical summary of the technical report and the EESIA.
- Consent from current titleholders, if the area is already subject to existing exploration, mining, or storage rights.

5.1.3 Permitting Process Steps

The permitting procedure involves both local and national stages:

1. Preliminary Phase (optional): dialogue with the competent authorities (Ministry and Prefecture) to define the scope of studies and permits required.
2. Submission of the application to the Ministry in charge of Mines.
3. Local Instruction: The file is transferred to the relevant Prefect and reviewed by the DREAL.
4. One-month consultation:
    - Public call for competition
    - Consultation of civil and military authorities
    - Consultation of mayors
    - Absence of response is deemed favorable.
5. Synthesis Report: prepared by the DREAL, including all opinions.
6. Decision by the Ministry: the final decision is made by ministerial decree and published in the Official Journal. Once all opinions and documentation are reviewed, the Minister for Mines issues a decision to grant or deny the PER. If granted, the permit is published and may be followed by work authorization for intrusive activities such as drilling, which require additional environmental permits.

The different opinions collected during the instructions are made available to the public on the website of the Prefecture of the department.

5.1.4 Focus: Environmental, Economic and Social Impact Assessment (EESIA)

One of the significant evolutions in the permitting framework is the mandatory inclusion of an Environmental, Economic and Social Impact Assessment (EESIA). Introduced by Articles L.114-1 and

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L.114-2 of the Mining Code, the EESIA represents a broader perspective in evaluating a project's viability.

Objectives of the EESIA:

- To support decision-makers with a comprehensive understanding of the project's potential benefits and risks.
- To ensure that development aligns with sustainable land and resource use.
- To foster transparency and public trust through early and informed consultation.

Content Requirements:

- A full description of the project and its context (technical, environmental, territorial).
- A multicriteria evaluation of environmental, economic, and social effects (employment, risks, land use).
- Consideration of project alternatives and justification of chosen options.
- A summary of the main findings accessible to the general public.
- Measures proposed for impact mitigation, monitoring, and enhancement.

Currently, there is no specific guidance tailored to CO_2 geological storage projects for the EESIA. Applicants are advised to follow general environmental assessment guidelines (such as those from INERIS) and coordinate closely with the competent authorities to ensure compliance.

5.1.5 Authorization for Field Activities

Holding a PER does not grant automatic authorization to conduct exploration works. As part of an Exclusive Exploration Permit (PER) for CO_2 geological storage, the permit holder is authorized to conduct studies and investigations to characterize the target geological formations. However, not all field activities are automatically covered by the PER: depending on their nature, additional authorization may be required.

- **Non-intrusive activities**, such as the acquisition of 2D and 3D seismic data, typically require only a simple declaration of commencement of operations submitted to the Prefect of the relevant department (according to Decree No. 2006-649). For activities subject to declaration, the procedure is described in Decree n°2006-649 of June 2nd, 2006, pertaining to the opening of mining works.

- **Intrusive operations**, such as drilling an exploration well and conducting CO_2 injectivity tests, are considered mining works and usually require prior environmental authorization. Such operations fall under the single environmental authorization regime. This comprehensive procedure includes:

    - An environmental impact assessment (EIA) of the proposed work

    - A public inquiry

However, when CO_2 injection is performed in small volumes (typically less than 100 kilotons), and as part of a test or characterization phase, these activities may fall under the case-by-case screening procedure (*examen au cas par cas*), as provided in Articles R.122-2 and following of the Environmental Code. This procedure allows the environmental authority to determine whether an environmental impact assessment (EIA) is necessary based on the expected environmental effects of the works. The

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environmental authority then has 35 days to decide whether an EIA is required for the proposed works. If the authority concludes that an EIA is not needed, the operator may proceed with the activity under a declaration procedure.

5.1.6 Conclusion

The Exclusive Exploration Permit (PER) for CO_2 geological storage in France is issued under the Mining Code and represents the granting of a mining title. This permitting procedure is separate and distinct from environmental authorizations. While obtaining the PER is a necessary legal step to conduct exploration activities, it is not sufficient on its own to authorize all field operations, which often require additional environmental permits.

Depending on the nature and scope of the planned activities, other procedures—such as Environmental Impact Assessments (EIA) and environmental authorizations—may be mandatory. These environmental procedures typically take 10 to 12 months to complete once a full application is submitted.

It is important to distinguish between the Environmental Impact Assessment (EIA), which applies to specific intrusive works and includes compensatory measures reviewed by the Regional Environmental Authority (MRAe), and the broader Environmental, Economic and Social Impact Assessment (EESIA) required by the Mining Code. The EESIA is conducted at an earlier stage to inform strategic decisions by evaluating environmental, economic, and social factors.

Type of Request	Planned activity by the operator	Type of application needed	Regulatory framework	Recipient of the application	Maximum legal turnover time	Duration of the approval / permit
Mining title	Exploration activities	**Exclusive Exploration Permit application** with EESIA	**Mining Code (Decree n°2006-648)**	Ministry in charge of mines (via DREAL)	2 years	Up to 15 years (renewable)
Work Authorization	2D / 3D seismic data acquisition	Declaration of commencement of mining works	Decree n°2006-649	Departmental Prefect	Not fixed (usually for a few weeks)	For the duration of the declared activity
Work Authorization	Drilling of a validation well	case-by-case screening request or Environmental authorization	Environmental Code + Ordinance n°2022-534	Prefect + MRAe (for EIA review)	10–12 months (if EIA required)	Defined by the authorization
Work Authorization	CO_2 injectivity test (<100 kt)	Case-by-case screening request or environmental authorization	Environmental Code (Art. R.122-2 and R.229-60)	Prefect + MRAe (for EIA review)	35 days (screening) / 10–12 months (EIA)	Defined by the authorization

Table 5.1 Procedure According to the Type of Work

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5.2 Lusitanian Basin (Portugal)

The presentation of the European Green Deal (COM (2019) 640 final) in December 2019 established the framework for the adoption of a renewed growth strategy based on a green transition aligned with the long-term decarbonization goals of the European Union (EU). The subsequent adoption of the European Climate Law (Regulation (EU) 2021/1119 of 30 June 2021) shaped the objectives set out in the Green Deal, defining a binding EU 2030 net GHG emission reduction target of at least 55% compared to 1990 levels and aiming to achieve climate neutrality by 2050. The REPowerEU Plan (COM (2022) 230 final) was presented in May 2022 as the EU's plan to accelerate the energy transition and end dependence on fossil fuels. In order to achieve the climate-neutrality target set out in the European Climate Law, the European Commission presented its assessment on the 2040 climate target (COM (2024) 63 final) in February 2024, recommending a 90% reduction in GHG emissions by 2040 compared to 1990 levels. Thus, it was considered that, in addition to the full implementation of the 2030 climate and energy framework, it will be necessary to enhance the contribution of CCUS technologies. The latter are also recognized in the Net Zero Industry Act (Regulation 2024/1735 of 13 June), which identifies zero emission technologies and sets the goal of for geological storage of 50 Mt per year in the European Union.

The EU has established a robust legal framework to ensure that CCUS projects are thoroughly assessed before implementation. This includes mandatory Environmental Impact Assessments (EIA) for qualifying projects under Directive 2011/92/EU, as transposed into national legislation by Member States, including Portugal.

This section outlines the permits relevant to different phases or subprojects to be developed as part of the underground carbon dioxide storage program, according to the scope of this Permit Plan. Below is a general list of the permits reviewed, with detailed descriptions provided later in the document.

5.2.1 Pilot Phase Permitting

The Net Zero Industry Act triggered the revision the National Energy Plan and Climate 2021-2030 (NECP 2030) to ensure the alignment of previously established policies, objectives and targets with the new international and EU context. In the revised plan submitted in 2024 it is recognized the need to increase the level of carbon removal to counterbalance hard-to-abate GHG emissions in industrial sectors where existing technological solutions do not yet fully eliminate emissions (e.g. process emissions from the decarbonization of materials used, waste incineration). Consequently, the geological potential for geological carbon storage is being assessed with a view to contribute to achieve the national climate neutrality objective in 2045.

The National Act Nº98/2021 establishes the Portuguese Climate Framework Law, which refers that the State will monitor and support the development of CCUS technologies (Article 59). Moreover, paragraph 2 of Article 59 affirms that the State, its autonomous and local administrations shall promote pilot projects for the implementation of these technologies in areas with major CO_2 emissions.

The Decree Law No. 60/2012 establishes the legal framework for CO_2 storage in accordance with the European Parliament and Council's Directive nº2009/31/CE. However, in its Article 2, paragraph 3, it is stated that the document does not apply to CO_2 storage in geological reservoirs when the total

injected CO_2 mass is less than 100 kt and the storage is foreseen to develop scientific research or new products and processes. This is the case of the pilot phase that is envisaged to be developed offshore Figueira da Foz, as proposed by PilotSTRATEGY.

Offshore CCUS activities must also consider the regulatory framework of activities in the maritime area, namely the PSOEM (the Portuguese Maritime Spatial Plan). According to the Decree Law No. 38/2015 and the Resolution of the Council of Minister No. 203-A/2019, which develops the policy for the planning and management of the national maritime space in accordance with the European Directive n.º 2014/89/UE, the pilot phase does require the acquisition of a "Title for the private use of the maritime space" (TUPEM) that shall be attributed by the Directorate-General for Natural Resources, Safety and Maritime Services (DGRM, Article 51º).

The Decree Law No. 38/2015 states that the attribution of a TUPEM for new activities depends on the previous approval of an allocation plan (Article 50(1)). According to Article 23 (1), the allocation plan is considered as a project and subject to an EIA following the Decree Law No. 151-B/2013. As stated in Part B of the Resolution of the Council of Minister No. 203-A/2019, the allocation plan shall take into consideration the other uses included in the same area and/or volume of the national maritime space, providing its legal, scientific and technical reasoning and a cost-benefit analysis to assist the decision-making process (Figure 5.1). Nevertheless, for the development of a scientific research activity, the TUPEM may be exempted from previous approval of an allocation plan by decision of the members of the Government responsible for the sea affairs and environment (Article 50(2)).

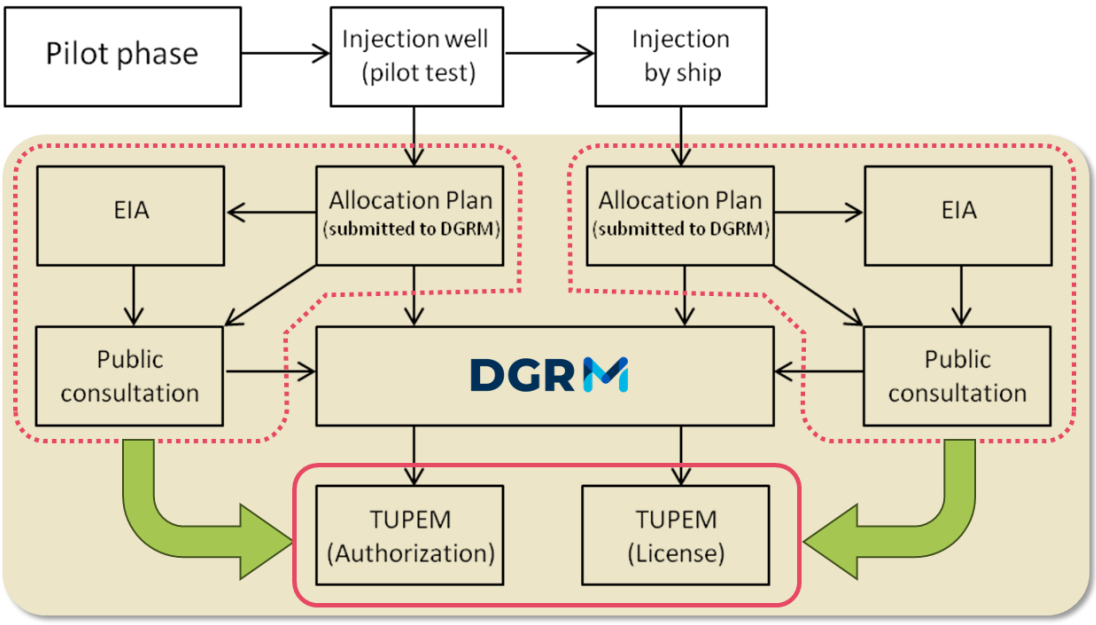

Figure 5.1. Flow diagram for the licensing procedure for the Pilot Phase. For scientific research activities, the TUPEM may be exempted from previous approval of an allocation plan, simplifying the procedure

It is envisaged that for the pilot phase a TUPEM could be issued as a "**license**" (Articles 54º to 56º) or as "**authorization**" (Article 57º). A "**license**" refers to the temporary use (less than 12 months) or intermittent use during one or more discontinuous periods over the year. It has a maximum duration of 25 years, and a tax should be applied on the use of the maritime space. The "**authorization**" refers to a TUPEM within the scope of scientific research projects or non-commercial pilots. It has a

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maximum duration of 10 years and is exempted from taxes. According to Article 66º, the payment of a bond may be required to ensure the maintenance of the biological and physical-chemical characteristics of the marine environment. The bond may be exempted if it is foreseen that the activity will not cause impacts on the marine environment, and it will not require construction or placement of mobile structures. An exemption may also result from the application of environmental regulations that may be imposed to a specific activity, also ensuring the protection and conservation of the marine environment.

5.2.2 Commercial Phase Permitting

For the commercial phase and for CO_2 storage over 100 kton, the Decree Law No. 60/2012 will apply. In this case, the geological formations with potential for CO_2 storage are considered as mineral deposits within the public domain (Article 5 (1)). It should be noted that the Decree Law 30/2021 in its Article 3, paragraph 2, refers that the mineral deposits located in the national maritime space are subject to special legislation. However, it does not revoke the Decree Law 60/2012, which attributes to the Ministry responsible for the mineral resources and to the Directorate-General for Energy and Geology (DGEG) the competence to act within the established legal framework concerning the CO_2 storage.

According to the Decree Law 60/2012, a distinction is made regarding the concession for CO_2 storage and the authorization to operate the structures for injection at surface that results in the permission to perform the storage, which is also regulated by the Regime of Operation of Industrial activities (REAI). In accordance with Article 6 (1), the concession contracts for CO_2 storage shall be granted by the Ministry responsible for the geological resources. Paragraph (2) defines DGEG as responsible for granting a license for exploration regarding the direct evaluation of the potential of a given subsoil reservoir for CO_2 storage through drilling or injection trials. It is not obvious if a similar license will be required for the implementation of the pilot phase, and if so, what regulation or law will be applied. The duration of an exploration license shall not exceed 5 years, but it can be extended further 3 years if the approved exploration plan was duly completed but insufficient to comply with the criteria for the characterization of the potential storage complex (Article 13). Article 17 (3) states that the owner of an exploration license shall have preference for the attribution of a concession contract for CO_2 storage, as long as the exploration work has been concluded in accordance with the approved plan and the application for the concession contract submitted within 45 working days after concluding the exploration work. Paragraph (4) defines that the duration of a concession should be adjusted to the full capacity of CO_2 storage of the studied geological reservoir, and it will be fixed under the contract. Article 18 describes the different data and information that must be included in the application for a concession contract, as well as for the license allowing the establishment of the installations at surface needed for CO_2 injection. Amongst the list of data and information, some points can be emphasized:

i. The characterization of the reservoir and storage complex (including dynamic modelling), as well as an assessment of risks;
ii. Total quantity of CO_2 to be injected and stored, including the prediction for its sources and transport, the composition of the CO_2 flow, the injection pressure and the location of the injection facilities;
iii. The execution plan, including the measures to prevent or mitigate the occurrence of anomalies;

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iv. The monitoring plan, which must include (in accordance with Annex II of the Decree Law No. 60/2012) the monitoring of emissions that may result from CO_2 leaks, volumetric CO_2 flow at the head of the injection well, reservoir pressure and temperature in order to determine the CO_2 phase and its behavior. The monitoring plan must also include the post-closure phase.

As stated in point i) above, the application for the concession contract must also include an assessment of risks related with CO_2 storage, as described in Annex I of Decree Law No. 60/2012. This assessment should include the characterization of danger and risks, and the assessment of exposure and effects. The characterization of danger is focused on the potential for CO_2 leakage from the storage complex. Different parameters such as the identification of potential conduits for leakage, the potential magnitude of leakage inferred from flux rates, the critical parameters affecting potential leakages (e.g. maximum pressure in the reservoir, maximum rate of injection, temperature), the secondary effects of CO_2 storage including fluid displacement in the reservoir and creation of new substances, and other factors that may represent a threat to human health or to the environment. The exposure assessment is based on the characteristics of the natural environment and distribution of human population and its activities and the destination of the potential CO_2 leakage through the conduits identified in the previous point. The effects assessment is focused on the sensitivity of certain species, communities or habitats to potential CO_2 leakage. It may refer to the effects of exposure to high CO_2 concentrations on the biosphere, including soils, marine sediments, and benthic waters and the effects of pH reduction in those environments. The assessment should also include the effects caused by other substances that may be present in the CO_2 flow from leakage. The characterization of risks should be based on the assessment of danger, exposure and effects, considering the sources of uncertainty and the possibilities envisaged for their reduction. It should result in the assessment of the safety and integrity of the storage reservoir at short and long-term, including an assessment of the risks for CO_2 leakage concerning the predicted operations and for human health in the worst-case scenario.

In the case of the transfer of responsibility, Article 22º requires the creation of a reserve fund to be allocated by the contractor to DGEG. The amount of the reserved fund shall be determined considering the contractual obligations that remain active after the transfer and the cost estimated for monitoring for a minimum period of 30 years.

In the PilotSTRATEGY concept, in the commercial phase it is envisaged that the CO_2 will be conditioned at an onshore hub and transported by pipeline to the storage site located offshore. In accordance with the legislation referred to above (Decree Law No. 38/2015 and the Resolution of the Council of Minister No. 203-A/2019), the installation of a pipeline offshore will require an allocation plan to be approved and the acquisition of a TUPEM granted by DGRM. In this case, the TUPEM is expected to be issued as a “concession” type, since it allows the use of the area occupied by the pipeline for a long period that cannot exceed 50 years.

5.2.3 Environmental Impact Assessment

In what concerns the protection and conservation of the marine environment, the Environmental Impact Assessment and monitoring activities related with CCUS projects in the national space are regulated by the framework outlined below (Table 5.2), which aligns the Portuguese policy with the EU’s strategies and guidelines.

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Instrument / Legislation	Type	Scope	Competent Authority	Key Notes	Link
Directive 2011/92/EU + 2014/52/EU	EU Directive	EIA	European Commission / APA	Establishes EIA requirements for industrial projects, including CCS	https://eur-lex.europa.eu/eli/dir/2011/92/oj/eng
Directive 2009/31/EC	EU Directive	Geological storage of CO_2	European Commission / APA, DGEG	Defines criteria for selection, monitoring, and closure of CO_2 storage sites	https://eur-lex.europa.eu/eli/dir/2009/31/oj/eng
Directive 2014/89/EU	EU Directive	Maritime spatial planning	European Commission / DGRM	Sets a framework for maritime spatial planning (compatible with CCS projects) within the EU. Aims for sustainable use of the sea	https://eur-lex.europa.eu/eli/dir/2014/89/oj/eng
OSPAR Convention	International Convention	Protection of the marine environment	OSPAR Commission / Portuguese State	Primary international framework for the protection of the marine environment in the North-East Atlantic	https://www.ospar.org/work-areas/oic/carbon-capture-and-storage
Decree-Law No. 151-B/2013	Decree-Law	Legal regime for EIA	APA	Establishes the legal regime for evaluating the environmental impact of public and private projects that are likely to have significant effects on the environment. Defines when EIA is mandatory or subject to screening. Includes capture, transport, and storage of CO_2	https://diariodarepublica.pt/dr/detalhe/decreto-lei/151-b-2013-513863
Decree-Law No. 60/2012	Decree-Law	Geological storage of CO_2	APA, DGEG, DGRM	Transposes the CCS Directive. Regulates licensing, monitoring, closure, and responsibility	https://diariodarepublica.pt/dr/detalhe/decreto-lei/60-2012-553447
Decree-Law No. 17/2014	Decree-Law	Marine geological resources	DGEG, DGRM	Regulates exploration activities and use of the marine subsoil	https://diariodarepublica.pt/dr/detalhe/lei/17-2014-25343987
Decree-Law No. 38/2015 (complemented by the Decree-Law No. 39/2015)	Decree-Law	National maritime spatial planning	DGRM	Establishes a framework for maritime spatial planning. Implements planning instruments (PSOEM)	https://diariodarepublica.pt/dr/detalhe/decreto-lei/38-2015-66727183
Law No. 19/2014	Law	Environmental Framework Law	Portuguese Parliament / APA	Defines fundamental principles of environmental policy	https://diariodarepublica.pt/dr/detalhe/lei/19-2014-25344037
Law No. 17/2014	Law	Activities in maritime space	DGRM	Defines the Foundations for the Policy on Maritime Spatial Planning and Management. It implements the planning instruments and establishes the requirement for a private use license (TUPEM) for areas of the national maritime space	https://diariodarepublica.pt/dr/detalhe/lei/17-2014-25343987

Table 5.2 EIA Regulatory Framework associated to CCS projects

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5.2.3.1 *Environmental Classification of the pilot project*

The Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 establishes the framework for assessing the environmental impacts of certain public and private projects, ensuring that potential effects on the environment are considered before development consent is granted. According to Article 4 of this Directive, "Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects". As outlined in **Annex I** of the same directive, the projects referred to in Article 4(1) include:

1. "Storage sites pursuant to Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide."
2. "Installations for the capture of CO_2 streams for the purposes of geological storage pursuant to Directive 2009/31/EC from installations covered by this Annex, or where the total yearly capture of CO_2 is 1.5 megatonnes or more."

Pilot projects such as that proposed in PilotSTRATEGY fall under category 1 above since it does not consider the capture component, but only the transport and storage part of the CCUS chain.

The EIA process in Portugal is governed by **Decree-Law No. 151-B/2013 of October 31**, which transposes Directive 2011/92/EU (as amended by Directive 2014/52/EU) into national law. This decree establishes the legal regime for evaluating the environmental impact of public and private projects that are likely to have significant effects on the environment. Under this Decree-Law, the **Portuguese Environment Agency (APA)** is the EIA authority. Pilot projects such as that promoted by PilotSTRATEGY are referenced in **Annex I**, and fall under these categories mentioned in point (a) of Article 1(3). This is also consistent with Article 4(1) of Directive 2011/92/EU, as referenced above.

Pilot projects, as that proposed by PilotSTRATEGY, which involve characterizing and developing CO_2 storage sites, are included under the first category and are therefore subject to mandatory EIA. Additionally, it may be subject to EIA based on case-by-case analysis (subjective criteria), according to the environmental sensitivity factors listed in **Annex III**, mentioned in subpoints ii) and iii) of points b) and c) of Article 1(3).

5.2.3.2 *Legal and Regulatory Framework*

According to Article 3 of **Directive 2011/92/EU** (context previously described), the EIA shall identify, describe and assess in an appropriate manner, the effects of a project on the following factors:

- Human beings, fauna and flora
- Soil, water, air, climate and the landscape
- Material assets and the cultural heritage
- The interaction between these factors

The Decree-Law No. 151-B/2013 of October 31, which transposes **Directive 2011/92/EU** (as amended by Directive 2014/52/EU), sets on Annex V, mentioned in article 13 (1) and article 14 (2), the minimum required content of an EIA, which includes (*non-exhaustive list*):

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a) Project Characterization:
   - Location and characteristics of the storage site
   - CO_2 capture and transport technologies
   - Injection and storage process
b) Assessment of Reasonable Alternatives
c) Materials, Resources and Energy
d) Baseline Environmental Description
e) Expected Emissions, Effluents and Waste
f) Environmental Impact Identification and Evaluation
   - Impacts on Geology and Water Resources
   - Impacts on Atmosphere and Climate
   - Impacts on Biodiversity
   - Impacts on Population and Human Health
g) Impact Prediction Methodology
h) Mitigation and Prevention Measures and Monitoring Programs:
   - Leak detection systems using CO_2 sensors and passive seismic monitoring
   - Emergency response plan, including evacuation and mitigation measures
   - Environmental rehabilitation plan for the site after closure
i) Limitations and Uncertainties
j) Public Consultation
   - The project will undergo a public consultation process, allowing citizens, environmental organizations and local entities to provide input. The Portuguese Environment Agency (APA) will analyze the feedback and may require project adjustments.
k) Non-Technical Summary

Regarding dedicated CCS regulatory guidelines, the **Directive 2009/31/EC** establishes the legal framework for the geological storage of CO_2 and clearly states that storage sites must be operated under a storage permit. This permit serves as a key instrument to ensure compliance with the Directive's substantive requirements and to guarantee that geological storage is conducted in an environmentally safe manner. The **Decree-Law No. 60/2012 of March 14**, which transposes this EU Directive for the Portuguese law, reinforces this in Article 9(1), stating that *"a geological formation may only be selected as a storage site if, under the proposed conditions of use, there is no significant risk of leakage or significant risk to the environment or human health"*. Since geological CO_2 storage projects are subject to an EIA by default, as previously mentioned (Annex I of **Decree-Law No. 151-B/2013** of October 31, this process ensures that they comply with environmental standards and legal requirements before implementation. Moreover, according to Article 18 of 7 Decree-Law No.60/2012 of March 14, the operator must define and submit to **DGEG** various data, including:

- Monitoring plan prepared in accordance with the requirements set out in Annex II of this decree
- Description of measures for the prevention of anomalies
- Corrective measures plan, in accordance with Article 35(3)
- A proposal for a provisional post-closure plan, pursuant to Article 37(2)

The proper selection of a suitable site for the geological sequestration of CO_2 must also consider the **National Land Use Planning Policy Programme** (*Plano Nacional de Ordenamento do Território*), the **Natura 2000 Network**, and other Classified Areas with high importance for biodiversity.

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The **OSPAR Convention** is the primary international framework for the protection of the marine environment in the North-East Atlantic, to which Portugal is a contracting party. It establishes obligations for the prevention of marine pollution, the protection of ecosystems, and the sustainable management of maritime activities. It refers that *"The Contracting Parties shall, in accordance with the provisions of the Convention, take all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, when practicable, restore marine areas which have been adversely affected"*.

In 2007, the OSPAR Commission amended **Annexes II and III** of the Convention to permit the storage of carbon dioxide in geological formations beneath the seabed. In connection with this, OSPAR also adopted two key decisions: **OSPAR Decision 2007/1**, which prohibits the storage of CO_2 streams in the water column or directly on the seabed, and **OSPAR Decision 2007/2**, which establishes the conditions under which CO_2 streams may be stored in geological formations, ensuring such activities do not compromise the marine environment.

The **Directive 2014/89/EU of July 23** establishes a framework for maritime spatial planning (compatible with CCS projects) within the European Union. According to Article 5, Member States shall take into account economic, social, and environmental factors to support sustainable development in the maritime sector. Furthermore, Member States should aim to contribute to the sustainable development of offshore energy sectors, maritime transport, fisheries, and aquaculture, as well as to the protection and improvement of the environment, including resilience to climate change impacts.

As already stated in section 5.2.1, the **Decree-Law No. 38/2015 of March 12** (complemented by the **Decree-Law No. 39/2015 of July 30**) transposes **Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014**, establishing a framework for maritime spatial planning. This decree-law builds upon **Law No. 17/2014 of April 10**, which defines the **Foundations for the Policy on Maritime Spatial Planning and Management**. Although not explicitly mentioned, it is highly recommended that CO_2 storage pilots align with these guidelines. The project developer is responsible for ensuring the adoption of all necessary measures to achieve and maintain the good environmental status of the marine environment. Furthermore, once the private use license is terminated, the holder is obliged to restore any altered physico-chemical conditions, unless those changes result in a proven environmental benefit.

In accordance with **Article 23**, and in connection with **Decree-Law No. 151-B/2013 of October 31**, a **Allocation Plan** an instrument that designates specific areas of the maritime space for certain uses and activities—is subject to an EIA when required under that decree. The EIA for the allocation plan must take into account the environmental report approved (**Article 13**). As discussed in section 5.2.1, research activities may be exempted from the submission of an Allocation Plan by ministerial decision.

Law No. 19/2014 of April 14 establishes the foundations of environmental policy in Portugal, including the instruments necessary for effective environmental management.
According to **Article 18**, environmental assessment instruments are designed to ensure that projects whether public or private, that may impact the environment, land use, or the quality of life of citizens are subject to a prior EIA before their approval. This evaluation considers, among other factors, the

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current state of the environment, assessment of alternatives, baseline scenarios, cumulative impacts from other planned or existing developments, and input received through public consultation. In the case of projects likely to cause significant adverse environmental effects, the assessment must also include a life cycle analysis.

5.2.3.3 Environmental Impact Assessment Process

Following the overview of the legal and regulatory framework for Environmental Impact Assessment (EIA), this section outlines the key steps, institutional responsibilities, and indicative timelines involved in the EIA process. As previously mentioned, the EIA process in Portugal is governed by **Decree-Law No. 151-B/2013 of October 31**, which transposes **Directive 2011/92/EU** (as amended by **Directive 2014/52/EU**) into national legislation.

Additionally, since this project involves the **geological storage of carbon dioxide (CO_2)**, **Decree-Law No. 60/2012 of March 14** is also applicable. This decree transposes **Directive 2009/31/EC**, which specifically regulates the geological storage of CO_2.

The EIA process steps, including projects related to carbon capture and storage, are described on Figure :

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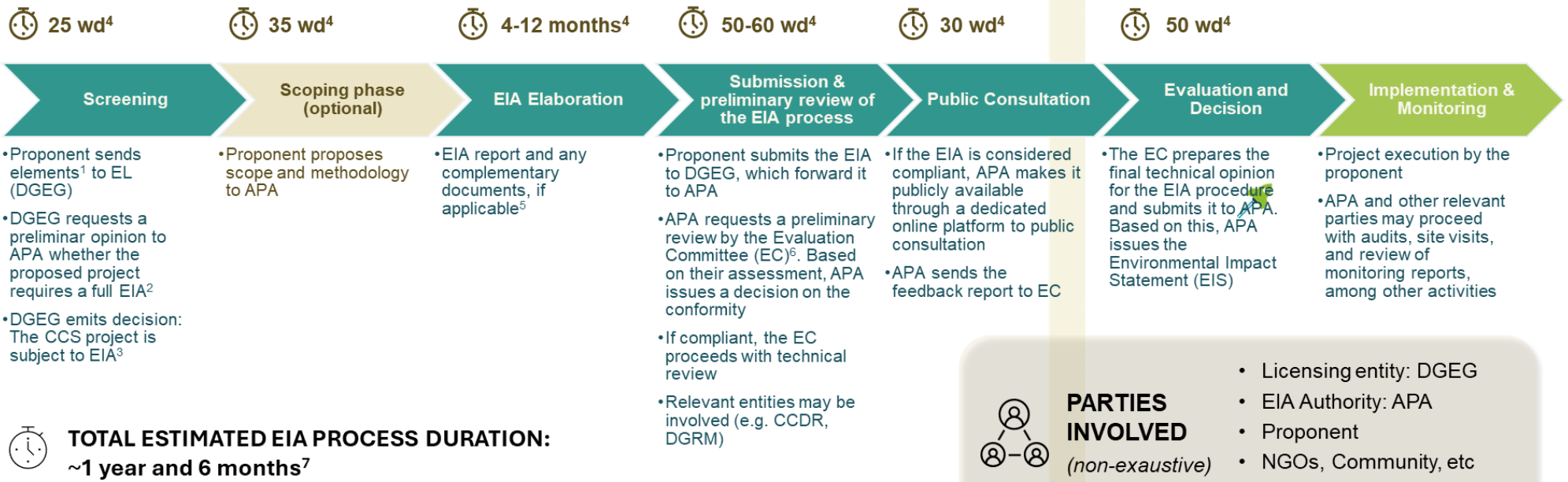

Figure 5.2. EIA process main stages (1 – As requested on Annex IV DL 151-B/2013; 2 – According to Annex III DL 151-B/2013; 3 – According to Annex I DL 151-B/2013; 4 – Working Days; 5 – Minimum content listed on Annex V DL 151-B/2013; 6 – Multidisciplinary team, according to Article 9 DL 151-B/2013; 7 – Timings can vary)

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The authorities and relevant parties that are or may be involved in EIA process related to carbon capture and storage, such as PilotSTRATEGY, are listed in the following table:

Competence authority	Entity	Description
CCS Authority	Direção Geral de Energia e Geologia (DGEG)	Issues permits for exploration and geological storage of CO_2
National EIA Authority	Agência Portuguesa do Ambiente (APA)	Coordinates and oversees the EIA process
Authority for Marine Activities	Direção-Geral de Recursos Naturais, Segurança e Serviços Marinhos (DGRM)	Issues permits (e.g., TUPEM) for private use of maritime space and ensures compliance with maritime regulations
Nature Conservation Authority	Instituto da Conservação da Natureza e das Florestas (ICNF)	Issues opinions on impacts in protected areas and on protected species, including marine biodiversity

Table 5.3 Competence authority and main entities associated to EIA process for CCS projects Authorities Providing Opinions on Projects and Activities under Subcategory A1 of Group 11 "Transport of energy, fuels and chemical substances

Note that the list includes the main entities involved, but additional parties may participate depending on the stage of the EIA process and the specific nature of the project and subject.

Decree-Law No. 60/2012 of March 14 applies to this CO_2 storage project. However, if the pilot phase injects less than 100 kt and there is an alignment with authorities, it qualifies as scientific research and is exempt from full requirements.

5.2.4 Seismic acquisition and well drilling operations – Legal Framework

This section comprehends the compliance checklist for seismic acquisition operations and exploration well drilling in Portugal. The competencies over hydrocarbon exploration and exploitation activities and geological CO_2 storage are distributed among:

DGEG – Directorate-General for Energy and Geology: is the main licensing entity for exploration projects and geological storage, including CCS

APA – Portuguese Environment Agency: responsible for EIA and environmental licensing

DGRM – Directorate-General of Natural Resources, Safety and Maritime Services: issues technical opinions on maritime safety and navigation; coordinates interministerial opinions on the use of maritime space and the issuance of TUPEM (Title of Private Use of Maritime Space), according to Art. 50 of DL 38/2015

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5.2.4.1 3D seismic acquisition

Seismic acquisition remains subject to 1) prior environmental licensing (or justified exemption) by APA; 2) obtaining TUPEM from EMAM, based on opinions from DGRM and APA; and 3) communication to DGEG with technical plan and execution schedule.

A conformity checklist can be also resumed as follows:

- Submission of technical plan to DGEG
- Request for exemption or submission of EIA to APA
- Request for TUPEM to DGRM
- Technical opinion from DGRM
- Notification of activity initiation

5.2.4.2 Well drilling

The updated legal framework for well drilling activities requires:

- Exploration license issued by DGEG
- Mandatory Environmental Impact Assessment (EIA), unless expressly waived by APA
- TUPEM for maritime space occupation, issued by DGRM
- Safety and emergency plan approved by DGRM
- Notification of activity initiation

The EIA process highlights the need to align the Portuguese process with European practices, including a clear separation between licensing and EIA for seismic, drilling, and storage activities. Additionally, in certain cases – especially those involving potential cumulative impacts, sensitive environments, or projects exempt from EIA – a separate, in-depth baseline study may be required.

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5.3 Ebro Basin (Spain)

This section describes the permits applicable to the various phases or subprojects to be developed within the framework of the underground carbon dioxide storage program, as included in the scope of this Permit Plan.

Below is shown an extract of the fully comprehensive information gathered, described in complete detail in the ANNEX 1 of this document.

5.3.1 Research phase

5.3.1.1 General

- *RESEARCH PERMIT:* The research permit grants its holder the exclusive right to investigate the feasibility of CO_2 geological storage within a defined area. Initially valid for up to four years, the permit may be extended once for an additional two years if the investigation cannot be completed within the original timeframe, provided the work has been conducted in accordance with the permit conditions. In exceptional cases, a second two-year extension may be granted if the site shows promising characteristics for storage and delays were beyond the permit holder's control.

  The permit also includes a declaration of public utility or social interest for the land required to carry out the research, enabling temporary occupation through the legal mechanism of forced expropriation. Additionally, the permit may authorize the monitoring of injection tests, and in such cases, the competent authority may require the provision of a financial guarantee in line with Article 12 of Law 40/2010.

- *Notification of commencement of research activities and appointment of technical director*: Subject to what may be established within the permit award procedure, the works must begin within a period of six months from the date on which the developer is in a position to occupy the land necessary for its execution, and is obliged to maintain it in activity with the intensity programmed in the annual projects or work plans.

- *Submission of work plans*: According to the history of research permits granted in Aragon in July 2012, during the month following the completion of the research established in the research plan, a summary report of the status of the work must be submitted to the General Directorate, indicating the results obtained, incidents, and degree of compliance with the authorized work.

5.3.1.2 Seismic Survey

- *Permits for access and temporary land occupation, and urban planning permits for the installation of geophones: A*s part of the research permit, the project includes 2D and 3D seismic surveys using Vibroseis trucks to generate seismic waves, with geophones inserted into the ground to capture the signals.

  To conduct these activities, the project must secure appropriate land access rights, which vary depending on land ownership:

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- Private land: Requires a deed or agreement with landowners (e.g., authorization or private contract).
- Public land: Requires administrative authorization from the relevant public authority.

If agreements cannot be reached, the permit holder must initiate a temporary occupation procedure under the Law on Forced Expropriation, leveraging the public utility status granted by the research permit. This must be done within two months of permit notification.

- *Authorization to carry out the seismic survey:* The authorization shall specify the specific measures to be observed by the petitioner, as well as the conditions under which the exploration is granted. It will be stated that in no case will these explorations be authorized on an exclusive basis or create rights and that they will automatically expire in those areas that are subject to the granting of research permits (however, it is understood that the authorization will be requested within the framework of the research permit previously granted).

  When the work is completed, a copy of the reports, maps and sections and other data related to the authorized operations must be delivered to the Directorate-General of Energy and Mines. The corresponding data will be confidential for a period of one year from the date of completion of the fieldwork.

- *Environmental Impact Assessment (simplified procedure):* Based on previous experience, it is common for the simplified environmental assessment of seismic campaign projects to lead to the environmental body declaring the need to submit the project to ordinary evaluation. Therefore, in order to avoid the significant delays involved in the prior processing of the simplified environmental assessment, it would be advisable to consult the authorities beforehand in order to know whether the ordinary procedure should be used directly when submitting the application for authorization to the substantive body.

- *Environmental Impact Assessment (ordinary procedure):* The ordinary environmental impact assessment (EIA) involves a structured, multi-step process aimed at evaluating the environmental implications of a proposed project. It begins with the optional request for a scope document, followed by the developer's preparation of a detailed environmental impact study. This study, along with the project documentation, is then submitted for public consultation and reviewed by relevant public administrations and stakeholders, typically over a minimum period of 30 working days. Afterward, the environmental authority conducts a technical analysis and issues an Environmental Impact Statement (EIS), which is integrated into the final project authorization.

  The entire procedure is legally bound to a maximum duration of approximately sixteen months, including a four-month window for the environmental body to issue the EIS after receiving the complete file. However, in practice, delays are common. If the substantive body fails to forward the file within one year of completing public consultation, the process expires and must be restarted. Despite these formal timelines, administrative delays often extend the actual duration beyond the legal limits.

- *Cultural heritage authorization:* Authorization will be denied in the event that the works endanger the values that advise the conservation of the affected Assets of Cultural Interest.

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- *Other possible permits and/or notifications.*

5.3.1.3 Exploration Wells

- *Permits for temporary land occupation and urban planning permits*: The execution of the wells will require the enabling titles for the occupation of the land that may be necessary, which will depend on the nature and ownership of the specific land finally affected. Same as in the case of seismic survey.

  To carry out the well construction, it is necessary to first obtain urban planning permits in accordance with local municipal regulations—likely from the Fuente de Ebro and Quinto City Councils. Since the wells are located on rural land, a municipal license will also require prior authorization for special use of non-developable land. This authorization must be supported by a binding report from the Provincial Urban Planning Council, issued as part of the environmental impact assessment process.

  Finally, if the specific location selected for the wells or the techniques used could affect a Property of Cultural Interest (BIC), cultural authorization should also be obtained from the Provincial Commission for Cultural Heritage as a requirement for the granting of the municipal licence that may be required.

- *Authorization for the drilling of exploration wells:* The mining regulations do not provide for any specific deadline for the issuance of the authorisation, so the general three-month period of Law 39/2015 would apply. However, it should be borne in mind that this period will be suspended due to the processing of the environmental impact assessment.

- *The effect of silence is dismissive, so that in any case it will be necessary to wait until express approval of the project is obtained before the start of the work.*

- *Environmental Impact Assessment (simplified procedure):* In the precedent identified in 2011 in Aragon, whose wells were located in an area very close to that planned for the exploratory wells in this Project and with similar characteristics, the regional administration considered, as a result of the simplified environmental assessment, that the execution of the wells did not require submission to ordinary environmental assessment. Therefore, in this case, it is recommended to resort to the simplified procedure without raising with the authorities the possible need to apply the ordinary evaluation, as this could significantly delay the Project.

  However, in the event that the environmental report states that the execution of the wells does require an ordinary environmental impact assessment, it would apply a similar procedure as provided for in section seismic survey.

- *Other possible permits and/or notifications.*

5.3.2 Operation phase

5.3.2.1 Framework Permit (Storage Concession)

- *Storage concession:* The maximum time to decide on a concession application is one year, excluding the environmental impact assessment period. The regulatory framework is still

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under development. Unlike mining laws, Law 40/2010 does not guarantee exploitation rights to research permit holders. Instead, concessions are awarded through a public, transparent process based on objective criteria. Research permit holders have priority for storage concessions if they meet all conditions and apply within the permit's validity. A public information phase is required, and the Autonomous Community must issue a report within three months.

Together with the application for a storage concession, proof of the constitution of a financial guarantee must be submitted to meet the obligations arising from the concession, including the closure procedures and the post-closure provisions, as well as the obligations arising from the inclusion of the storage sites in the scope of the emission of greenhouse gases.

- Environmental Impact Assessment (ordinary procedure): Similar as described in section 5.3.1.2 Seismic Survey.

5.3.2.2 Execution of development wells (Injection wells)

- *Authorization for the execution of production wells or adaptation of exploration wells*: In accordance with Article 6 of the Mining Law, the Industry and Energy Functional Area of the Government Sub-delegation in Zaragoza must be informed of the start of the work and provide the IGME, if requested, with the geological and mining data obtained, as well as allowing the competent qualified personnel designated by the Ministry of Industry access to the works in order to verify said data or complete the collection of them.
- *Permits for land occupation and urban planning:* The execution of the wells will require the enabling titles for the occupation of the land that may be necessary, which will depend on the nature and ownership of the specific land finally affected. Similar process as in 5.3.1.3 Exploration Wells.
- *Other possible permits and/or notifications.*

5.3.3 Other permits

In addition to the primary permissions discussed in the previous sections, the following possible permissions should be considered.

5.3.3.1 Power supply

No information is available on the sources of the electricity supply necessary for the execution of the wells or for the injection of carbon dioxide in the exploitation phase:

(i) In the event that the electricity is obtained through third-party supply, it will be necessary to have access permits and connection to the corresponding network, as well as to carry out the applicable procedures for the construction of the necessary line from the installation to the connection point granted.

(ii) In the event that the energy is intended to be obtained through photovoltaic panels and assuming that it is self-consumption without surpluses (without discharge into the grid), it will also be necessary to have access and connection permits for the consumption facilities.

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All of the above would apply, *mutatis mutandi*, to the case of gas supply.

5.3.3.2 Water

Nor is there any information available on the sources of water supply planned for the opening and operation of the wells and/or auxiliary services. The applicable permits will depend on the source of supply used.

5.3.3.3 Ground vehicles, heavy machinery

The requirements, procedures and permits applicable to the machinery and vehicles to be used for the execution of the planned work must also be taken into account.

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5.4 Upper Silesia Basin (Poland)

5.4.1 Analysis of the legal basis

National law

1. Act of 9 June 2011 – Geological and Mining Law (Journal of Laws 2023, item 633)
2. Act of 27 April 2001 – Environmental Protection Law (Journal of Laws 2022, item 2556)
3. Act of 10 April 1997 – Energy Law (Journal of Laws 2022, item 1385)
4. Act of 3 October 2008 on Access to Environmental Information, Public Participation and Environmental Impact Assessments (Journal of Laws 2023, item 1094)
5. Act of 20 July 2017 – Water Law (Journal of Laws 2023, item 1478)
6. Act of 27 March 2003 on Spatial Planning and Development (Journal of Laws 2023, item 977)
7. Act of 17 July 2009 on the Management System of Greenhouse Gas Emissions and Other Substances (Journal of Laws 2022, item 1071)
8. Act of 13 April 2007 on the Prevention and Remedying of Environmental Damage (Journal of Laws 2020, item 2187)
9. Regulation of the Minister of Climate and Environment of 3 September 2014 on areas permitted for CO_2 underground storage complexes (Journal of Laws 2014, item 1272) ***Note: The list of designated areas is under review; however, no formal amendment has yet been issued.***
10. Regulation of the Minister of Environment of 30 October 2015 on detailed requirements for the operation of underground CO_2 storage sites, injected CO_2 streams, and monitoring (Journal of Laws 2015, item 1840)
11. Regulation of the Minister of Environment of 22 December 2011 on detailed requirements for geological documentation (Journal of Laws 2011, item 1712)
12. Regulation of the Minister of Energy of 23 November 2016 on detailed requirements for the operation of mining plants (Journal of Laws 2017, item 1118)

EU law

1. Directive 2009/31/EC on the geological storage of CO_2
2. Regulation 2018/1999 on the governance of the Energy Union

5.4.2 Legal procedure for the deposit recognition stage

The selected site is not listed in the annex to the Regulation of 3 September 2014, thus it is necessary to submit an application to the Ministry of Climate and Environment to include the location as a designated CO_2 storage area. This step should precede formal reconnaissance activities.

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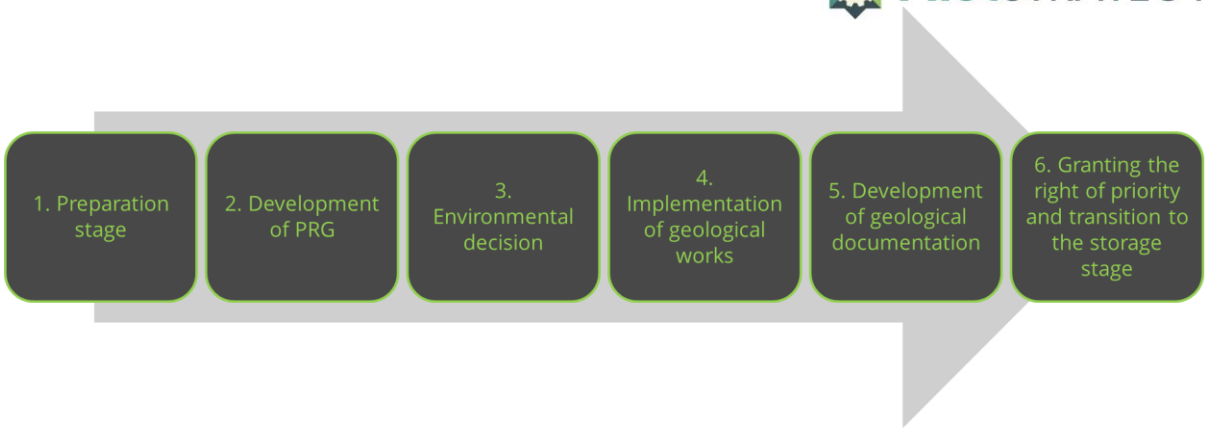

Figure 5.3. Polish legal procedure stages for application and designation of new location as CO_2 storage area

Historical geological data on the given deposit should be collected during the preparation stage (e.g. information from the Polish Geological Institute - National Research Institute, archived drilling in the area, geological profiles). The scope of planned work should be consulted with a team of experts (geologists, hydrogeologists, deposit engineers) and the authorities - e.g. the Ministry of Climate and Environment (department of geology) and the Regional Directorate for Environmental Protection, to learn about their expectations regarding the documentation. The description of the procedure may vary depending on the expectations of authorities and specific project.

5.4.3 Necessary documentation

1. **Geological Works Project (PRG)**

- Detailed description of the scope and methodology of the planned works: e.g. number and depth of wells, hydrogeological research program, CO_2 or brine injection tests (if planned), measures to minimize the impact on the environment, drilling security plan, etc.
- The application for approval of the PRG is submitted to the Minister of Climate and Environment (Chief National Geologist).
- Approval of the geological works project is issued in the form of an administrative decision

The content of the document:

- research objective (determination of the parameters of the CO_2 storage complex),
- description of the geological structure and hydrogeological conditions,
- planned research methods (e.g. 2D/3D seismic, number and location of boreholes, drilling depth),
- rock and water sampling program, possible test injection of brine or gas to check the properties of the reservoir,

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- risk minimization measures (e.g. preventing the ingress of mud into groundwater by appropriately sealing the borehole, management of drilling waste),
- plan of reclamation works after drilling completion.

2. **Decision on environmental conditions (environmental decision)**

- May be required for the reconnaissance stage, depending on the scope of the planned works.
- In accordance with EIA Act, the search for and recognition of geological structures for CO_2 storage are classified as undertakings that may potentially have a significant impact on the environment (due to potential threats, e.g. the possibility of fluid migration, drilling waste, noise, etc.)
- The investor prepares a Project Information Card for the intended geological works and submit an application for a decision on environmental conditions.
- The body (RDOŚ or the relevant commune head/mayor) conducts a screening procedure to determine whether the planned drilling and other works require a full environmental impact assessment (EIA) or simplified. The decision takes 21-30 days.
- If required, the ordinary EIA process may take several months
- Possible simplified procedure without EIA report – lower cost and shorter timeline depending on potential risk, e.g. potential migration of fluids, drilling waste, noise, etc.
- Ordinary EIA phases:
  - preparation of the report (analysis of the impact of drilling on underground waters, land surface, nature; planned preventive measures),
  - agreements with the authorities (including the sanitary inspection, Polish Waters),
  - public consultations (an information meeting with residents may be held, especially if the area is located close to buildings or protected natural areas)
  - issuing an environmental decision specifying the conditions for conducting the works.

3. **Land access consents**

- The investor should have legal title to the land where geological works will be carried out
- It is necessary to obtain the consent of landowners to perform drilling and research – this can be regulated by civil law agreements with the owners of plots in the area of planned drilling.
- If the land is owned by the State Treasury (e.g. state forests), a permit from the appropriate entity (e.g. State Forests) will be required.

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4. **Mining plant operations**

- Geological works (drilling) are subject to mining supervision regulations.
- Before starting an exploratory drilling, this fact must be reported to the appropriate District Mining Office (OUG).
- A technical plan for the drilling is prepared, approved by the mining plant operations manager and submitted to OUG for acceptance as part of the so-called mining plant operations notification

5. **Water permits**

- At the research stage they may be necessary if the works will affect water and cause the discharge of sewage into the environment.
- The decision is made by the Polish Waters authority based on the works project.

As a result of deposit recognition two types of documentation are required: hydrogeological and geological-engineering. Hydrogeological documentation assesses the impact of the undertaking on groundwater - e.g. it will determine whether aquifers (including the saline one) are isolated from usable groundwater and whether CO_2 injection will not threaten water quality. Geological-engineering documentation describes the geological conditions from the point of view of safety - e.g. stability of the rock mass, resistance of sealing rocks to pressure increase, potential seismic effects of CO_2 injection. Both documentations should contain conclusions as to the suitability of a given complex for long-term gas storage and define the spatial boundaries of the complex

According to the new regulations, an entrepreneur who has identified and documented a CO_2 underground storage complex obtains a time-limited exclusive right to apply for a CO_2 storage concession in this complex. This mechanism protects the investor bearing the costs of reconnaissance from competitors trying to take over the already completed facility. This right expires if an application for a concession is not submitted within the specified period, thus it is important to have a smooth transition to the next stage

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5.5 Macedonia Basin (Greece)

According to Ministerial Decision DIPA/37674/10/08/2016 [3] (p. 26836), which is amended by Decisions 2307/2018 and YPEN/DIPA/17185/1069/2022 (Government Gazette B' 841/24.2.2022), projects like PilotSTRATEGY and similar that are related to CO_2 capture and storage fall under Category 11 "Transport of energy, fuels and chemicals substances", No 6 "Infrastructure for the transport and storage of carbon dioxide streams in geological formations" by the EU Directive 2009/31/EC [4]:

- Transport pipelines, including associated compression stations
- Storage sites
- Capture installations intended for storage in geological formations

This Ministerial Decision includes a series of Annexes, listing all possible pilot-scale projects and activities along with their Category for Environmental Classification. The Categories are as follows:

- Annex I: Includes Category 1 "Land and Air Transport Projects"
- Annex II: Includes Category 2 "Hydraulic Works"
- Annex III: Includes Category 3 "Port Works"
- Annex IV: Includes Category 4 "Environmental Infrastructure Systems"
- Annex V: Includes Category 5 "Mining Activities"
- Annex VI: Includes Category 6 "Tourism Facilities and Projects of Urban Development, Building Sector, Sports, and Recreation"
- Annex VII: Includes Category 7 "Poultry and Livestock Farming Facilities"
- Annex VIII: Includes Category 8 "Aquaculture"
- Annex IX: Includes Category 9 "Industrial and Related Facilities"
- Annex X: Includes Category 10 "Renewable Energy Sources"
- Annex XI: Includes Category 11 "Transport of Energy, Fuels, and Chemical Substances"
- Annex XII: Includes Category 12 "Special Projects and Activities"

The following Table (Table 5.4) describes in detail the types of projects, the subcategogy and category to which they belong under the Category 11. Projects that fall under Subcategory A1 require full Environmental Impact Assessment (EIA) whereas those in Subcategory A2 require a simplified EIA or screening decision, depending on significance.

No.	Type of Project	Subcategory A1	Subcategory A2	Category B	Notes
1	Fuel pipelines of national importance or part of European/international networks, including supporting facilities	Entirety	–	–	–
2	Liquid fuel pipelines and supporting facilities (e.g., pumping stations, metering stations)	L ≥ 20 km or Φ ≥ 400 mm	L < 20 km	–	L = total length; Φ = diameter; Pipelines within installations are evaluated

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					together with them
3	Gas fuel pipelines and supporting facilities (e.g., metering and pressure regulating stations)	L ≥ 20 km or P ≥ 19 bar	L < 20 km and 4 ≤ P < 19 bar outside road network	–	L = total length; P = operating pressure
4	Chemical substance pipelines (liquids and gases)	L ≥ 20 km or Φ ≥ 400 mm	L < 20 km	–	L = total length; Φ = diameter
5	Infrastructure for the transport and storage of natural gas in geological formations	Entirety	–	–	–
6	Infrastructure for the transport and storage of carbon dioxide streams in geological formations, under Directive 2009/31/EC: - transport pipelines including associated booster stations, - storage sites, - capture installations for geological storage purposes	Entirety	–	–	–
7	Reception stations for liquefied gaseous fuels	Entirety	–	–	Includes regasification facilities
8	Production and transport of steam and hot water, including supporting installations	Entirety	–	–	Does not concern self-use or internal consumption
9	Refueling stations for vehicles with gaseous or liquid fuels	Entirety	–	–	–

Table 5.4 Subcategories of Category 11 "Transport of energy, fuels and chemicals substances". The green color highlights the subcategory that is related to CCS projects, like PilotSTRATEGY

According to the above information of projects environmental classifications it comes up that this pilot case is classified as Subcategory A1.

The European Union has deployed a new strategy that transforms the Union into the first climate-neutral continent by ensuring zero emissions by 2050. The permitting and regulatory framework for CO2 storage in MHB in West Macedonia is outlined by European and National Directives and legislation regulating the environmental assessment, licensing, and supervision of carbon storage projects like PilotSTRATEGY. The regulatory architecture described below (Table 5.5) aligns Greek policy with the EU climate one. The regulatory's hierarchy follows EU Directives, then National Laws and finally the Ministerial Decisions. It also addresses the national permitting processes, public participation, and environmental protection standards

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A/A	LEGISLATION TYPE	NAME	RELEVANCE	ARTICLES
1	EU Directive	Directive 2009/31/EC on the geological storage of carbon dioxide	CO_2 Geological Storage Regulation	4, 5, 6, 8
2	EU Directive	Directive 2014/52/EU amending Directive 2011/92/EU on environmental impact assessments	Environmental Impact Assessment	3, Annex I, Annex II
3	EU Directive	Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC	Greenhouse Gas Emissions	-
4	National Law	Law No. 3851/ 2010 on Acceleration of the Development of Renewable Energy Sources to Address Climate Change and Other Provisions under the Competence of the Ministry of Environment, Energy and Climate Change	Climate Change	3
5	National Law	Law 4014/2011 on Environmental permitting of projects and activities, regulation of unauthorized constructions in relation to the creation of an environmental balance, and other provisions under the jurisdiction of the Ministry of Environment	Environmental Permitting for projects and activities	1, 2, 3, 19, 19a
6	National Law	Law 2899/1995 on Exploration, research and exploitation of hydrocarbons and other provisions	Hydrocarbons	1
7	National Law	a) Directive (EU) 2019/2162 of the European Parliament and of the Council of 27 November 2019 on the issue of covered bonds and supervision of covered bonds, and amending Directives 2009/65/EC and 2014/59/EU; b) Directive (EU) 2019/1153 of the European Parliament and of the Council on laying down rules to facilitate the use of financial and other information for the prevention, detection, investigation or prosecution of certain criminal offences, and repealing Council Decision 2000/642/JHA; c) Directive (EU) 2019/2034 on the prudential supervision of investment firms, amending Directives 2002/87/EC, 2009/65/EC, 2011/61/EU, 2013/36/EU, 2014/59/EU, and 2014/65/EU, and aligning with Regulation (EU) 2019/2033 on the prudential requirements of investment firms and amending Regulations (EU) 1093/2010, (EU) 575/2013, (EU) 600/2014, and (EU) 806/2014; d) Article 1 of Directive (EU) 2019/2177, amending Directive 2014/65/EU on markets in financial instruments; e) Directive (EU) 2020/1504, amending Directive 2014/65/EU on markets in financial instruments and aligning with Regulation (EU) 2020/1503 on European crowdfunding service providers for business; f) Directive (EU) 2019/1160, amending Directives 2009/65/EC and 2011/61/EU as regards cross-border distribution of collective investment undertakings; g) Directive (EU) 2021/338 of the European Parliament and of the Council of 16 February 2021, amending Directive 2014/65/EU as regards information requirements, product governance and position limits, and Directives 2013/36/EU and (EU) 2019/878 as regards their application to investment firms with a view to recovery from the COVID-19 crisis; Supplementary State Budget for the financial year 2022 and related provisions.	General	228

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8	National Law	Measures and conditions for the geological storage of carbon dioxide – Amendment of Joint Ministerial Decision No. 29457/1511/2005 (Government Gazette B 992), Presidential Decree 51/2007 (Government Gazette A 54), and Presidential Decree 148/2009 (Government Gazette A 190), in compliance with the provisions 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, and Directives 2000/60/EC, 2004/35/EC, 2008/1/EC of the European Parliament and of the Council, and Regulation (EC) No 1013/2006.	CO_2 Geological Storage Regulation	-
9	National Law	Modernization of environmental legislation, incorporation into Greek law of Directives 2018/844 and 2019/692 of the European Parliament and of the Council, and other provisions.	Environmental Legislation	1, 2-4, 6, 8, Chapter 3, Chapter 4
10	National Law	Provisions for the simplification of environmental permitting, establishment of a framework for the development of Offshore Wind Farms, addressing the energy crisis, environmental protection, and other provisions.	Environmental Permitting	175
11	Joint Ministerial Decision	Ministerial Decision 1958/2012 (Government Gazette B' 21/13.01.2012) on Classification of public and private projects and activities into categories and subcategories, in accordance with Article 1, paragraph 4 of Law 4014/21.9.2011 (Government Gazette A' 21/13.01.2012)	Project Classification	Annex VI
12	Joint Ministerial Decision	Decision 5688/2018 on Amendment of the Annexes to Law 4014/2011 (Government Gazette A' 209), in accordance with Article 36A of that law, for the transposition of Directive 2014/52/EU 'amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment of the European Parliament and of the Council of 16 April 2014	Environmental Permitting for projects and activities	-

Table 5.5 European and Greek legislation related to the regulatory and permitting process of CO2 storage

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The geological storage which is critical for PilotSTRATEGY, is regulated by the following laws. In Directive 2009/31/EC, Article 4 (p. L 140/121) describes the requirements for selecting a geological storage focusing on the environmental safety of the storage process. The main purpose of the Article 4 is to ensure that no storage site shall operate without a storage permit, which is granted only if all mentioned requirements in this directive are met. Article 5 gives a detailed description of the exploration for potential storage sites. According to Article 5, each exploration process must be conducted under a permit system to ensure that such activities are regulated and that permits are granted based on objective criteria. Article 6 (p. L 140/121) mentions the obligation of all Member States to guarantee that no storage site shall operate without a storage permit, which is granted only if all requirements of the Directive 2009/31/EC are met and though environmental safety is ensured. In Article 8 (p. L 140/122)of the same Directive, the conditions under which storage permits are issued are described thoroughly. These include monitoring, reporting, and corrective measures that address any irregularities or leaks. In general terms, the Directive 2009/31/EC EU Directive mandates Member States to regulate CO_2 storage with specific criteria for site integrity, leakage prevention and long-term liability. The directive constitutes the legal core of national law for CO_2 storage in Greece.

Whereas environmental integrity, public safety, and sustainability compliance in large-scale CCS projects are fundamental, the EU has set the baseline with the following directives. The Environmental Impact Assessment (EIA) Directive 2011/92/EU, amended by Directive 2014/52/EU [5], describes thoroughly the categories of large-scale industrial projects. In this, carbon capture and storage projects are referred to as they shall be subjected to environmental assessments to ensure that they comply with major factors mentioned in Article 3 (p. L 26/4). The environmental impact assessment shall identify, describe, and assess the scale of the impact in:

a) human beings, fauna and flora,
b) soil, water, air, climate and the landscape in general
c) material assets and the cultural heritage
d) the interaction of the above

In Annexes I and II of the same Directive (p. L 26/8, L 26/11), all infrastructures related to geological storage of CO_2 that must undergo Environmental Impact Assessment before the development stage are listed.

According to the EU Emissions Trading System (EU ETS), which is deployed by the Directive 2003/87/EC [6] (amended by Directive 2018/410/EC) has an important role in setting CO_2 emission reduction targets and permits for CO_2 storage within approved geological formations.

As a Member State of the European Union, Greece has complied with the above European Directives by implementing a series of national Laws and Ministerial Decisions. Law No. 3851/2010 [7] is the transposition of EU Directive 2009/31/EC into the Greek legislation system. Article 3 (p. 1757) describes the legal basis of the environmental permitting process for energy-related projects thoroughly. According to this, any CO_2 storage infrastructure (e.g. monitoring wells, injection pipelines, transport pipelines) should require an Environmental Terms Approval. This requirement is also mentioned in Law 4014/2011 [8], in Articles 1, 2, and 3 (p. 6215, 6216, 6217). This Greek legislation defines the categories and subcategories of projects and activities that demand the Environmental Terms Approval and sets the frame of environmental permitting and introduces procedures like electronic submission, public participation, and screening processes among others. Moreover, Articles 19 and 19a (p. 6226, 6227) cover public consultation obligations in detail. The

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updated implementation of this law, the Ministerial Decision 5688/2018 [9] gives an updated overview of the EIA documentation, the licensing stages, and the competent bodies. Moreover, Law 4685/2020 [10] sets the legislative framework regarding the environmental permitting procedures and the authorities that participate in these. Article 1 (p. 1501) mentions the validity period of the Environmental Terms Approval, which is 10 to 15 years, as a way to ensure the long-term stability required for environmental permits for CCS projects. Articles 2-4 (p. 1501-1503) refer in detail to procedures and deadlines for issuing, renewing and amendment environmental permits. In Article 6 (p. 1504), the Central Environmental Licensing Board and the Regional Environmental Licensing Board are reported as authorized organizations for providing opinions on projects' environmental compatibility. Moreover, Article 8 (p.1508) discusses the mandatory use of the Digital Environmental Register for environmental licensing procedures from January, 1 2021, ensuring transparency and efficiency. According to Chapter 3 (p.1519) of this Law, the Natural Environmental & Climate Change Agency (N.E.C.C.A.) is established to be responsible for managing protected areas (Natura2000 areas, marine protected areas, and national parks) and implementing climate change policies. Chapter 4 (p. 1528) complements the previous Chapter as it thoroughly describes the land-use zones within the protected areas. It also specifies their categories based on the conservation objectives, which are possible to influence the installation of CO_2 storage facilities of CCS projects. Building upon the above, the Ministerial Decision 1649/45/2014 [11], which is the amendment of 1958/2012 [12] establishes the classification of projects into environmental categories A1/A2. In Annex VI (p. 622) projects and activities related to CCS infrastructures such as pipelines, storage, and capture units appertain to category A1, requiring full EIA.

The exploration, exploitation, and licensing of hydrocarbons in Greece were first mentioned in Law 2289/1995 [13]. According to Article 1 (p. 2037) Hellenic Hydrocarbons and Energy Resources Management Company (HEREMA) is designated as the competent public authority for licensing CO_2 storage in geological formation. In 2022, Articles 228 of Law 4920/2022 [14] (p. 2608) and 175 of Law 4964/2022 [15] (p. 5311) expanded and also defines at the same time the responsibilities of HEREMA, who is the principal contributor in Greek projects related to energy transition and climate change mitigation goals, into the following actions (both articles are amendments of paragraphs 1 and 2, Article 146 of Law 4001/2011):

- HEREMA is the authorized supervisor for the development and management of renewable energy initiatives.
- The Company is delegated to activities related to the exploration, licensing, and management of geological formations for CO_2 storage
- Grants explorations and storage permits for CO_2 storage in geological formation
- Manage State rights and contracts related to CO_2 or/and other gas/liquid storage
- Supervise the safe operation of storage projects
- Propose regulations on the use and development of geological formations for storage
- Gather the revenues from rights management. The funding sources, fees and revenue procedures are defined by Joint Ministerial Decisions

Concerning the geological site for CO_2 storage the Law 48416/2037/E.103 [16] implements a series of EU Directives and Regulations (2009/31/EC, 2000/60/EC, 2001/80/EC, 2004/35/EC/ 2008/1/EC, 1013/2006). This law sets the criteria for eligibility for geological formations suitable for CO2 storage. It also sets the barriers for storage in sites that exhibit a high risk of leakage (e.g. active fault zones or lack of proper sealing) or are near water sources. The permitting process shall be developed in:

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- Geological risk assessment,
- Covering injectivity
- Storage capacity
- Structural and stratigraphic trapping mechanisms
- Long-term stability
- Monitoring for CO_2 behavior prediction in post-injection phase to ensure environmental safety

While the legal context and regulatory basis for Environmental Impact Assessment (EIA) have already been discussed, the following section describes in detail the procedural steps and institutional roles specific to the Greek implementation. The EIA Directive [17] constitutes a fundamental instrument of EU's environmental policy and mentions the obligation to assess project environmental impacts at the decision-making stage. According to these:

- The wide range of projects and activities (e.g. infrastructures) in form of public investments
- The ex-ante evaluation of the environmental impacts which allows their integration into the planning, implementation and operation stages of the project
- Public access to the information and decision-making procedure
- The need for detailed and accessible information related to environmental impacts

In case of significant environmental effects, those in charge are obliged to take action in order to avoid or mitigate these effects. The Member States have implemented monitoring procedures for projects like PilotSTRATEGY or similar. While these procedures may vary among the Member States of the EU, it seems to be similar in their core. Figure below, depicts a flow diagram of the EIA stages.

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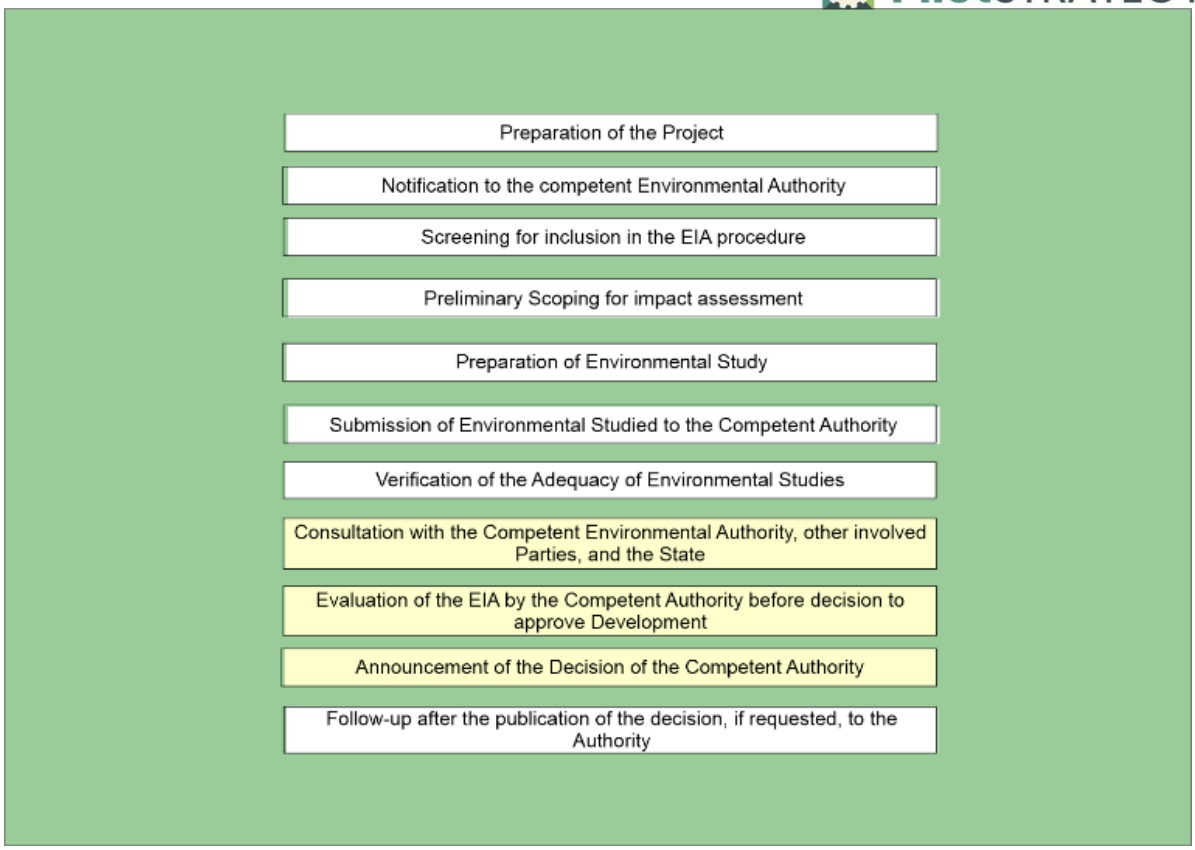

Figure 5.4 Flow diagram of EIA procedure. The mandatory phases are highlighted in yellow whereas the optional are unmarked.

The Greek National Law Framework was first implemented in 1986 by Law 1650/1986 [18] to regulate a series of environmental issues. In 2011, the legal framework was redirected by Law 4014/2011 [8], which was accompanied by a series of Joint Ministerial Decisions (JMD), Ministerial Decisions (MD), and Bulletins. The overall objective is to improve the outcomes and enhance the added value of the environmental permitting process. This Law, which is amended by the Ministerial Decision 5688/2018 [9] (Government Gazette B' 988/21.03.2018) and the Laws 4685/2020 [10], 4936/2022 [19], 4964/2022 [15], 5037/2023 [20] as well, introduced several refinements. The Environmental Impact Assessment procedure in Greece for projects related to carbon capture and storage, such as PilotSTRATEGY, is summarized in the following diagram (Figure).

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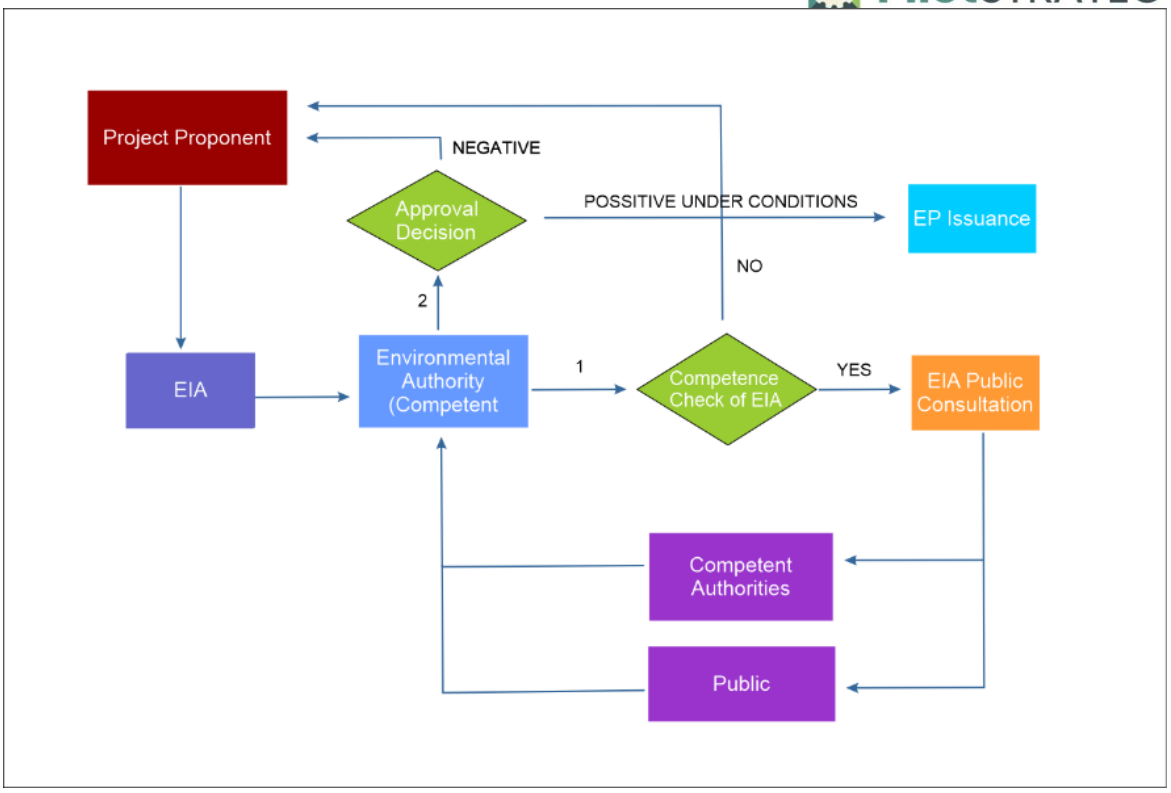

Figure 5.5: Flow chart depicting the Environmental Impact Assessment process in Greece

The Joint Ministerial Decision No. 1649/45/2014 (Government Gazette B' 45/15.01.2014) [11] classifies the case of West Macedonia under Subcategory A1 of Category 11, "Transport of energy, fuels and chemicals substances". This national Decision specifies the procedures for obtaining opinions as well as the informative methods of the public during the public consultation process of the environmental permitting of projects and activities classified under Category A. Table 5.6 below shows the Competent Service and the Authorities providing opinions as well. In the case of West Macedonia, the Directorate of Port Infrastructure of the Ministry of Shipping and Island Policy should be excluded as this project is onshore and does not affect the coastline, the seashore, the beach, or the sea at all.

No	Competent Service	Authority providing opinion	Comments
1	Directorate of the Special Secretariat for Forests	Ministry of Environment and Energy	On a case-by-case basis, according to paragraph 5 of article 2 of Law 4014/2011, the competent Directorate of the Special Secretariat for Forests determines whether the areas in question fall under its jurisdiction following an internal recommendation process, according to the procedure defined in paragraph 10 of article 3 of Ministerial Decision 15277/2012
2	Directorate of Spatial Planning or any other competent Directorate	Ministry of Environment and Energy	The Directorate of Spatial Planning always provides opinion according to paragraph 3 of article 3 of Law 4014/2011. On a case-by-case basis, the competent Directorate provides opinion for projects and activities: a) Within Natura 2000 areas or adjacent areas that may significantly affect them, the competent Directorate of the Ministry provides an opinion taking into account the opinion of the area's

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			management body. b) With reference A/A 1-7 (ΥΣΑ 1958/2012, currently in force).
3	Directorate of Spatial Planning and Environmental Protection	Ministry of Rural Development and Food	On a case-by-case basis for projects and activities to be located in agricultural land of high productivity or where such location is suspected.
4	Directorate of Prehistoric and Classical Antiquities; Directorate of Byzantine and Post-Byzantine Antiquities; General Directorate of Restoration, Museums and Technical Works	Ministry of Culture and Sports	On a case-by-case basis according to paragraph 4 of article 2 of Law 4014/2011, the competent Directorate of the Ministry of Culture determines whether the areas in question fall under its jurisdiction following an internal recommendation process. The Ephorate of Antiquities provides an opinion if the project/activity is located within an archaeological area. The Ephorate of Paleoanthropology-Speleology provides an opinion if the project/activity is located within a cave.
5	Hellenic National Defence General Staff	Ministry of National Defence	-
6	Directorate of Port Infrastructure	Ministry of Shipping and Island Policy	On a case-by-case basis for projects and activities that may affect the coastline, the seashore, the beach, or the sea.

Table 5.6 Authorities Providing Opinions on Projects and Activities under Subcategory A1 of Group 11 "Transport of energy, fuels and chemical substances"

As mentioned in paragraph 1.1.4 the Joint Ministerial Decision 48416/2037/E.103 [16], which is amended by Joint Ministerial Decision 36060/1155 /E.103/2013 [21] (Government Gazette 1450/B/14-06-2013) establishes a framework of rules, measures, and procedures for the integrated prevention and control of environmental pollution from industrial activities, in compliance with the provisions of Directive 2010/75/EU [22] on industrial emissions (integrated pollution prevention and control)" of the European Parliament and of the Council of 24 November 2010 (Annex VIII§3: repeal of Article 29) described in details the characteristics of the geological formations for CO_2 storage. Article 2 points out the prohibited sites for storage. Concerning potable water, sensitive ecosystems, and general environmental protection, the European Directive's 2009/31/EC Article 13 on the Storage of Carbon Dioxide in Geological Formations mentions that all Member States shall ensure that the operator monitors the injection units, the storage complex (including, where possible, the CO_2 plume), and, where applicable, the surrounding environment for:

- comparing the actual and modelled behaviour of CO_2 and formation water at the storage site
- detecting significant anomalies
- detecting CO_2 migration
- detecting CO_2 leakage
- detecting significant negative impacts on the surrounding environment, including in particular on drinking water, human populations, or users of the surrounding biosphere
- assessing the effectiveness of any remedial measures taken pursuant to Article 16
- informing the assessment of the short- and long-term safety and integrity of the storage complex, including the assessment of whether the stored CO_2 will remain fully and permanently isolated.

Although the PilotSTRATEGY, and thus the MHB in West Macedonia, is a project related to CO_2 storage in saline aquifers, it seems to be in conflict with the current Greek Joint Ministerial Decisions mentioned above. These strict protections are set on all aquifers, and thus, they exclude them from CO_2 storage sites despite their suitability from a geological and technical point of view.

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Although current legislation in Greece, excludes saline aquifers from CO_2 storage eligibility, proposed legislative amendments could unlock new opportunities for utilizing these geological formations. These possible revisions would allow the national law to align with the strategic goals of CCS projects, like PilotSTRATEGY and support both Greece's and the European Union's broader climate neutrality objectives.

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6. Conclusions

- The document highlights the diverse regulatory frameworks that exist across different countries. This diversity poses significant challenges for harmonizing policies and procedures on a global scale. Each country has its own set of rules and regulations, which can vary widely in terms of scope, enforcement, and compliance requirements. This heterogeneity necessitates a careful and nuanced approach to international cooperation and policy-making.
- One of the key conclusions is the need for harmonization. Despite the differences in regulations, there is a clear need to identify common ground and work towards harmonizing these regulations. This would facilitate international cooperation and the implementation of global policies. Harmonization can help reduce barriers to trade, improve regulatory compliance, and foster a more cohesive global regulatory environment.
- The document also underscores the importance of adaptability and flexibility for businesses and organizations. To comply with the diverse regulations, entities must be adaptable and flexible. This requires constant updates and training to stay abreast of regulatory changes. Organizations must develop robust compliance programs that can accommodate the varying requirements of different countries.
- Collaboration emerges as a crucial element in addressing regulatory differences. The document emphasizes the importance of collaboration between countries and entities to navigate the complexities of heterogeneous regulations. Sharing best practices and engaging in international cooperation can help overcome the challenges posed by regulatory diversity. Collaborative efforts can lead to the development of standardized practices and mutual recognition agreements that simplify compliance.
- The impact of regulatory differences on trade and the economy is another significant conclusion. Varying regulations can affect commercial operations and economic activities. Differences in regulations can create barriers to trade, increase compliance costs, and affect market access. It is essential to evaluate these impacts and seek solutions that minimize barriers while ensuring regulatory objectives are met.
- In summary, the document provides a comprehensive overview of the challenges and opportunities presented by heterogeneous regulations. It underscores the need for harmonization, adaptability, collaboration, and careful evaluation of economic impacts. Managing regulatory diversity effectively is crucial for promoting a more cohesive and efficient global regulatory environment.

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7. References

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Canteli, P.; Moreno, I.; Ron, M, Le Gallo, Y., Casacão, J., Sliwinska, A., Krawczyk P., Tartaras, E., Tzimeas, C., Ktenas, D., Tyrologou, P., Karatrantou, C. & Koukouzas, N. 2025b. Final concept description and preliminary consideration by regions. Deliverable 4.3, PilotSTRATEGY EU project (101022664)

Canteli, P., Moreno, I., Ron, M., Le Gallo, Y., Jannel, H., Casacão, J., Sliwinska, A., Tartars, E., Tyrologou, P. & Koukouzas, N. 2024. Deliverable 4.2 – Conceptual scenarios definition to enable decision support. PilotSTRATEGY project, Grant Agreement: 101022664

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7.1 France

7.1.1 French Legal Framework

- **Decree No. 2006-648 of 2 June 2006** - Defines the conditions for granting and managing mining titles, including the Exclusive Exploration Permit (PER). Décret n°2006-648 du 2 juin 2006 relatif aux titres miniers et aux titres de stockage souterrain. - Légifrance
- **Decree No. 2006-649 of 2 June 2006** - Establishes the declaration procedure for commencement of mining works, particularly for non-intrusive activities. Décret n°2006-649 du 2 juin 2006 relatif aux travaux miniers, aux travaux de stockage souterrain et à la police des mines et des stockages souterrains. - Légifrance
- **Decree No. 2023-13 of 11 January 2023**- Integrates mining works into the single environmental authorizations framework. Décret n° 2023-13 du 11 janvier 2023 relatif à l'autorisation environnementale des travaux miniers - Légifrance
- **Ordinance No. 2022-534 of 13 April 2022 – Article 2** -Specifies that the environmental authorization procedure replaces the former procedure for opening mining works. Ordonnance n° 2022-534 du 13 avril 2022 relative à l'autorisation environnementale des travaux miniers - Légifrance
- **Environmental Code – Articles R.122-2 to R.122-3** -Describe the case-by-case screening process for determining whether an Environmental Impact Assessment (EIA) is required. Article R122-2 - Code de l'environnement - Légifrance
- **Environmental Code – Article R.229-60** - Defines specific provisions for CO_2 geological storage under the environmental authorizations regime. Article R229-51 - Code de l'environnement - Légifrance

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- **Mining Code – Article L.114-1 and L.114-2** - Mandate the Environmental, Economic and Social Impact Assessment (EESIA) for new exploration permit applications.
- **Mining Code – Article L.114-4-1** - Provides for the possible establishment of a site follow-up committee ('commission de suivi de site') by the competent authority once a PER is submitted. Article L114-4-1 - Code minier (nouveau) - Légifrance
- **Mining Code – Article L.115-1** - Specifies that decisions and authorizations under the Mining Code are subject to full jurisdiction litigation. LIVRE IER : LE RÉGIME LÉGAL DES MINES (Articles L111-1 à L192-35) - Légifrance
- **Mining Code – Article L.122-2**- Introduces the competitive tendering procedure for new PER applications, with a 30-day period for competing submissions. Article L122-2 - Code minier (nouveau) - Légifrance
- **Mining Code – Article L.162-2**- Requires financial guarantees to ensure proper execution of mining operations and post-closure obligations. Article L162-2 - Code minier (nouveau) - Légifrance
- **ICPE Classification – Nomenclature of Classified Installations for Environmental Protection**- Regulates activities with environmental risks, including temporary or permanent CO_2 injection under specific headings (e.g. 1180, 1436). Nomenclature des ICPE | AIDA

7.1.2 European Directives

- **Directive 2009/31/EC (EU CCS Directive)**- Establishes a legal framework for safe geological storage of CO_2 and amends several environmental directives.
- **Directive 2012/18/EU (Seveso III Directive)**- Concerns the control of major-accident hazards involving dangerous substances.
- **Directive 2011/92/EU (amended by 2014/52/EU) – Environmental Impact Assessment Directive**- Provides the framework for assessing the environmental effects of public and private projects.
- **Directive 2001/42/EC – Strategic Environmental Assessment Directive -** Requires the evaluation of environmental effects of certain plans and programmes.

7.1.3 Other sources of information used

- **Ministère de la Transition Écologique et Solidaire, 2020.** National Low-Carbon Strategy (SNBC-2). https://www.ecologie.gouv.fr/strategie-nationale-bas-carbone-snbc
- **ADEME, 2020.** "Le Captage et Stockage géologique du CO_2 (CSC) en France" – Avis technique.
- **Monne, J. (ed), 2015.** "Carbon capture and storage: The Lacq pilot."
- **Y. Bouet, L. Prat, V. Versluys (2022)**"Analysis of the French Permitting Process for CO_2 Geological Storage and Operational Implications", 23rd–27th October 2022, Lyon, France.

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7.2 Spain

7.2.1 REGULATIONS

7.2.1.1 State

- Law on Forced Expropriation of 16 December 1954.
- Law 22/1973, of 21 July, on Mines.
- Law 34/1998, of 7 October, on the hydrocarbons sector.
- Law 1/2005, of 9 March, which regulates the greenhouse gas emission rights trading system.
- Law 42/2007, of 13 December, on Natural Heritage and Biodiversity.
- Law 40/2010, of 29 December, on the geological storage of carbon dioxide.
- Law 21/2013, of 9 December, on environmental assessment.
- Law 39/2015, of 1 October, on the Common Administrative Procedure of Public Administrations.
- Law 7/2021, of 20 May, on climate change and energy transition.
- Royal Decree of 24 July 1889 publishing the Civil Code.
- Royal Decree 2362/1976 of 30 July 1976 approving the Regulations of the Law on the Research and Exploitation of Hydrocarbons of 27 June 1974.
- Royal Decree 2857/1978, of 25 August, approving the General Regulations for the Mining Regime.
- Royal Decree 863/1985, of 2 April, approving the General Regulations on Basic Mining Safety Standards.
- Royal Decree 1372/1986, of 13 June, approving the Regulation of Local Entity Assets.
- Royal Decree 2822/1998, of 23 December, approving the General Vehicle Regulations.
- Royal Decree 975/2009, of 12 June, on the management of waste from the extractive industries and the protection and rehabilitation of the area affected by mining activities.
- Order of 2 October 1985 approving Supplementary Technical Instructions for Chapters V, VI and IX of the Regulations on Basic Mining Safety Standards. ITC 06.0.01 ITC 06.0.02
- Order ITC/101/2006, of 23 January, which regulates the minimum content and structure of the document on health and safety for the extractive industry. (ITC 02.1.01)

7.2.1.2 Autonomic

- Law 3/1999, of 10 March, on Aragonese Cultural Heritage.

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- Law 10/2005, of 11 November, on livestock roads in Aragon.
- Law 7/2006, of 22 June, on Environmental Protection in Aragon.
- Decree-Law 1/2008, of 30 October, of the Government of Aragon, on urgent measures to facilitate economic activity in Aragon.
- Law 11/2014, of 4 December, on Environmental Prevention and Protection of Aragon.
- Legislative Decree 1/2014, of 8 July, of the Government of Aragon, approving the revised text of the Urban Planning Law of Aragon.
- Legislative Decree 2/2015, of 17 December, of the Government of Aragon, approving the revised text of the Law on Territorial Planning of Aragon.
- Legislative Decree 1/2017, of 20 June, of the Government of Aragon, approving the revised text of the Forestry Law of Aragon.
- Legislative Decree 1/2023, of 22 February, of the Government of Aragon, approving the revised text of the Heritage Law of Aragon.
- Order of 26 September 2002, of the Department of Culture and Tourism, approving the Operating Regulations of the Provincial Commissions of Aragonese Cultural Heritage.

7.2.1.3 Municipal

- Decree 322/2002, of 8 October, of the Government of Aragon, declaring the town of Belchite Viejo in Zaragoza an Asset of Cultural Interest, as a Historic Site
- Urban Planning Regulations of the General Urban Planning Plan of the City of Belchite (J.A. Lorente y Asociados, arquitectura y urbanismo, S.L.P. October 2022).
- Agreement of the Plenary dated June 27, 2024 of the entity of Belchite by which the Special Plan that affects the modification of the delimitation of the Historic Site of the Villa de Belchite Viejo is definitively approved.

7.2.2 ADDITIONAL DOCUMENTS CONSULTED

- Order of 4 May 2015, adapting the validity of the hydrocarbon exploration permit called "Penélope", located in the province of Seville.
- Resolution of 15 February 2011, of the Aragonese Institute of Environmental Management, by which it is resolved not to submit to the environmental impact assessment procedure the Project for the realization of four geological investigation probes in the underground structure "La Zaida Bujaraloz 2, Fraction 1ª", "SM-1", "SM-2", "SM-3" and "SM-4", in the municipalities of Monegrillo and Pina de Ebro (Zaragoza), promoted by Endesa Generación S.A. (Expte. INAGA/500201/01/2010/10850).
- Resolution of 30 July 2012, of the Director General of Energy and Mines, granting the "Intermediate" research permit No. 3, for geological storage of carbon dioxide, in several municipalities of the provinces of Zaragoza and Teruel.

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- Resolution of 30 July 2012, of the Director General of Energy and Mines, granting the "Monegrillo 1" No. 1 research permit, for geological storage of carbon dioxide, in several municipalities of the provinces of Zaragoza and Huesca.
- Resolution of 30 July 2012, of the Directorate General of Energy and Mines, granting the "Monegrillo 2" No. 2 research permit, for geological storage of carbon dioxide, in several municipalities of the provinces of Zaragoza and Huesca.
- Resolution of 7 July 2017, of the Secretary of State for the Environment, formulating an environmental impact report for the submission to ordinary environmental impact assessment of the 2D terrestrial seismic campaign project in the Aquiles Hydrocarbons Research Permit (Navarra and Zaragoza) (BOE 26/07/2017)
- Resolution of 17 January 2019, of the Directorate General for Biodiversity and Environmental Quality, formulating an environmental impact report for the 2d seismic prospecting campaign project in the "LEO" hydrocarbon research permit (Murcia-Albacete).
- Order of 9 March 2020 of the Department of Industry, Competitiveness and Business Development, which publishes the Agreement of 26 February 2020 of the Government of Aragon, which grants the hydrocarbon exploration permit called "Barbastro" number H22021, located in the province of Huesca.
- Resolution of the Directorate General of Energy Policy and Mines publishing the application for the research permit for CO2 storage called "TARRACO2" by REPSOL EXPLORACIÓN, S.A. (BOE 25/11/2023).
- Catalogue of Forests of Public Utility of Aragon.
- Basic management and conservation plan for the Natura 2000 Network Protected Area SPA - ES0000136 - Belchite Steppes - El Planerón - La Lomaza.
- Basic management and conservation plan for the Natura 2000 Network Protected Area SCI/SAC-ES2430091. Flats and steppes on the right bank of the Ebro.
- Photographs provided by the client.
- Document "Facilities for Pilot Ebro 0.xls" provided by the client.
- Protected Areas.
- Municipalities research permit.

7.2.3 OTHER SOURCES OF INFORMATION USED

- Telephone consultation with the Forestry Service of the Aragonese Institute of Environmental Management.
- Telephone consultation with the Mining Service of the General Directorate of Energy and Mines of the Government of Aragon.
- Telephone consultation with the Environmental Management Area of the Ebro Hydrographic Confederation.

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- Telephone consultation with the Department of the Presidency, Economy and Justice of the Government of Aragon.

7.3 Portugal

7.3.1 REGULATIONS

The references used to create the regulatory framework and EIA compliance (in the EU and in the Portuguese legislation) are included in the following Table 7.1:

Instrument / Legislation	Type	Scope	Competent Authority	Link
Directive 2011/92/EU + 2014/52/EU	EU Directive	EIA	European Commission / APA	https://eur-lex.europa.eu/eli/dir/2011/92/oj/eng
Directive 2009/31/EC	EU Directive	Geological storage of CO_2	European Commission / APA, DGEG	https://eur-lex.europa.eu/eli/dir/2009/31/oj/eng
Directive 2014/89/EU	EU Directive	Maritime spatial planning	European Commission / DGRM	https://eur-lex.europa.eu/eli/dir/2014/89/oj/eng
OSPAR Convention	International Convention	Protection of the marine environment	OSPAR Commission / Portuguese State	https://www.ospar.org/work-areas/oic/carbon-capture-and-storage
Decree-Law No. 151-B/2013	Decree-Law	Legal regime for EIA	APA	https://diariodarepublica.pt/dr/detalhe/decreto-lei/151-b-2013-513863
Decree-Law No. 60/2012	Decree-Law	Geological storage of CO_2	APA, DGEG, DGRM	https://diariodarepublica.pt/dr/detalhe/decreto-lei/60-2012-553447
Decree-Law No. 17/2014	Decree-Law	Marine geological resources	DGEG, DGRM	https://diariodarepublica.pt/dr/detalhe/lei/17-2014-25343987
Decree-Law No. 38/2015 (complemented by the Decree-Law No. 39/2015)	Decree-Law	National maritime spatial planning	DGRM	https://diariodarepublica.pt/dr/detalhe/decreto-lei/38-2015-66727183
Law No. 19/2014	Law	Environmental Framework Law	Portuguese Parliament / APA	https://diariodarepublica.pt/dr/detalhe/lei/19-2014-25344037
Law No. 17/2014	Law	Activities in maritime space	DGRM	https://diariodarepublica.pt/dr/detalhe/lei/17-2014-25343987

Table 7.1 List of references used to describe the regulatory and EIA framework for the Portuguese case

7.4 Poland

1. Act of 9 June 2011 – Geological and Mining Law. (2023). Journal of Laws, 2023, item 633.

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2. Act of 27 April 2001 – Environmental Protection Law. (2022). Journal of Laws, 2022, item 2556.
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    b) Directive (EU) 2019/1153 of the European Parliament and of the Council on laying down rules to facilitate the use of financial and other information for the prevention, detection, investigation, or prosecution of certain criminal offences, and repealing Council Decision 2000/642/JHA;

    c) Directive (EU) 2019/2034 on the prudential supervision of investment firms, amending Directives 2002/87/EC, 2009/65/EC, 2011/61/EU, 2013/36/EU, 2014/59/EU, and 2014/65/EU, and aligning with Regulation (EU) 2019/2033 on prudential requirements of investment firms, amending Regulations (EU) 1093/2010, (EU) 575/2013, (EU) 600/2014, and (EU) 806/2014;

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d) Article 1 of Directive (EU) 2019/2177, amending Directive 2014/65/EU on markets in financial instruments;

e) Directive (EU) 2020/1504, amending Directive 2014/65/EU on markets in financial instruments, aligning with Regulation (EU) 2020/1503 on European crowdfunding service providers for businesses;

f) Directive (EU) 2019/1160, amending Directives 2009/65/EC and 2011/61/EU with regard to cross-border distribution of collective investment undertakings;

g) Directive (EU) 2021/338 of the European Parliament and of the Council of 16 February 2021, amending Directive 2014/65/EU regarding information requirements, product governance, and position limits, and Directives 2013/36/EU and (EU) 2019/878 with regard to their application to investment firms, with the aim of facilitating recovery from the COVID-19 crisis; Supplementary State Budget for the fiscal year 2022 and related provisions., in *Law No. 4920*. 2022, Government Gazette A' 74/15.04.2022: Greece.

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8. ANNEX 1 – COMPREHENSIVE PERMIT PLAN FOR EBRO BASIN (SPAIN)

The identification and description of the permits has been carried out in collaboration with the engineering and environment consultant company AECOM and the law firm Del Pozo & De la Cuadra, specialists in environmental law.

RESEARCH PHASE (A)

Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
	A.1. GENERAL								
A.1.1	**RESEARCH PERMIT**	General	Project as a whole - Investigation of potential geological storage of CO2	Permit (requires express resolution by the Administration)	Investigation of potential geological storage of CO2	Law 40/2010, of 29 December, on the geological storage of carbon dioxide. (Art. 8 – Research permit, and Art. 9 - Processing of research permits)	Directorate-General for Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon [1].	Art. 9 Law 40/2010: - Application for research permit; - Documentation accrediting the information indicated in Annex A of this document. All documents of a technical nature must be signed by competent technicians in the corresponding field.	Maximum period to decide on the application: one year[2]. (Art. 9) Within two months of submitting the application, the competent body will verify compliance with the requirements to be the holder of the permit. If the applicant does not comply with them, the application will be denied, and otherwise a period of two months will be opened for the submission of proposals for improvement by the applicant, competing offers by third parties or opposition by possible injured parties[3]. The resolution on the granting of the permit will be adopted in the form that each Autonomous Community establishes for those corresponding to its territorial area (Art. 9). In the case of Aragon, no implementing regulations have been approved in this regard and the procedure is not available on its website, although in accordance with the background information identified (research permits granted on 30 July 2012, BOA of 07/11/2012), the granting of the permit will be adopted by resolution of the Directorate General of Energy and Mines.

Remarks:

The research permit grants its holder the exclusive right to investigate the potential storage of CO2 during the validity of the permit. The validity of the permit shall not exceed 4 years, although the competent body may extend it for a maximum period of 2 years when the period initially stipulated is insufficient to conclude the investigation in question, and provided that such investigation has been carried out in accordance with the permit.
Exceptionally, if at the end of this extension the characteristics of the research could be considered favourable for the positive characterisation of a storage site and for reasons beyond the control of the permit holder it has not been possible to complete the investigation, the competent body may grant, at the reasoned request of the interested party, a further extension of 2 years.
The research permit will carry with it the declaration of public utility or social interest of the overlying land that is necessary for the work, for the purposes provided for in the Law on Forced Expropriation for the temporary occupation of the affected land.

[1] According to the history of regional research permits for geological storage of carbon dioxide identified in the Autonomous Community of Aragon (BOA of 07/11/2012), according to the current structure of the regional government.
[2] However, in practice, the Administration usually exceeds this legally established period, as has happened in the case of the research permit for CO2 storage "TARRACO2" requested by REPSOL (according to the publicly available information, the application would have been submitted on September 22, 2023 and has not yet been resolved).
[3] The documentation required for the submission of bids in competitions, the form and deadlines for submission, the award procedure and the evaluation criteria are pending regulatory development (although with respect to the latter, the greater amount of investments and the speed of execution of the investment program will be taken into account). A priori, the hydrocarbons regulations are not directly applicable, which do regulate these issues related to the concurrence of two or more applications for research permits in the same area.

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Id	Name of the procedure / permit	Subproject Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
In those cases where appropriate, the monitoring of injection tests may be included in the research permits. In these cases, the competent body may agree, if it deems it appropriate, the need to provide a guarantee in accordance with the provisions of Article 12 of Law 40/2010. ***Relationship with other permissions*:** **Obtaining the research permit is a prerequisite for the conduct of further research work** in order to determine the storage capacity or suitability of the respective storage site. The actions carried out within the framework of the permit will require the enabling titles for the **occupation** of the land that may be necessary, as well as the **approval of the corresponding technical projects** in the case of the works that require it depending on the techniques used. On the other hand, neither Law 40/2010 nor the supplementary mining regulations establish the obligation to submit an environmental impact study with the application for a research permit, but the corresponding **environmental impact studies** must be submitted within the framework of the authorisation procedures for the specific works carried out in the development of the research plan submitted. and that they require it[4]. Therefore, in relation to the permits and procedures applicable to the actions that are intended to be carried out within the framework of the research permit granted, see the subsequent blocks relating to each respective subproject (A.2 for seismic campaign, and A.3 for research wells).								
A.1.2	**Communication of the start of research work and appointment of a project director**	General	Project as a whole	Communication	Research work	Law 22/1973, of 21 July, on Mines (art. 117). Royal Decree 2857/1978, of 25 August, approving the General Regulations for the Mining Regime (art. 75).	Directorate-General for Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon.	Communication of the start of research work and the appointment of the responsible Project Director in compliance with Article 117 of the Mining Law[5]. (RD 2857/1978, art. 75)	The communication must be made immediately after the start of the research work. (RD 2857/1978, art. 75)
Remarks: Subject to what may be established within the permit award procedure, the works must begin within a period of six months from the date on which the developer is in a position to occupy the land necessary for its execution, and is obliged to maintain it in activity with the intensity programmed in the annual projects or work plans.								
A.1.3	**Presentation of work plans**	General	Project as a whole	Reporting	Research work	Law 22/1973, of 21 July, on Mines. Royal Decree 2857/1978, of 25 August, approving the General Regulations for the Mining Regime (art. 75).	Directorate-General for Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon.	Within a period of 4 months from the date on which the promoter is in a position to occupy the land necessary for the execution of the research work, it must submit in quadruplicate, a plan of work to be carried out in the first year (see details in Annex A) (RD 2857/1978, art. 75).	The initial and subsequent plans shall be deemed to have been approved if the Mining Service does not make any amendments to them within two months.
Remarks: According to the history of research permits granted in Aragon in July 2012, during the month following the completion of the research established in the research plan, a summary report of the status of the work must be submitted to the General Directorate, indicating the results obtained, incidents, and degree of compliance with the authorized work.								

[4] This is made explicit in the identified precedents of research permits for carbon dioxide storage granted in Aragon. See, as an example, the "Monegrillo 1" permit granted to Endesa Generación S.A. by Resolution of 30 July 2012, the conditions of which stated that "*[i]f the development of the work requires the performance of the boreholes referred to in the aforementioned research plan, the appropriate environmental processing provided for in Law 7/2006 will be necessary. of 22 June, of Environmental Protection of Aragon. If the activity is subject to the environmental impact assessment procedure, the term of validity of this authorisation will be suspended during the time of processing of said procedure. Likewise, the practice of drilling will require the prior authorization of the mining authority of the corresponding province, with special attention to the establishment of the appropriate safety conditions.*"

[5] Article 117.2 of the Mining Law establishes the following with regard to the qualification of the Project Manager responsible for the research work:
"Exploration and research work must be designed and directed by Mining Engineers, Graduates in Geological Sciences, Technical Mining Engineers, Mining Experts or Mining Physicians. When such work basically requires the use of geophysical or geochemical techniques, the above competences will be extended to graduates in Physical Sciences and Chemical Sciences, as well as to other university graduates who are recognised as having the corresponding specialisation. In any case, operations that may affect the security of property or persons or require the use of explosives must be directed by mining graduates."

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Id	Name of the procedure / permit	Subproject Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
	A.2. SEISMIC CAMPAIGN							
A.2.1	**Permits for access to and occupation of land, and urban planning permits for the installation of geophones.**	General	**Remarks:** According to the information provided, within the framework of the research permit it is planned to carry out 2D and 3D seismic campaigns by producing seismic waves with a fleet of 4 trucks of the so-called "Vibroseis", weighing about 28 tons. The signal would be received by geophones about 5 cm in diameter coupled to the same seismic line, which would penetrate about 15 cm into the ground. Both for access to the land and for the installation of the aforementioned surface receivers for the acquisition of seismic data, the following must be available: 1) The corresponding title of occupation, which will depend on the nature and ownership of the land. Like this: - in the case of private land, it will be necessary to have a title deed or the corresponding agreement with the owners for access to and occupation of their land (authorisation or private contract); instead - in the case of publicly owned land, access to and occupation of the same may require,[6] in agreement with the Administration that owns the land or the granting by the same of administrative authorisation[7]. If the holder of the research permit does not reach an agreement with the owners, holders of other rights or occupants of the land that are necessary for the development of the planned research work and its auxiliary facilities or for access to them, he is obliged to initiate the appropriate **temporary** occupation file in accordance with the provisions of the Law on Forced Expropriation (the granting of the research permit entails the declaration of public utility or social interest of the overlying land that is necessary for the work, for the purposes provided for in the Law on Forced Expropriation for the temporary occupation of the affected land), within a period of two months from the date on which the granting of the research permit was notified, research. 2) In addition, with regard to the possible transit of trucks through land that is of a mountain nature (essentially, not urban or agricultural), it should be taken into account that according to the Forestry Law of Aragon (Legislative Decree 1/2017) prior express administrative authorization is required for the circulation of motor vehicles traveling through mountain land of any ownership outside the existing [8]forest roads or tracks. However, through telephone consultation with the Forestry Service, it has been indicated that when the work is part of a research permit, INAGA usually informs in this regard within the procedure for granting the research permit (or, failing that, in the environmental assessment of the seismic campaign), without therefore requiring an autonomous authorization. 3) With regard to the transit or crossing of lorries on livestock roads, Law 10/2005, of 11 November, on livestock roads in Aragon, allows free transit, respecting the priority passage of livestock, to vehicles and machinery intended for the exercise of agricultural, livestock or forestry activities. On the other hand, authorisation is required by the Department responsible for livestock roads (INAGA) or, where appropriate, by the region, when the route of the road runs entirely through its territory, for the transit of other motorised vehicles such as vibrating trucks. 4) On the other hand, without prejudice to the fact that the specific works required for the installation of the temporary network of geophones are unknown, it is necessary to take into account the possible need to obtain the municipal planning permits that are applicable in accordance with municipal and regional regulations, about which it would be necessary to consult with the local authorities affected for each specific case. 5) Finally, a priori it is understood that the area for the seismic campaign has been selected in such a way that it does not affect elements of the Aragonese cultural heritage, particularly considering the presence of the Historic Site of the Villa de Belchite Viejo and other BICs in the vicinity. However, if due to the specific area affected or the techniques used could affect the Historic Site or any other BIC, cultural authorisation should be obtained from the Provincial Commission for Cultural Heritage as a requirement for the granting of the municipal licence that may be required (see section A.2.4 in this regard).				
A.2.2	**Authorization to carry out a seismic campaign**	Seismic campaign	Campaign project as a whole	Authorisation (express resolution by the Administration is required)	Research work (exploration authorization)	Royal Decree 863/1985, of 2 April, approving the General Regulations on Basic Mining Safety Standards (Art. 109[9]).	Directorate-General for Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon.	Documentation defined in Art. 14 Law 34/1998 and Art. 12 Royal Decree 2362/1976 (see details in Appendix A), including **environmental documentation provided for**	Neither Law 34/1998 nor Royal Decree 2362/1976 provides for a maximum period of duration of the procedure, so that the general period of three months provided for in Law 39/2015 would be applicable. However, it should be borne in mind that this period would

6 In the case of public land, it would be advisable to confirm this with the specific Administrations that own the land affected by the research work, taking into account that they may be Administrations other than the regional one that granted the framework permit (for example, local entities).
7 In accordance with Article 108 of the Consolidated Text of the Heritage Law of Aragon, both the special use of public domain assets (that which, without impeding common use, involves the concurrence of circumstances such as the danger or intensity of the same, preference in cases of scarcity, the obtaining of a singular profitability or other similar ones, are subject to authorisation, which determine an excess of use over the use that corresponds to all or a detriment to it) such as the exclusive use of public domain property (which determines the occupation of a portion of the public domain, so that the use of it by other interested parties is limited or excluded), when the occupation is carried out only with removable installations or movable property, and provided that the duration of use does not exceed four years. In the event that the private use exceeded this four-year period or fixed works or installations were carried out (which it is understood that a priori would not be the case, unless the initial duration of the research permit was extended), it required the obtaining of an administrative concession. All this, in turn, in accordance with Royal Decree 1372/1986, of 13 June, which approves the Regulation of Property of Local Entities, and the Civil Code of supplementary application to Aragonese civil laws.
In this regard, it should be noted that, according to the Catalogue of Forests of Public Utility of Aragon, the planned seismic acquisition area could potentially affect a demanial forest owned by the City Council of Belchite, called "La Lomaza".
8 It is unknown whether, from a technical point of view, Vibroseis trucks are considered motor vehicles for these purposes. According to the General Vehicle Regulations approved by Royal Decree 2822/1998, of 23 December, a vehicle is a "device suitable for circulating on the roads or terrain referred to in article 2 of the Law on Traffic, Circulation of Motor Vehicles and Road Safety". In any case, in view of the protective purpose of the forestry regulations, it would be reasonable for the Administration to make an extensive interpretation of the concept of "motor vehicles".
9 Article 109: "Land and sea soundings, pits, wells, geophysical works, reconnaissance of ancient work or other prospecting work shall require an approved project, shall be carried out under the orders of a project manager and shall comply with the provisions of these Regulations. [...]".

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
						Order of 2 October 1985 approving Complementary Technical Instructions for Chapters V, VI and IX of the General Regulations on Basic Mining Safety Standards: ITC: 06.0.02 Seismic works[10]. Law 34/1998, of 7 October, on the hydrocarbons sector (Art. 14). Royal Decree 2362/1976 of 30 July 1976 approving the Regulations of the Law on the Research and Exploitation of Hydrocarbons of 27 June 1974 (Art. 12[11]).		**in Law 21/2013[12] (see points A.2.3 and A.2.3.bis)**. Applications with their documentation must be submitted, in triplicate, accompanied by as many copies as provinces affected by the area of the authorisation requested. One of the original copies will be returned to the interested party, with the stamp and date of entry.	be suspended due to the possible processing of the environmental impact assessment. Likewise, the Directorate-General for Energy and Mines will obtain, if appropriate, reports from other Departments. Consequently, the total duration of the procedure will actually depend on whether the environmental impact assessment procedure and the consultations with the affected Administrations are considered applicable; Once these procedures have been completed, the decision on the authorisation should not be delayed beyond several weeks (in any case, the start of the work requires prior express authorisation).

Remarks:

The authorization shall specify the specific measures to be observed by the petitioner, as well as the conditions under which the exploration is granted. It will be stated that in no case will these explorations be authorised on an exclusive basis or create rights and that they will automatically expire in those areas that are subject to the granting of research permits (however, it is understood that the authorisation will be requested within the framework of the research permit previously granted).

When the work is completed, a copy of the reports, maps and sections and other data related to the authorized operations must be delivered to the Directorate-General of Energy and Mines. The corresponding data will be confidential for a period of one year from the date of completion of the fieldwork.

Relationship with other permissions:

- The processing of the authorisation of the seismic campaign requires the prior granting of the research permit (section A.1.1.) that contemplates said campaign among the research works.
- The request to initiate the environmental assessment procedure, if applicable (section A.2.3.), is submitted within the substantive procedure for authorisation of the project. The environmental report (or environmental impact statement, as the case may be) constitutes a mandatory and binding report for the resolution of the procedure for the substantive authorisation of the seismic campaign by the mining authority.

10 1. Regulations and standards: "In the performance of seismic works, in addition to the general provisions of the Basic Regulations and those of the Hydrocarbons Law and Regulations, both the special provisions indicated in this Instruction and the current rules on the use, handling and transport of explosives, as well as those regulating maritime and land traffic, shall be taken into account."

11 Art. 12.2.2: "Consequently, all geophysical or geochemical methods of prospecting, as well as the execution of other aerial, marine and terrestrial works or shallow boreholes, understood as those of less than 300 meters, shall require authorization from the Ministry of Industry."

12 Taking into account the selected acquisition area, the carrying out of a terrestrial seismic campaign as proposed could be subsumed in the case of simplified environmental assessment provided for in Article 23.2.b) of Law 11/2014 (in the same sense as Article 7.2.b) of Law 21/2013) in the event that the works could "appreciably affect, directly or indirectly, to Natura 2000 Network Protected Areas". In this regard, in the selected area there are several Sites of Community Importance (SCI), as well as the Special Protection Area for Birds (SPA) Estepas de Belchite - El Planerón - La Lomaza.
In the field of hydrocarbon research, the precedent of the Aquiles permit has been identified, where a 2D seismic campaign was proposed on an area partially coinciding with the one planned for the Project, also using vibroseis trucks and geophones. In this case, as a result of the environmental document presented by the developer, the Secretary of State for the Environment even agreed to submit it to ordinary environmental assessment (although it is true that, among other issues, the permit had a much greater geographical scope, extended to Navarre and not only to Zaragoza – see the Resolution of 7 July 2017, published in the Official State Gazette of 26 July 2017).
Consequently, it is likely that the Administration considers that the seismic campaign foreseen in the Project a priori should be submitted at least to a simplified environmental assessment by submitting the corresponding environmental document; and, to the extent that the possibility that the regional administration ends up considering that the seismic campaign requires an ordinary environmental impact assessment cannot be ruled out, it is recommended that prior consultation be carried out with the environmental body (INAGA) in this regard.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
A.2.3	**Environmental impact assessment seismic campaigns (simplified procedure)**	Seismic campaign[13]	Campaign project as a whole	Request for an environmental impact report (the express issuance of such a report by the Administration is required).	Environmental impact assessment.	Law 11/2014, of 4 December, on Environmental Prevention and Protection of Aragon: In accordance with article 23.2.b), projects not included in Annex I or Annex II that may significantly affect, directly or indirectly, Natura 2000 Network Protected Areas are subject to a simplified environmental impact assessment. In the same sense, article 7.2.b) of Law 21/2013.	**The application for the initiation of the simplified environmental assessment is submitted within the substantive procedure for authorisation of the project**; that is, together with the request for authorisation of the seismic campaign addressed to the Directorate General of Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon (substantive body). The environmental impact report will be issued by INAGA (environmental body).	The application must be accompanied by the environmental document with the content defined in article 45.1 of Law 21/2013[14] (see details in Annex A).	The environmental body will prepare the environmental impact report within three months of receiving the application for initiation and the documents that must accompany it (although, in practice, the total duration of the procedure usually exceeds the maximum period provided for by law). During the processing of the procedure, the environmental body will consult the public administrations affected and the interested persons (the procedure is granted for a maximum period of one month, without prejudice to which it is common for the administrations to fail to comply with this deadline). The environmental impact report shall be pronounced in one of the following two ways: a) The project must be subject to an ordinary environmental impact assessment because it has significant effects on the environment (section A.2.3.bis). b) The project does not have significant effects on the environment under the terms and conditions established in the environmental impact report. To the extent that, in practice, the total duration of the procedure usually exceeds the maximum period provided for by law, and may even be delayed by more than a year in view of files for authorisations for hydrocarbon exploration through seismic campaigns (see recommendations in the Observations section).

Remarks:

Based on previous experience, it is common for the simplified environmental assessment of seismic campaign projects to lead to the environmental body declaring the need to submit the project to ordinary evaluation[15]. Therefore, in order to avoid the significant delays involved in the prior processing of the simplified environmental assessment, it would be advisable to consult the authorities beforehand in order to know whether the ordinary procedure should be used directly when submitting the application for authorisation to the substantive body, as allowed by both Article 7.1.d) of Law 21/2013 and Article 23.1.c) of Law 11/2014 (see point A.2.3.bis).

Relationship with other permissions:

The environmental report constitutes a mandatory and binding report for the resolution of the procedure for the substantive authorisation of the seismic campaign by the mining authority (section A.2.2).

13 Based on the information provided, the area considered for the seismic campaign overlaps with a Natura 2000 Network space.
14 This precept is mainly applicable insofar as the basic state regulations include more detail than the regional regulations on the requirements demanded of the developer (in fact, Article 17 of Law 11/2014 itself states that the developer will prepare the environmental document with the information established by the basic legislation on environmental assessment).
15 In this sense, see as an example the aforementioned precedent on the Achilles permit.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
A.2.3a	**Environmental impact assessment seismic campaigns (ordinary procedure) (*)**	Seismic campaign	Campaign project as a whole	Mandatory and decisive report (the favourable Environmental Impact Statement is required as a prerequisite for the authorisation of the seismic campaign).	Environmental impact assessment.	Law 11/2014, of 4 December, on Environmental Prevention and Protection of Aragon. Law 21/2013, of 9 December, on environmental assessment. (Art. 7) In accordance with both regulations, the seismic campaign project must be submitted to ordinary environmental assessment in the event that the environmental body agrees to it as a result of the simplified environmental assessment.	**The request to initiate the ordinary environmental assessment is submitted within the substantive procedure for authorisation of the project**; that is, together with the request for authorisation of the seismic campaign addressed to the Directorate General of Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon (substantive body). The Environmental Impact Statement will be issued by INAGA (environmental body).	Initially, the promoter must submit the project and the environmental impact study to the substantive body, which will contain at least the information defined in art. 35 Law 21/2013[16] (see details in Annex A). After the public information procedures and consultations with the affected Public Administrations and interested persons, the substantive body will send the reports and allegations received to the promoter for consideration in the drafting, where appropriate, of the new version of the project and in the environmental impact study. Then, within the substantive procedure for authorising the project (authorisation of the seismic campaign), the promoter will submit to the substantive body an application for an ordinary environmental impact assessment, accompanied by the documentation, which will constitute the minimum content of the environmental impact assessment file that is submitted to the environmental body so that it can issue the corresponding environmental impact statement.	The ordinary environmental impact assessment essentially consists of the following procedures: i. (Optionally, the promoter may request that the environmental body prepare the scope document of the environmental impact study – deadline: two months from the submission of the application). ii. Preparation of the environmental impact study by the developer. iii. Submission of the project and the environmental impact study to public information for a period of no less than 30 days and, simultaneously, consultation with the affected Public Administrations and interested persons (who have a maximum period of thirty days to make a decision), by the substantive body. iv. Technical analysis of the file by the environmental body. v. Formulation of the environmental impact statement by the environmental body. vi. Integration of the content of the environmental impact statement in the authorisation of the project by the substantive body. The public information and consultation procedures, which will be agreed immediately after the presentation of the project and the environmental impact study, for a period of no less than thirty working days, will be valid for one year from their completion (after this period has elapsed without the substantive body having transferred the file to the environmental body for the ordinary environmental impact assessment, the substantive body will declare the expiration of the aforementioned procedures). Subsequently, the technical analysis of the environmental impact file and the formulation of the environmental impact statement will be

16 This precept is mainly applicable insofar as the basic state regulations include more detail than the regional regulations on the requirements demanded of the developer (in fact, Article 27 of Law 11/2014 itself makes it explicit that the developer will prepare the environmental impact study with the information established by the basic legislation on environmental assessment).

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
									carried out within four months of the complete receipt of the environmental impact file by the environmental body. The aforementioned deadlines are not extendable, so that the maximum legal period of the procedure as a whole should be approximately sixteen months. However, in practice it is common for the environmental body to be significantly delayed in issuing the environmental impact statement.

Remarks:

In the process of consultations with the affected public administrations and interested persons, the substantive body must mandatorily request the following reports:

a) Report of the body with competence in environmental matters of the autonomous community where the project is territorially located.
b) Cultural Heritage Report, where appropriate.
c) Report of the bodies with competence in matters of hydrological planning and public hydraulic domain, and in matters of water quality, when applicable.
d) Report on the maritime-terrestrial public domain, and marine strategies when applicable, in accordance with Law 22/1988, of 28 July, on Coasts and Law 41/2010, of 29 December, on the protection of the marine environment, respectively.
e) Preliminary report of the body with competence in matters of radiological impact, when applicable.
f) Report of the bodies with competence in the field of prevention and management of risks arising from serious accidents or catastrophes, where appropriate.
g) Report on the compatibility of the project with the hydrological planning or planning of the Marine Demarcation, when applicable.
h) Report of the Ministry of Defence in the event that the project affects areas declared of interest for National Defence and land, buildings and facilities, including their protection zones, affected by National Defence. The report will be binding in what affects National Defence.
i) Report of the bodies with competence in matters of public health, when applicable.

With regard to the Public Administrations affected, Article 29 of Law 11/2014 specifies that the substantive body must mandatorily request a report from the affected local authorities, so that they can pronounce on the social sustainability of the project.

Relationship with other permissions:

The environmental impact statement constitutes a mandatory and binding report for the resolution of the procedure for the substantive authorisation of the seismic campaign by the mining authority (section A.2.2).

A.2.4	**Cultural authorisation (*)**	Seismic campaign	Project as a whole, in case the seismic campaign is carried out in the vicinity of Assets of Cultural Interest (e.g. Villa de Belchite Viejo).	Authorisation (express resolution by the Administration is required)	Heritage	Law 3/1999, of 10 March, on Aragonese Cultural Heritage (Art. 35). Order of 26 September 2002, of the Department of Culture and Tourism, approving the Operating Regulations of the Provincial Commissions of Aragonese Cultural Heritage.	Provincial Commission of Cultural Heritage.	Depending on the type of intervention, documentation included in Annex II of the Order of 26 September 2002, of the Department of Culture and Tourism, which approves the Operating Regulations of the Provincial Commissions of Aragonese Cultural Heritage.	Authorisations must be granted within a period of three months, after which they will be considered rejected without an express decision (therefore, express authorisation must be obtained).

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Id	Name of the procedure / permit	Subproject Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
Remarks: Authorisation will be denied in the event that the works endanger the values that advise the conservation of the affected Assets of Cultural Interest. ***Relationship to Other Permissions*** In accordance with article 36.1 of Law 3/199, obtaining cultural authorisation is a prerequisite for the granting of the possible municipal urban planning licences mentioned in point 4 of section A.2.1.								
A.2.5	**Other possible permissions and/or communications**	Other communications on the start of the project Apart from what is established in the research permit and/or in the substantive authorisation of the specific seismic campaign subproject, no legal obligation has been identified that requires the start of the work to be communicated to the City Councils. Notwithstanding the above, it may be advisable to make the communication of the start of work in order to maintain an adequate dialogue with the possible parties affected by the project.						
	A.3. RESEARCH WELLS							
A.3.1	**Permits for the temporary occupation of land and urban planning permits.**	Remarks: 1) The execution of the wells will require the **enabling titles for the occupation** of the land that may be necessary, which will depend on the nature and ownership of the specific land finally affected. Like this: - in the case of private land, it will be necessary to have a title deed or the corresponding agreement with the owners for access to and occupation of their land (authorisation or private contract); instead - in the case of publicly owned land, access to and occupation thereof shall require the agreement of the Administration that owns the land or the granting by it of an administrative concession[17]. If the holder of the research permit does not reach an agreement with the owners, holders of other rights or occupants of the land that are necessary for the development of the planned research work and its auxiliary facilities or for access to them, he is obliged to initiate the appropriate **temporary** occupation file in accordance with the provisions of the Law on Forced Expropriation (the granting of the research permit entails the declaration of public utility or social interest of the overlying land that is necessary for the work, for the purposes provided for in the Law on Forced Expropriation for the temporary occupation of the affected land), within a period of two months from the date on which the granting of the research permit was notified, research. 2) In addition, the execution of the wells will require the prior obtaining of the urban planning permits, where applicable, in accordance with municipal regulations, about which it would be necessary to consult with the affected local authorities (a priori, Fuente de Ebro and Quinto City Councils) for the specific case. In any case, given the nature of the action, it is assumed that the execution of the wells will require municipal planning permission. Taking into account its location on rural land, the granting of the municipal licence will require the prior obtaining **of authorisation for special use on non-developable land** (which, in accordance with the provisions of article 35.2 of Legislative Decree 1/2014, of 8 July, of the Government of Aragon, which approves the revised text of the Urban Planning Law of Aragon, it would be substantiated by a binding report from the Provincial Urban Planning Council issued within the environmental impact assessment procedure – see **section A.3.3).** 3) Finally, if due to the specific location selected for the wells or the techniques used could affect a BIC, cultural authorisation should also be obtained from the Provincial Commission for Cultural Heritage as a requirement for the granting of the municipal licence that may be required (see section A.2.4 in this regard).							
A.3.2	**Authorization for the execution of research wells**	Research Wells	Research wells (area where drilling is planned for the execution of each exploratory well).	Authorisation (express resolution by the Administration is required).	Drilling of research wells	Law 22/1973, of 21 July, on Mines (Art. 117.2). Royal Decree 863/1985, of 2 April, approving the General Regulations on Basic Mining Safety Standards (Art. 109).	Directorate-General for Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon.	In accordance with ITC 06.0.01 of the General Regulations on Basic Mining Safety Standards, the project must include the description of the work to be carried out and the machinery to be used, as well as the safety and hygiene measures that	The mining regulations do not provide for any specific deadline for the issuance of the authorisation, so the general three-month period of Law 39/2015 would apply. However, it should be borne in mind that this period will be suspended due to the processing of the environmental impact assessment (see section Observations and point A.3.3 below). The effect of silence is dismissive, so that in any case it will be necessary to wait until express

17 In accordance with Article 108 of the Consolidated Text of the Heritage Law of Aragon, the private use of public domain assets that exceeds the period of four years or is carried out for fixed works or installations, requires the obtaining of an administrative concession. All this, in turn, in accordance with Royal Decree 1372/1986, of 13 June, which approves the Regulation of Property of Local Entities, and the Civil Code of supplementary application to Aragonese civil laws. A priori it is assumed that this would be the case of research wells (occupation by means of fixed works or installations); however, in the event that the Administration interprets that the installations associated with the wells are of a demountable nature, the required title would be administrative authorisation instead of concession.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
						Order of 2 October 1985 approving Complementary Technical Instructions for Chapters V, VI and IX of the General Regulations on Basic Mining Safety Standards. *ITC 06.0.01*.		are intended to be adopted[18]. (**Chapter VI)** The project must be drafted and signed by a technician officially trained to do so in accordance with the provisions of Article 117 of the Mining Law, and any significant modification to the project already approved must be submitted for new approval by the mining authority. In addition, the applicable environmental documentation[19] must be submitted (see section A.3.3). [20]	approval of the project is obtained before the start of the work.

Remarks:

Relationship with other permissions:

- The processing of the authorisation for the execution of research wells requires the prior granting of the research permit (section A.1.1.) that contemplates such work among the research works.
- The application for the initiation of the environmental assessment procedure, if applicable (section A.3.3), is submitted within the substantive procedure for authorisation of the project. The environmental report constitutes a mandatory and binding report for the resolution of the procedure for the substantive authorization of the research wells by the mining authority.

The Directorate-General for Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon must be informed of the commencement of the work and the geological and mining data must be provided to the IGME, if requested, and the geological and mining data must be obtained, as well as the competent qualified personnel designated by the Ministry of Industry must be allowed access to the works. in order to verify said data or complete the collection of them.

A.3.3	**Environmental impact assessment of research wells (simplified procedure)**	Research Wells	Well project as a whole.	Request for an environmental impact report (the express issuance of such a report by the	Environmental impact assessment.	Law 11/2014, of 4 December, on Environmental Prevention and Protection of Aragon. Law 21/2013, of 9 December, on	**The application for the initiation of the simplified environmental assessment is submitted within the substantive procedure for authorisation of the**	The application must be accompanied by the environmental document with the content defined in **article 45.1** of Law 21/2013[22].	The environmental body will prepare the environmental impact report within three months of receiving the application for initiation and the documents that must accompany it (although, in practice, the total duration of the procedure usually exceeds the maximum period provided for by law).

18 According to previous experience, the content of the Document on health and safety that must be submitted for this purpose is that established in ITC 02.1.01 approved by Order ITC/101/2006, of 23 January, which regulates the minimum content and structure of the document on health and safety for the extractive industry.
19 Law 21/2013 excludes from its Annex II, Group 3.a), drilling to investigate the stability or stratigraphy of soils and subsoils (in the same sense is pronounced the Aragonese Law 11/2014). On the other hand, heading 4 of this group includes "oil or gas drilling for exploration or research" and, in general, "deep drilling".
Therefore, it might be advisable to consult on the nature of carbon dioxide storage research wells, although for the purposes of this report it is assumed that they will be subject to environmental impact assessment – at least simplified, by analogy to exploratory wells carried out within the framework of hydrocarbon research permits.
In this regard, the Resolution of 15 February 2011, of INAGA, by which it was decided not to submit to the environmental impact assessment procedure the Project for the realization of four geological investigation probes in the underground structure "La Zaida Bujaraloz 2, Fraction 1ª", "SM-1", "SM-2", "SM-3" and "SM-4", has been identified as a precedent. in the municipalities of Monegrillo and Pina de Ebro (Zaragoza), promoted by Endesa Generación S.A. This company requested a case-by-case assessment (current simplified environmental assessment) for the execution of the aforementioned boreholes, regardless of whether the environmental body finally agreed that, in view of the low magnitude of the impacts of said project, it was not necessary to submit it to an environmental impact assessment (ordinary).
In addition, one of the optional wells proposed in the Project would be located in the Natura 2000 Network area, so that it could also be subsumed in the case of simplified environmental assessment already analysed in the case of seismic campaigns, provided for in Article 23.2.b) of Law 11/2014 (in the same sense, article 7.2.b) of Law 21/2013) if the works could "appreciably affect, directly or indirectly, Natura 2000 Network Protected Areas".
20 Through a telephone consultation carried out with the Mining Service, it has been indicated that in the substantive authorisation procedure a report is not requested from the basin organisation on the non-impact on the public hydraulic domain. This issue will be part of the environmental assessment (section A.3.3.), as confirmed by telephone by the Environmental Management Area of the CHEbro.
22 See note 12 above.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
				Administration is required).		environmental assessment. (art. 7) In accordance with section 4 of Group 3.a) of Annex II of Law 21/2013 (as well as section 3.1.4 of Annex II of Law 11/2014), deep drilling and, in particular, oil or gas drilling for exploration or research will be subject to simplified environmental assessment[21].	project; that is, together with the request for authorisation to execute a research well addressed to the Directorate General of Energy and Mines of the Department of the Presidency, Economy and Justice of the Government of Aragon (substantive body). The environmental impact report will be issued by INAGA (environmental body).		During the processing of the procedure, the environmental body will consult the public administrations affected[23] and the interested persons (the procedure is granted for a maximum period of one month, without prejudice to which it is common for the administrations to fail to comply with this deadline). The environmental impact report shall be pronounced in one of the following two ways: a) The project must be subject to an ordinary environmental impact assessment because it has significant effects on the environment (**section A.2.3.bis**, *mutatis mutandi*). b) The project does not have significant effects on the environment under the terms and conditions established in the environmental impact report. To the extent that the total duration of the procedure usually exceeds the maximum period provided for by law, see recommendations in the Observations section.
Remarks: In the precedent identified in 2011 in Aragon, whose wells were located in an area very close to that planned for the exploratory wells in this Project and with similar characteristics, the regional administration considered, as a result of the simplified environmental assessment, that the execution of the wells did not require submission to ordinary environmental assessment. Therefore, in this case, it is recommended to resort to the simplified procedure without raising with the authorities the possible need to apply the ordinary evaluation, as this could significantly delay the Project. However, in the event that the environmental report states that the execution of the wells does require an ordinary environmental impact assessment, it would apply the procedure provided for in section A.2.3.bis *mutatis mutandi*. ***Relationship with other permissions:*** The environmental report constitutes a mandatory and binding report for the resolution of the procedure for the substantive authorisation of the research wells by the mining authority (section A.3.2).									
A.3.4	**Other possible permissions and/or communications**	**Remarks:** 1. <u>Other communications on the start of the project:</u> Apart from what is established in the research permit and/or in the substantive authorisation of the specific research well subproject, no legal obligation has been identified that requires the start of the work to be communicated to the City Councils. Notwithstanding the above, it may be advisable to make the communication of the start of work in order to maintain an adequate dialogue with the possible parties affected by the project.							

21 In addition, as already indicated, one of the optional wells proposed in the Project would be located in the Natura 2000 Network area, so that it could also be subsumed in the case of simplified environmental assessment already analysed in the case of seismic campaigns, provided for in Article 23.2.b) of Law 11/2014 (in the same sense, article 7.2.b) of Law 21/2013) if the works could "appreciably affect, directly or indirectly, Natura 2000 Network Protected Areas".

23 In accordance with article 35.2 of Legislative Decree 1/2014, of 8 July, of the Government of Aragon, which approves the revised text of the Urban Planning Law of Aragon, for the purposes of obtaining the special authorisation for the use of non-developable land necessary for the granting of the applicable municipal urban planning licence (section A.3.1), the environmental body must consult the competent Provincial Urban Planning Council, and its report is binding as to the supralocal effects of the proposed use or activity, the justification of the location in the rural environment, the possibility of forming a population centre, the convenience and scope of the rehabilitation and the urban planning parameters of application. However, as it is the simplified procedure, it is advisable to explicitly mention this procedure in the application for environmental assessment.
On the other hand, through a telephone consultation with the CHEbro it has been indicated that in the case of underground drilling, INAGA must request a report from the basin organization on the possible impact on aquifers (in this case, the depth of the wells would be approximately the same as those of production/injection, between about 1700-1800 meters, and therefore they would have a potential risk of affecting the public hydraulic domain to the extent that the boreholes can be crossing aquifers that are located between the storage site and the surface).

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EXPLOITATION PHASE (B)

	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
B.1. GENERAL EXPLOITATION[24]									
B.1.1	**Storage Concession**	Framework Permit (Storage Concession)	Carbon dioxide storage facilities	Permit (express resolution of the Administration is required to start using a storage place to store CO2)	Carbon dioxide storage	Law 40/2010, of 29 December, on the geological storage of carbon dioxide.	Administration receiving the application: Sub-delegation of the Government in Zaragoza - Functional Area of Industry and Energy. The decision on the granting of the concession is the responsibility of MITECO.[25]	Applications for storage concessions shall include the information defined in Art. 11.5 of Law 40/2010 (See Annex A).	Maximum period for deciding on the application: one year (interrupted during the processing time of the environmental impact assessment). The procedure for granting the concessions is pending regulatory development. Unlike mining and hydrocarbons regulations, Law 40/2010 does not properly contemplate a right to an exploitation concession for the holder of the research permit, but establishes that the procedures will be open to all entities that have the necessary capacity, with concessions being granted on the basis of objective criteria. public and transparent. However, priority shall be given to the granting of a storage concession to the holder of the research permit on that site (for this purpose, **the work on the research permit must have been completed in compliance with all the conditions set out in that title, and the application for a concession must be submitted during the period of validity of the research permit**). In accordance with the mining regulations that are of supplementary application, a public information period will be opened. Law 40/2010 provides for the submission of the application to the competent body of the Autonomous Community (Aragon in this case) so that it can issue a report within a period of three months after which, if it has not been issued, the proceedings may continue. Within the procedure, the monitoring plan and the provisional post-closure management plan will also be approved by the Autonomous Community. A report will also be requested from the European Commission (which can issue a non-binding opinion for a period of four months), and from the IGME (this will be presumed favourable if there is no express pronouncement within three months).

24 In accordance with the scope of the Permitting Plan described in section 2 of this report, the exploitation block is limited exclusively to the permits applicable to the construction and operation of the injection wells. From this perspective, with regard to the permits required for the development of the storage phase, only the concession with its corresponding environmental assessment is included, insofar as the concession constitutes the framework permit for the authorisation of the execution or adaptation of the injection wells; on the contrary, this Permit Plan does not describe other permits and general obligations applicable in the storage phase, such as the authorization of greenhouse gas emissions, the possible substantive authorization of the underground storage project, or the obligations to inform and update the monitoring plan. Nor are the permits applicable to the transmission network (network of pipes for the transport of CO2 to the storage site, as well as the corresponding pumping and monitoring stations), nor the specific permits applicable to the surface installations auxiliary to the injection wells.

25 Article 11.1 of Law 40/2010 attributes the competence to resolve the matter to the Ministry of Industry, Tourism and Trade, following a report from the Environment and Rural and Marine Affairs. In the absence of precedents in the granting of carbon dioxide storage concessions today, the information reflected in this section of the permit table corresponds to that which we understand to be applicable in accordance with the current distribution of competence of the Government (according to which the Directorate-General for Energy Policy and Mines is part of MITECO). We note that this has also been interpreted in the Resolution of 20 November 2023 publishing the application for the research permit for CO2 storage called "TARRACO2" submitted by REPSOL (BOE of 25 November 2023).

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	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
									The decision on the granting of the concession is the responsibility of MITECO, following a report from the Secretary of State for the Environment[26]. (**Art. 10**) Maximum duration of the concession: 30 years, extendable for two successive periods of 10 years (additionally, Law 40/2010 provides for another exceptional extension for a period not exceeding 10 years).
Remarks: Financial guarantee (art. 12 Law 40/2010): together with the application for a storage concession, proof of the constitution of a financial guarantee must be submitted to meet the obligations arising from the concession, including the closure procedures and the post-closure provisions, as well as the obligations arising from the inclusion of the storage sites in the scope of the emission of gases. greenhouse. The guarantee must be constituted in one of the modalities provided for in Royal Decree 937/2020, of 27 October, approving the Regulations of the General Deposit Fund. ***Relationship with other permissions:*** - The environmental impact assessment (section B.1.2) is processed from the presentation of the environmental impact study with the concession application. The environmental impact statement constitutes a mandatory and binding report for the resolution of the procedure for granting the concession. - It is necessary to confirm with the Ministry whether the approval of the underground storage project required by mining regulations is substantiated within the procedure for granting the storage concession or if it is processed independently. - In accordance with Article 10.7 of Law 40/2010, the granting of the concession will imply the declaration of public utility of the overlying land necessary for the establishment of the injection facilities, as well as their auxiliary facilities, for the purposes of forced expropriation and exercise of the right of way (section B.2.2.)								
B.1.2	**Environmental impact assessment (ordinary procedure)**	Execution and operation: Storage	Carbon dioxide storage facilities	Mandatory and decisive report (the favourable Environmental Impact Statement is required as a prerequisite for the granting of the storage concession).	Environmental Impact Assessment	Law 21/2013, of 9 December, on environmental assessment (Art. 7). Annex I, Group 9: c) Storage sites in accordance with Law 40/2010, of 29 December, on the geological storage of carbon dioxide.	**The request to initiate the ordinary environmental assessment is submitted within the substantive procedure for authorisation of the project**; that is, together with the application for a storage concession submitted to the Industry and Energy Functional Area of the Government Sub-delegation in Zaragoza. The Environmental Impact Statement will be issued by the General Directorate of Quality and Environmental Assessment of MITECO (environmental body).	Initially, the promoter must submit the project and the environmental impact study to the substantive body, which will contain at least the information defined in **art. 35** Law 21/2013 (see details in Annex A). See also point A.2.3 bis for more information.	See section A.2.3 bis.
Remarks:									

26 Again, under the interpretation made in accordance with the current distribution of the Government.

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	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
In the process of consultations with the affected public administrations[27] and interested persons, the substantive body must mandatorily request the following reports: a) Report of the body with competence in environmental matters of the autonomous community where the project is territorially located. b) Cultural Heritage Report, where appropriate. c) Report of the bodies with competence in matters of hydrological planning and public hydraulic domain, and in matters of water quality, when applicable[28]. d) Report on the maritime-terrestrial public domain, and marine strategies when applicable, in accordance with Law 22/1988, of 28 July, on Coasts and Law 41/2010, of 29 December, on the protection of the marine environment, respectively. e) Preliminary report of the body with competence in matters of radiological impact, when applicable. f) Report of the bodies with competence in the field of prevention and management of risks arising from serious accidents or catastrophes, where appropriate. g) Report on the compatibility of the project with the hydrological planning or planning of the Marine Demarcation, when applicable. h) Report of the Ministry of Defence in the event that the project affects areas declared of interest for National Defence and land, buildings and facilities, including their protection zones, affected by National Defence. The report will be binding in what affects National Defence. i) Report of the bodies with competence in matters of public health, when applicable. Relationship with other permissions: - The environmental impact statement constitutes a mandatory and binding report for the resolution of the procedure for granting the storage concession (section B.1.1). To the extent that the application for a storage concession must identify the location and characteristics of the injection facilities, the monitoring plan, etc., it is understood that the environmental impact study (and the corresponding statement issued by the environmental body) will include the injection wells to be carried out (where appropriate, by adapting the research wells already executed) during the development and storage phase.								
B.2. EXECUTION OF DEVELOPMENT WELLS (INJECTION WELLS)									
B.2.1	**Authorisation for the execution of injection wells or for the adaptation of research wells[29].**	Injection wells	Injection wells (area where drilling is planned for the execution of production/injection wells).	Authorisation (express resolution by the Administration is required)	Execution of injection wells	Law 22/1973, of 21 July, on Mines (Art. 117.2). Royal Decree 863/1985, of 2 April, approving the General Regulations on Basic Mining Safety Standards (which regulates the need for substantive authorisation – project approval – for the execution of this type of work) (Art. 109).	Administration receiving the application: Sub-delegation of the Government in Zaragoza - Functional Area of Industry and Energy. Resolution: Directorate-General for Energy Policy and Mines (MITECO).[30]	In accordance with ITC 06.0.01 of the General Regulations on Basic Mining Safety Standards (section 1 of the "General Prescriptions" section), the project must include the description of the work to be carried out and the machinery to be used, as well as the safety and hygiene measures that are intended to be adopted[31]. The project will have to be drafted	The mining regulations do not provide for any specific deadline for the issuance of the authorisation, so the general three-month period of Law 39/2015 would apply. In any case, express approval of the project is required before the start of the work.

27 Among the public administrations affected, a report must also be requested from the competent Provincial Urban Planning Council, for the purposes of obtaining the special authorisation for the use of non-developable land necessary for the granting of the applicable municipal urban planning licences in accordance with article 35.2 of Legislative Decree 1/2014 (see section B.2.2. in relation to the urban planning permits required for the execution/adaptation of injection wells).
28 As has already been indicated in relation to research wells, the CHEbro has indicated that in the case of underground drilling (as would also be the case of the injection wells included in the storage concession project, with a depth of 1700-1800 meters), INAGA must request a report from the basin organization on the possible impact on aquifers.
29 The adaptation of existing research wells for use as exploitation wells requires the same authorisation as the execution of new exploitation wells, only within the scope corresponding to the technical adaptation project, where appropriate. In the same sense, the actions related to the adaptation of the wells must also be subject to an environmental impact assessment within the framework of the procedure for granting the storage concession.
30 The regulations do not expressly regulate the competence to grant the substantive authorisation of the injection wells provided for in the storage concession, although it is understood that to the extent that such works are carried out in development of a permit granted by the State Administration, their authorisation will also correspond to the State body competent in matters of mines.
31 See footnote 18 above.

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	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
						Order of 2 October 1985 approving Complementary Technical Instructions for Chapters V, VI and IX of the General Regulations on Basic Mining Safety Standards. *ITC 06.0.01*		and signed by an officially trained technician, and any major modifications to the already approved project will have to be submitted for further approval by the mining authority.	

Remarks:

In accordance with Article 6 of the Mining Law, the Industry and Energy Functional Area of the Government Sub-delegation in Zaragoza must be informed of the start of the work and provide the IGME, if requested, with the geological and mining data obtained, as well as allowing the competent qualified personnel designated by the Ministry of Industry access to the works. in order to verify said data or complete the collection of them.

Relationship with other permissions:

- As indicated in point B.1.2, it is understood that the environmental impact statement issued during the procedure for granting the storage concession will also include the injection wells whose adaptation or reexecution has been identified in the environmental impact study. However, any well or adaptation not foreseen in this study must be subject to the corresponding environmental impact assessment (see point A.3.2 developed in relation to the wells of the investigation phase).

B.2.2	**Permits for the occupation of land and urban planning permits.**	**Remarks:** 1) The execution of the wells will require the **enabling titles for the occupation** of the land that may be necessary, which will depend on the nature and ownership of the specific land finally affected. Like this: - in the case of private land, it will be necessary to have a title deed or the corresponding agreement with the owners for access to and occupation of their land (authorisation or private contract); instead - in the case of publicly owned land, access to and occupation of the same will require the agreement of the Administration that owns the land or the granting by it of an administrative concession[32]...). If the concession holder does not reach an agreement with the owners, holders of other rights or occupants of the land that are necessary for the location of the planned works, facilities and services, he must initiate the appropriate **file of forced expropriation or temporary occupation** in accordance with the provisions of the Law on Forced Expropriation. In accordance with Article 10.7 of Law 40/2010, the granting of the concession will imply the declaration of public utility of the overlying land necessary for the establishment of the injection facilities, as well as their auxiliary facilities, for the purposes of forced expropriation and exercise of the right of way[33]. 2) In addition, the execution of the wells will require the prior obtaining of the **urban planning licenses** , where applicable, in accordance with municipal regulations, about which it would be necessary to consult with the affected local authorities (a priori, Fuente de Ebro and Quinto City Councils) for the specific case. In any case, given the nature of the action, we presume that the execution of the wells will require municipal planning permission. Taking into account its location on rural land, in order to grant the municipal licence, it will be necessary to obtain **prior authorisation for special use on non-developable land** (which, in accordance with the provisions of article 35.2 of Legislative Decree 1/2014, of 8 July, of the Government of Aragon, which approves the revised text of the Urban Planning Law of Aragon, it would be substantiated by a binding report from the Provincial Urban Planning Council issued within the environmental impact assessment procedure – in this case, the storage concession; see **section B.1.2**). 3) Finally, if due to the specific location selected for the wells or the techniques used could affect an Asset of Cultural Interest (BIC), cultural authorisation should also be obtained from the Provincial Commission for Cultural Heritage as a requirement for the granting of the municipal licence that may be required (see **section A.2.4 in this regard**).
B.2.3	**OTHER POSSIBLE PERMISSIONS AND/OR COMMUNICATIONS**	1. Other communications on the start of the project. Apart from what is established in the storage concession and/or in the substantive authorisation of the specific sub-project for the execution or adaptation of the injection well, we have not identified a legal obligation that requires the City Councils to be notified of the start of the work. Notwithstanding the above, it may be advisable to make the communication of the start of work in order to maintain an adequate dialogue with the possible parties affected by the project.

32 In accordance with Article 108 of the Consolidated Text of the Heritage Law of Aragon, the private use of public domain assets that exceeds the period of four years or is carried out for fixed works or installations, requires the obtaining of an administrative concession. All this, in turn, in accordance with Royal Decree 1372/1986, of 13 June, which approves the Regulation of Property of Local Entities, and the Civil Code of supplementary application to Aragonese civil laws.

33 In order for the recognition of the public utility of these facilities, it will be necessary for the interested party to request it, including a specific and individualized list of the assets or rights that the applicant considers necessary expropriation or occupation. The petition will be submitted to public information and a report will be obtained from the bodies concerned. Once the procedure has been completed, the recognition of the public utility will be agreed by MITECO. The declaration of public utility will implicitly imply in any case the need to occupy the property or acquire the affected rights, and will imply urgent occupation for the purposes of article 52 of the Law on Forced Expropriation of 16 December 1954.

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Other permits

In addition to the primary permissions discussed in the previous sections, the following possible permissions should be considered:

Power supply

No information is available on the sources of the electricity supply necessary for the execution of the wells or for the injection of carbon dioxide in the exploitation phase:

(iii) In the event that the electricity is obtained through third-party supply, it will be necessary to have access permits and connection to the corresponding network, as well as to carry out the applicable procedures for the construction of the necessary line from the installation to the connection point granted.

(iv) In the event that the energy is intended to be obtained through photovoltaic panels and assuming that it is self-consumption without surpluses (without discharge into the grid), it will also be necessary to have access and connection permits for the consumption facilities.

All of the above would apply, *mutatis mutandi*, to the case of gas supply.

Water

Nor is there any information available on the sources of water supply planned for the opening and operation of the wells and/or auxiliary services. The applicable permits will depend on the source of supply used.

Ground vehicles, heavy machinery

The requirements, procedures and permits applicable to the machinery and vehicles to be used for the execution of the planned work must also be taken into account.

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Annex 1.1 – Details of the content of the documentation to be submitted in the procedures described

Step	Content of documentation to be submitted
A.1.1	Art. 9 Law 40/2010: - Application for research permit; - Documentation accrediting the following information: a. The name and address of the owner; b. Accreditation of the technical and economic competence of the holder; c. The area of the permit delimited by its geographical coordinates, in accordance with the provisions of Article 8.3 of Law 40/201034. d. An investigation plan for the storage site that includes a work plan with all the programmed actions and the means necessary for their execution, in accordance with the criteria of Annex I of Law 40/2010[35]. All documents of a technical nature must be signed by competent technicians in the corresponding field.
A.1.2	Communication of the start of research work and the appointment of the responsible Project Director in compliance with Article 117 of the Mining Law[36].
A.1.3	Art. 75 RD 2857/1978: Within a period of 4 months from the date on which the promoter is in a position to occupy the land necessary for the execution of the research work, it must submit in quadruplicate, a plan of work to be carried out in the first year, consisting of a report, plans and budget, with the general project, setting the deadlines foreseen for its completion. Within ten months of the start of the work, the work plan for the second year must be submitted, also in quadruplicate, and so on during the validity of the permit.

[34] The surface base of the permit will be delimited by parallels and meridians referring to the geodetic reference systems in force, being defined by the grouping of quadrilaterals of one minute on each side, coinciding with whole minutes of latitude and longitude, attached on at least one of their sides provided that it does not exceed a maximum of 100,000 hectares.

[35] A priori, it is understood that this documentation should also include the restoration plan generally required for the permits provided for in the Mining Law by Royal Decree 975/2009, of 12 June, on the management of waste from the extractive industries and the protection and rehabilitation of the area affected by mining activities. However, to the extent that Law 40/2010 is subsequent to this regulation and does not make it explicit as part of the documentation that must be submitted with the application for the research permit, we would recommend consulting the regional authorities in this regard.

[36] Article 117.2 of the Mining Law establishes the following with regard to the qualification of the Project Manager responsible for the research work:
"*Exploration and research work must be designed and directed by Mining Engineers, Graduates in Geological Sciences, Technical Mining Engineers, Mining Experts or Mining Physicians. When such work basically requires the use of geophysical or geochemical techniques, the above competences will be extended to graduates in Physical Sciences and Chemical Sciences, as well as to other university graduates who are recognised as having the corresponding specialisation. In any case, operations that may affect the security of property or persons or require the use of explosives must be directed by mining graduates*."

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	These work plans, as well as that of the first year, must be signed by the responsible Facultative Director. The work plans for the second and subsequent years shall include the complete report of the studies, recognitions and other work carried out during the previous year, and the investment plan for the following year.
A.2.2	Article 14 of Law 34/1998 and Article 12 of Royal Decree 2362/1976: a. Instance in which the following shall be stated: Name and surnames or company name of the applicant, and address. b. Accreditation of the applicant's legal, technical and financial capacity. c. For zone A (peninsular and island territory), a map of the location of the works on a scale of 1:50,000, expressing the provinces and municipalities affected by the request. d. Exploration programme, with an indication of the techniques to be used, the means available for their development and details of the operations to be carried out on the surface of the land, kilometres of profiles, number of stations, investment budget, programme of financing and deadline for their execution. e. Environmental documentation provided for in Law 21/2013 or justification for the non-application of the environmental assessment procedure (see points A.2.3 and A.2.3 bis). Applications with their documentation must be submitted, in triplicate, accompanied by as many copies as provinces affected by the area of the authorisation requested. One of the original copies will be returned to the interested party, with the stamp and date of entry.
A.2.3	The application must be accompanied by the environmental document with the following content (Article 45.1 of Law 21/2013[37]): a. The reasons for the application of the simplified environmental impact assessment procedure. b. The definition, characteristics and location of the project, in particular: 1. a description of the physical characteristics of the project in its three phases: construction, operation and cessation; (2) a description of the location of the project, in particular as regards the environmentally sensitive nature of the geographical areas likely to be affected. c. A presentation of the main alternatives studied, including the zero alternative, and a justification of the main reasons for the solution adopted, taking into account the environmental effects. d. A description of the environmental aspects that may be significantly affected by the project. e. A description and assessment of all potential significant effects of the project on the environment, resulting from:

[37] This precept is mainly applicable insofar as the basic state regulations include more detail than the regional regulations on the requirements demanded of the developer (in fact, Article 17 of Law 11/2014 itself states that the developer will prepare the environmental document with the information established by the basic legislation on environmental assessment).

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	(1) expected emissions and wastes and waste generation; 2. the use of natural resources, in particular soil, land, water and biodiversity. In particular, the potential direct or indirect, cumulative and synergistic effects of the project on population, human health, flora, fauna, biodiversity, soil, air, water, marine environment, climate, climate change, landscape, tangible assets, including cultural heritage, and the interaction between all the above-mentioned factors shall be described and analysed; during the execution, operation and, where appropriate, during the demolition or abandonment of the project. When the project may directly or indirectly affect the Natura 2000 Network sites, a specific section will be included for the assessment of its impact on the site, taking into account the conservation objectives of the site. In the cases provided for in Article 7.2.b), the impact on the site shall be described and analysed, exclusively, taking into account the conservation objectives of the Natura 2000 Network site. Where the project is likely to cause a long-term hydromorphological modification in a body of surface water or an alteration in the level of a body of groundwater that may prevent it from reaching good status or potential, or that may lead to a deterioration of its status or potential, a specific section shall be included for the assessment of its long-term impact on the quality elements that define the status or potential of the project. the affected bodies of water. f. Specific section with the identification, description, analysis and, where appropriate, quantification of the expected effects on the factors listed in point (e), arising from the vulnerability of the project to the risks of major accidents or disasters, on the risk of such accidents or disasters occurring, and on the likely significant adverse effects on the environment, in the event of their occurrence, or a justifying report on the non-application of this section to the project. g. Measures to prevent, reduce and compensate and, as far as possible, correct, any relevant negative effects on the environment of the execution of the project. h. The way to carry out the monitoring that guarantees compliance with the indications and protective and corrective measures contained in the environmental document.
A.2.3a	Initially, the promoter must submit the project and the environmental impact study to the substantive body, which will contain at least the following information (art. 35 Law 21/2013): a. A general description of the project including information about its location, design, dimensions, and other pertinent characteristics of the project; and forecasts over time on the use of land and other natural resources. Estimation of the types and quantities of waste generated and resulting emissions of matter or energy. b. Description of the various reasonable alternatives studied that are related to the project and its specific characteristics, including the zero alternative, or non-implementation of the project, and a justification of the main reasons for the solution adopted, taking into account the effects of the project on the environment.

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	c. Identifying, describing, analysing and, if applicable, quantifying the potential significant direct or indirect, secondary, cumulative and synergistic effects of the project on the following factors: population, human health, flora, fauna, biodiversity, geodiversity, soil, subsoil, air, water, marine environment, climate, climate change, landscape, the tangible assets, the cultural heritage, and the interaction between all the aforementioned factors, during the phases of execution, exploitation and, where appropriate, during the demolition or abandonment of the project. A specific section will be included for the assessment of the project's impact on Natura 2000 Network sites, taking into account the conservation objectives of each site, including the aforementioned impacts, the corresponding preventive, corrective and compensatory Natura 2000 Network measures and their monitoring. When the existence of damage to the integrity of the Natura 2000 Network is verified, the promoter shall provide documentary evidence of the absence of alternatives, and the concurrence of the overriding reasons of overriding public interest mentioned in Article 46, paragraphs 5, 6 and 7, of Law 42/2007, of 13 December, on Natural Heritage and Biodiversity. When the project may cause a long-term hydromorphological modification in a body of surface water or an alteration of the level in a body of groundwater that may prevent it from reaching good status or potential, or that may lead to a deterioration of its status or potential, a specific section shall be included for the assessment of its long-term impact on the quality elements that define the status or potential of the project. the affected bodies of water. d. A specific section shall be included including the identification, description, analysis and, where appropriate, quantification of the expected effects on the factors listed in point (c) arising from the vulnerability of the project to the risks of major accidents or disasters, on the risk of such accidents or disasters occurring, and on the likely significant adverse effects on the environment; in the event of their occurrence, or a justifying report on the non-application of this section to the project. In order to carry out the studies referred to in this section, the promoter shall include the relevant information obtained through the risk assessments carried out in accordance with the rules applicable to the project. e. Measures to prevent, correct and, where appropriate, compensate for possible significant adverse effects on the environment and the landscape. f. Environmental monitoring programme. g. Non-technical summary of the environmental impact study and conclusions in easily understandable terms. After the public information procedures and consultations with the affected Public Administrations and interested persons, the substantive body will send the reports and allegations received to the promoter for consideration in the drafting, where appropriate, of the new version of the project and in the environmental impact study. Then, within the substantive procedure for authorising the project (authorisation of the seismic campaign), the promoter will submit to the substantive body an application for an ordinary environmental impact assessment, accompanied by the following documentation, which will constitute the minimum content of the environmental impact assessment file that is submitted to the

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	environmental body for it to issue the corresponding environmental impact statement: a. The technical document of the project. b. The environmental impact study. c. The allegations and reports received in the public information and consultation procedures with the affected Public Administrations and interested persons.
A.2.4	Depending on the type of intervention, documentation included in Annex II of the Order of 26 September 2002, of the Department of Culture and Tourism, which approves the Operating Regulations of the Provincial Commissions of Aragonese Cultural Heritage.
A.3.2	In accordance with ITC 06.0.01 of the General Regulations on Basic Mining Safety Standards, the project must include the description of the work to be carried out and the machinery to be used, as well as the safety and hygiene measures that are intended to be adopted[38]. The project must be drafted and signed by a technician officially trained to do so in accordance with the provisions of Article 117 of the Mining Law, and any significant modification to the project already approved must be submitted for new approval by the mining authority. In addition, the applicable environmental documentation or justification for the non-applicability of the environmental assessment procedure must be submitted (see section A.3.3 below).
A.3.3	See A.2.3.
B.1.1	Art. 11.5 Law 40/2010. Applications for storage concessions shall include the following information: a. The name and address of the holder. b. Accreditation of the technical and economic competence of the holder. c. The characterisation of the site and the storage complex and the assessment of the safety conditions in accordance with the provisions of this law. d. A project for the operation of the storage site including the investment programme and the planned commercial activities, the total amount of CO2 that may be injected and stored, as well as the sources of origin of the CO2 and in particular whether they come from own activities or those of third parties, the methods of transport envisaged, the composition of the CO2 streams, injection rates and pressures and the location of injection facilities[39].A study of the greenhouse gas balance in the total process (capture, transport and storage). e. The description of the measures aimed at preventing irregularities or significant deviations from the planned operating plan.

[38] According to previous experience, the content of the Document on health and safety that must be submitted for this purpose is that established in ITC 02.1.01 approved by Order ITC/101/2006, of 23 January, which regulates the minimum content and structure of the document on health and safety for the extractive industry.
[39] A priori, we understand that this documentation should also include the restoration plan generally required for the permits provided for in the Mining Law by Royal Decree 975/2009, of 12 June, on the management of waste from the extractive industries and the protection and rehabilitation of the area affected by mining activities. However, to the extent that Law 40/2010 is subsequent to this regulation and does not make it explicit as part of the documentation that must be submitted with the application for the storage concession, we would recommend that the regional authorities be consulted in this regard.

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	f. Proposal for a monitoring plan. g. Proposal of corrective measures. h. Proposal for an interim post-closure management plan. i. Environmental impact study. j. Justification of the constitution of a guarantee (see section Observations). All documents of a technical nature must be signed by competent technicians in the corresponding field.
B.1.2	See A.2.3 bis
B.2.1	In accordance with ITC 06.0.01 of the General Regulations on Basic Mining Safety Standards (section 1 of the "General Prescriptions" section), the project must include the description of the work to be carried out and the machinery to be used, as well as the safety and hygiene measures that are intended to be adopted. The project will have to be drafted and signed by an officially trained technician, and any major modifications to the already approved project will have to be submitted for further approval by the mining authority.

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Annex 1.2 - Processing of the Project under the autonomous figure of PIGA (Chapter II, Title III of Legislative Decree 2/2015, of 17 November, of the Government of Aragon)

The PIGA are instruments that aim to authorise and regulate the implementation of activities of special territorial importance that have to be established in more than one municipality or that, even if they are settled in only one, transcend that area due to their territorial, economic, social or cultural impact, their magnitude or their unique characteristics.

In accordance with Article 33.a) of Legislative Decree 2/2015, relevant territorial actions such as the execution of large facilities, infrastructures and installations, a category within which the Project could be subsumed, may be subject to PIGA. They may be promoted by public initiative or by private initiative of any natural or legal person (art. 34).

The PIGAs will preferably be located on non-delimited developable land or on generic non-developable land (otherwise, the need for the specific location and compatibility with the values of the affected land must be justified).

The approval of a PIGA requires, in advance, the formal declaration of the general interest by the Government of Aragon through one of the following procedures:

- **Prior declaration** (Article 35 of Legislative Decree 2/2015).
- **Declaration as an investment of regional interest with general interest:** article 7 bis) of Decree-Law 1/2008.

The second of these alternatives for a declaration of general interest entails a significant simplification of administrative procedures (regardless of whether the approval of the project as a PIGA is also processed). In any case, the description of both procedures for obtaining a declaration of general interest, followed by the procedure for approving the PIGA, is set out below.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
DECLARATION OF GENERAL INTEREST									
1	**Prior declaration of general interest by the government of Aragon**	Project as a whole.	Project as a whole.	Mandatory and decisive report (the DIGA is required as a prerequisite for the subsequent processing of the PIGA approval procedure, but it will not condition the resolution derived from said procedure).	Projects of general interest	Legislative Decree 2/2015. *Title III, Chapter II, Art. 35.*	Administration receiving the application: Government Delegate Commission for Territorial Policy. The resolution on the DIGA is the responsibility of the Government of Aragon.	Art. 35.2 Legislative Decree 2/2015. The promoter must submit the following documentation with the DIGA application: a) Fundamental characteristics of the Project and justification of its general interest. b) Insertion of the Project in the territorial model of the Autonomous Community defined in the Territorial Planning Strategy of Aragon or, where appropriate, justification of the modification that said Project introduces in the territorial model of Aragon. c) Forecast of the territorial impact of the Project. d) Organisational provisions for the management of the Project and for the promotion of economic and social activities that guarantee the distribution, in the area of influence and for the local entities affected, if the scope of action is already defined in this phase of the Project, of the uses and other income derived from said Project. f) Environmental impact study or environmental document[40], with the content established in current legislation on environmental assessment. g) Any other documents considered mandatory in the applicable regulations.	Maximum period for deciding on the application in the case of a private initiative: three months (after which they will be considered rejected without an express decision; therefore, express authorisation must be obtained). In view of the documentation submitted by the promoter, the Government Delegate Commission for Territorial Policy may designate the departments that, due to their relationship with the subject matter of the Project, will collaborate with the department responsible for territorial planning by issuing a report in the file. The department responsible for territorial planning will grant a hearing to the local entities affected for a maximum period of one month and will obtain a report from the Local Council of Aragon and the collaborating departments, which will have to rule on the content of the environmental documentation. Once the above procedure has been completed, the department responsible for territorial planning will prepare a report with the conclusions that, together with the complete file, will be submitted to the Aragon Territorial Planning Council for a report within a period of one month. The department responsible for territorial planning will send the proposal to the Government of Aragon for the declaration, where appropriate, of the general interest of the Project.

[40] It would be necessary to consult with the regional administration on how this procedure would be articulated, taking into account that the purpose of the Project is the geological storage of carbon dioxide, which requires the obtaining of different permits that in turn require the processing of environmental assessment procedures.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
								All documents of a technical nature must be signed by competent technicians in the corresponding field. At any stage of the procedure, the department responsible for territorial planning, the Government Delegate Commission for Territorial Policy or the Government of Aragon may require the promoter to submit the complementary documentation considered necessary and also terminate the procedure on the grounds that the Project is not of general interest.	

Remarks:

Even if the Project is promoted by private initiative, the Government of Aragon may reserve the definitive status of promoter to a General Interest Consortium of Aragon, an urban planning company or a person selected in a public tender, or link its promotion and execution to the terms of a collaboration contract between the public and private sectors[41].

The DIGA may include, ex officio or at the request of a party, the declaration of public utility and social interest of the expropriations necessary for the execution of the investments declared to be of regional and general interest, provided that the scope of the Project is delimited in the declaration.

In this agreement, or in a subsequent one, the declaration of the need to occupy the property and rights that are essential for the purpose of the expropriation may be included. In these cases, the agreement adopted must incorporate the specific and individualized list of the assets or rights that are considered necessary for expropriation or occupation, proposed and formulated in accordance with the provisions of the legislation on forced expropriation. In the same agreement, urgency for the purposes of expropriation may be declared in a reasoned manner.

Relationship with other permissions:

- Obtaining the DIGA is a prerequisite for the subsequent processing of the PIGA approval procedure (section 2), but it will not condition the resolution derived from said procedure.
- However, the DIGA will be understood to be implicitly granted (i.e., they are exempt from the declaration procedure described in this section) for activities resulting from investments declared to be of regional interest by the Government of Aragon, when such declaration implies their consideration as being of general interest for the purposes established in the territorial planning regulations (section 1.bis).

[41] If the definitive promotion of the Project is not attributed to the person who had initially exercised the private initiative, said entity will have the right to be compensated for the value of the technical and professional activity carried out increased with the corresponding business profit.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
1 bis	**Declaration of investment of regional interest with general interest (implicit DIGA)**	Project as a whole.	Project as a whole.	Mandatory and decisive report (the DIGA is required -in this case, implicit- as a prerequisite for the subsequent processing of the PIGA approval procedure, but it will not condition the resolution derived from said procedure).	Projects of general interest.	Decree-Law 1/2008. *Title II.* Legislative Decree 2/2015. *Article 36.b).*	Administration receiving the application: General Secretariat of the Department of the Presidency, Economy and Justice of the Government of Aragon[42]. The resolution on the declaration as an investment of regional interest with general interest is the responsibility of the Government of Aragon.	Decree-Law 1/2008 does not specify what documentation must be submitted by the applicant for the declaration as an investment of regional interest with general interest of Aragon. However, in view of the precedents of declarations granted for other projects, the application is generally accompanied by a justifying report to set out the reasons that justify the regional and general interest for Aragon of the project presented, as well as its delimitation. Likewise, the application must expressly specify whether it is requested that: (i) the project be declared to be of regional interest with general interest of Aragon; (ii) the applicant is designated as the definitive promoter of the project of general interest; and iii) the public utility/social interest of the project is declared for expropriation purposes for the urgent expropriation and reservation of the affected land, accompanying in such case the corresponding expropriation annex.	Maximum period for deciding on the application (in the case of private initiative): three months (after which without expressly resolving they will be considered rejected; therefore, express authorisation must be obtained). The Department processing the declaration will request a prior report from the Department responsible for territorial planning regarding the possible general interest of the investment in question. The report shall be issued within a maximum period of ten working days, after which it shall be deemed to have been issued in a favourable sense. The Government will agree to the declaration of regional interest, at the proposal of the department responsible for territorial planning in agreement with the department that processes the file. In the event of a discrepancy between the Department processing the declaration and the Department responsible for territorial planning regarding the admissibility of the declaration of regional interest or the general interest of Aragon, the head of the promoting Department or the one responsible for territorial planning may request their Resolution from the Government of Aragon.

Remarks:

When the procedure is carried out on a private initiative, in accordance with the provisions of the territorial planning regulations, the Government of Aragon may decide whether the person exercising the initiative assumes the status of promoter of the project of general interest or whether it is reserved to a consortium of general interest, an urban planning company or, following a public tender, to another person[43].

Effects of the declaration of regional interest with general interest:

- Preferential and urgent promotion of administrative procedures (art. 8 Decree-Law 1/2008).
- Reduction by half of the ordinary processing times in the administrative procedures provided for in Aragonese regulations, except for those relating to the submission of applications and appeals (art. 9 Decree-Law 1/2008).
- Reduction by half of the deadlines for processing, approval and execution of urban planning, and for granting the necessary licences for the execution, opening or operation of works and investment facilities declared to be of regional interest. In cases where a classified activity or opening licence is required, the urban planning licence may be processed and granted in advance (art. 10 Decree-Law 1/2008).
- Urgent processing and priority dispatch of environmental administrative procedures provided for in regional regulations, reducing by half the ordinary deadlines established, except for those relating to the submission of applications and appeals (art. 11 Decree-Law 1/2008).

[42] According to information received in a telephone consultation made to the Government of Aragon.

[43] A review of various precedents of declarations of investments of regional interest with general interest granted in the last 5 years has been carried out, and in all the cases examined the definitive promotion of the project was attributed to its initial promoter (without holding a competition).

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- The declaration of regional interest with general interest may include, ex officio or at the request of a party, the declaration of public utility and social interest of the expropriations necessary for the execution of the investments declared to be of regional and general interest, provided that the scope of the Project is delimited in the declaration. In this agreement, or in a subsequent one, the declaration of the need to occupy the property and rights that are essential for the purpose of the expropriation may be included. In these cases, the agreement adopted must incorporate the specific and individualized list of the assets or rights that are considered necessary for expropriation or occupation, proposed and formulated in accordance with the provisions of the legislation on forced expropriation. In the same agreement, urgency for the purposes of expropriation may be declared in a reasoned manner. <u>Relationship with other permissions:</u> - The declaration of investment of regional interest with general interest constitutes one of the cases of implicit DIGA contemplated in article 36 of Legislative Decree 2/2015, allowing in turn to initiate the processing of the procedure for the approval of the Project as a PIGA (section 2).									
2	**Approval of the project of general interest of Aragon (PIGA)**	Project as a whole.	Project as a whole.	Mandatory and decisive report (the DIGA is required as a prerequisite for the subsequent processing of the PIGA approval procedure, but it will not condition the resolution derived from said procedure).	Projects of general interest	Legislative Decree 2/2015. *Articles 40 et seq*.	Administration receiving the application and competent for the initial approval of the PIGA: Department of Development, Housing, Logistics and Territorial Cohesion of the Government of Aragon. The final approval of the PIGA is the responsibility of the Government of Aragon.	Legislative Decree 2/2015 does not specify what documentation must be submitted by the PIGA promoter. The regulation only indicates that it must present "*the*	<u>Maximum period for deciding on the application</u>: Legislative Decree 2/2015 does not establish a maximum period for the procedure, although it specifies that the applicable environmental resolution[45] must be notified within a maximum period of four months from its application. In any case, it will be necessary to obtain the express approval of the PIGA from the Government of Aragon. Once the PIGA has been initially approved, it is submitted to information and public participation together with the environmental impact study or environmental document, as appropriate, for a minimum period of two months, and must include, at least, the consultations indicated by the environmental body, as well as a hearing of the affected local entities, which will report in particular on the delimitation of the scope of planning or action. Likewise, as many reports as are mandatory or considered appropriate may be obtained. When the Project is subject to environmental assessment and the period of information and public participation has concluded, the department responsible for territorial planning will obtain the appropriate environmental resolution from the environmental body, for which it must send the complete documentation of the file, incorporating an explanatory report of how the result of the consultations and public information has been taken into account in the Project. The

[45] It would be necessary to consult with the regional administration on how this procedure would be articulated within the PIGA approval procedure, taking into account that the purpose of the Project is the geological storage of carbon dioxide, which requires the obtaining of different permits that in turn require the processing of environmental assessment procedures.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
								different documents that must integrate" the PIGA[44]	appropriate environmental resolution, when required, must be notified within a maximum period of four months from its request. Once the required environmental resolution has been notified, the Project may be definitively approved with the appropriate modifications (final approval corresponds to the Government of Aragon, at the proposal of the councillor of the department responsible for territorial planning).

Remarks:

The agreement approving the Plan or Project will imply the declaration of public utility or social interest of the expropriations that, where appropriate, are necessary for the execution of the same, implicitly carrying the declaration of the need for occupation, under the conditions established by the legislation on forced expropriation. Likewise, it may imply, when it is established with reasons in the Plan or Project of General Interest of Aragon, the declaration of urgency of the necessary expropriations.

Relationship with other permissions:

- The procedure for approving the PIGA requires as a prerequisite the obtaining of a DIGA by the procedure provided for in Legislative Decree 2/2015 itself (section 1) or tacitly by declaration of investment of regional interest with general interest of Decree Law 1/2008 (section 3.1.bis).

[44] If you opt for this route, it is recommended to consult with the Government of Aragon the documentation that should be submitted for the specific Project. As a guideline, the PIGA for the union of the Astún and Candanchú stations is currently in public information, whose initial approval resolution states that the documentation submitted with the application to start the processing of the PIGA was as follows:

1) Memorandum justifying the planning. Justification of the summons.
2) Urban planning documentation. Urban planning regulations.
3) Economic-financial study.
4) Stage plan.
5) Environmental summary.
6) Technical report.
7) Graphic documentation.
8) Budget.
9) Environmental impact study.

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Id	Name of the procedure / permit	Subproject	Affected Facility	Type of procedure	Theme	Reference regulations	Involved management and recipient of documentation	Documentation to be submitted	Legal processing time
Approval as a PIGA exempts from the obligation to obtain the applicable municipal urban planning licences in the event that, in accordance with article 47.2 of Legislative Decree 2/2015, the PIGA authorises the building being directly executable without the need for an enabling title of an urban nature.									

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