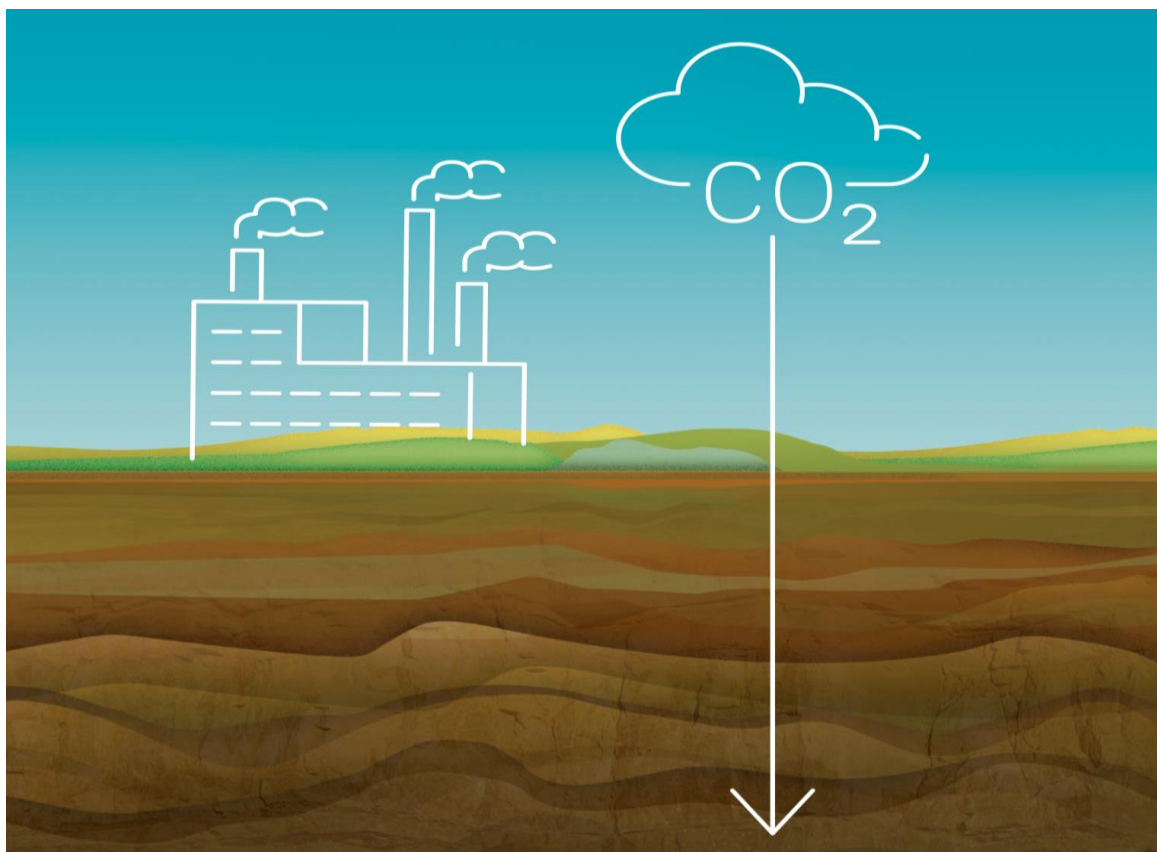


Scoping note



Strategic Environmental Assessment of the Amendment to the Executive Order on Geological Storage of CO₂ Below 100 kt for the Purpose of Research, Development or Testing of New Products and Processes

Danish Energy Agency (Energistyrelsen)

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1 Background

With the signing of the Climate Agreement for Energy and Industry on 20 June 2020, it was decided that Carbon Capture and Storage (CCS) would constitute an important element in meeting Denmark's climate targets. This decision is consistent, inter alia, with the assessments of the UN Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), both of which regard CCS as an essential technology for achieving the objectives of the Paris Agreement. Since 2020, a number of political agreements have been made and legislation passed that create a better framework for CCS in Denmark.¹

CCS is a technology whereby CO₂ is captured from industrial or energy-related emission sources—such as power plant stacks, biogas facilities and waste incineration plants—and transported for underground storage. The purpose of CCS is to reduce the release of CO₂ into the atmosphere. CO₂ can be stored underground both onshore and beneath the seabed. The geological formations in the Danish subsoil are highly suitable CO₂ storage and the storage potential is therefore considerable, equivalent to between 400 and 700 times Denmark's annual CO₂ emissions.²

Permits for the geological storage of CO₂ below 100 kilotonnes for research, development or testing of new products and processes (hereinafter referred to as pilot and demonstration projects) are currently governed by the Executive Order on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes.³ Pursuant to the Executive Order, the Danish Energy Agency may currently grant permits for the geological storage of CO₂ in quantities below 100 kt for a period of up to two years, for the purpose of research, development or testing of new products and processes. Under the existing Executive Order, such permits may only be issued for projects located in designated areas of the North Sea, see Annex 1 of the Executive Order.⁴

Amendment of the Executive Order on Pilot and Demonstration Projects

As part of the implementation of political agreements concerning the geological storage of CO₂, the Danish Energy Agency proposes to expand the geographical scope of the Executive Order to allow, going forward, applications for permits for pilot and demonstration projects across the entirety of Denmark's land and maritime territory within the Danish exclusive economic zone. Each individual pilot or demonstration project will remain subject to a separate application, administrative processing and permitting procedure, including independent assessments in accordance with applicable environmental legislation.

¹ Danish Energy Agency link: <https://ens.dk/forsyning-og-forbrug/om-ccs> and Ministry of Climate, Energy and Utilities, Fact Sheet: The overall strategic effort for the deployment of CO₂ capture and storage [Political agreements and current legislation](#)

² Ministry of Climate, Energy and Utilities, Fact sheet: The overall strategic effort for the deployment of carbon capture and storage [Political agreements and current legislation](#)

³ Executive Order No. 974 of 22 June 2022 on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes [Executive Order on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes.](#)

⁴ Executive Order No. 974 of 22 June 2022 on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes [Executive Order on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes.](#)

In connection with the proposed extension of the Executive Order's geographical scope, a strategic environmental assessment of the amendment shall be conducted. This includes the preparation of an environmental report which will assess any potential environmental effects arising as a consequence of the proposed amendment. The environmental report will serve as an environmental evidence base for both the competent authority and the general public in the context of decision-making on the adoption and promulgation of the Executive Order.

According to the Environmental Assessment Act⁵, the environmental report must include a description and assessment of the likely significant effects on the environment, in relation to the environmental factors set out in Annex 4 of the Act.

Prior to the preparation of the environmental report, the competent authority is required to define the scope of the report's content based on these environmental factors, as per Section 11 of the Environmental Assessment Act. The present note sets out the proposed scope of the environmental report.

2 CO₂ Storage in the Subsurface

The current Executive Order on pilot and demonstration projects governs applications for permits for the geological storage of CO₂ below 100 kt for a duration of up to two years. Activities eligible for permitting must be undertaken for the purpose of research, development or testing of new products and processes, and are geographically restricted to specific parts of the North Sea. The proposed amendment to the Executive Order removes this geographic limitation, expanding the eligible area to encompass all of Denmark's land and maritime territory within the Danish exclusive economic zone. Other provisions of the Executive Order, including the scope of eligible activities, remain unchanged.

What follows is a general description of the types of projects and activities currently enabled by the Executive Order on pilot and demonstration projects involving the injection and geological storage of CO₂ in the subsurface.

CCS technology

Carbon Capture and Storage (CCS) is a technology by which CO₂ is captured from industrial or energy-related emission sources such as power plant stacks, biogas facilities and waste incineration plants and subsequently transported for underground storage. The CCS project value chain typically consists of three main stages, as outlined below:⁶

1. In the first stage, CO₂ is captured by filtering flue gases from CO₂-emitting sources.
2. In the second stage, the CO₂ is compressed and transported via pipeline, ship, truck or other means to a suitable geological reservoir for storage.
3. In the third stage, the CO₂ is injected into the subsurface geological reservoir for permanent storage. Only this third stage (subsurface injection and geological storage) and only projects with a total CO₂ volume of less than 100 kt conducted for pilot and demonstration purposes fall within the scope of the Executive Order and, therefore, within the scope of the Strategic Environmental Assessment.

⁵ Consolidating Act No. 4 of 3 January 2023 on the Environmental Assessment of Plans and Programmes and of Specific Projects (the Environmental Assessment Act)

⁶ Danish Energy Agency, About CCS - How the CCS value chain works, <https://ens.dk/forsyning-og-forbrug/om-ccs>



Figure 2.1 Graphical representation of the CCS value chain: interaction between capture, transport and storage.

Illustration: Geological Survey of Denmark and Greenland (GEUS)⁷

The first stage involves capturing the CO₂ from flue gases. This can be done at industrial facilities such as waste incineration plants, power and district heating plants and biogas plants. It is also possible to capture CO₂ directly from the air. Companies producing flue gases can capture CO₂ through chemical scrubbing. Other companies, such as biogas plants, can capture CO₂ by upgrading biogas to natural gas quality⁸.

Once captured, the CO₂ is compressed and subsequently transported to a designated underground storage site (reservoir). On land, CO₂ can be transported via pipeline, train or truck. At sea, transport is generally carried out by ship.

The third stage involves injecting the CO₂ underground, for example, into permeable sandstone layers.⁴ Typically, the captured CO₂ is injected 800 to 3,000 meters below the earth's surface when stored in liquid form. If CO₂ is stored in a sandstone layer, one or more claystone layers above the sandstone typically serve as a seal to contain the CO₂ in the subsurface.

The geological conditions in Denmark, including the stratigraphy of the subsurface, make it particularly suitable for CO₂ storage.⁷ The Geological Survey of Denmark and Greenland (GEUS) has estimated that the Danish subsurface has a total storage capacity between 12 and 22 billion tonnes of CO₂, which corresponds to approximately 400 to 700 times Denmark's current annual CO₂ emissions.⁹

⁷ Danish Energy Agency, About CCS – How to capture CO₂, <https://ens.dk/forsyning-og-forbrug/om-ccs>

⁸ Danish Energy Agency, About CCS – How to capture CO₂, <https://ens.dk/forsyning-og-forbrug/om-ccs>

⁹ Danish Energy Agency, About CCS – The potential for CCS in Denmark, <https://ens.dk/forsyning-og-forbrug/om-ccs>

GEUS has produced an overview map (Figur 2.2) illustrating the locations of Danish CO₂-emitting point sources alongside geological formations with potential for CO₂ storage within Denmark. As depicted in the figure, areas suitable for CO₂ storage exist both underground on land and beneath the seabed. The majority of these prospective storage sites are situated in the northern North Sea, Central and Northern Jutland, as well as in the sea south of Lolland-Falster, Funen and Als. The map's point source data originates from 2018.

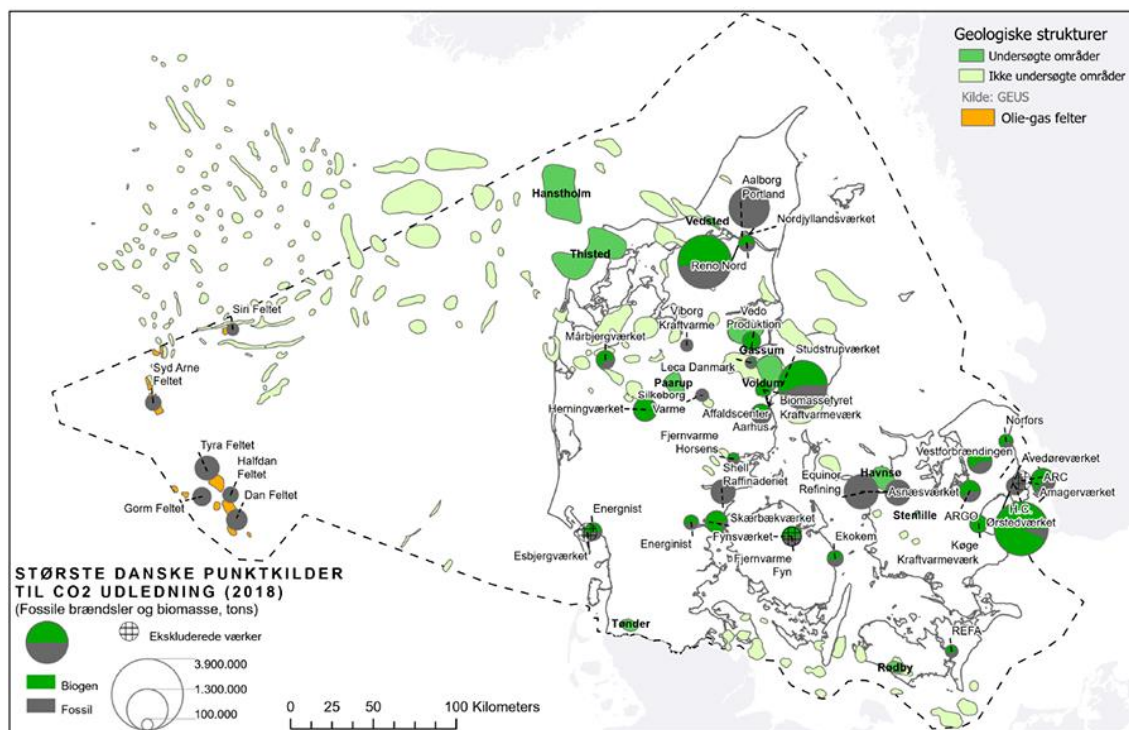


Figure 2.2 Overview map of point sources and potential storage structures in Denmark¹⁰

In 2022, the Danish Energy Agency granted the first—and to date, only—permit for a pilot and demonstration project involving the injection and storage of CO₂ in the Danish subsurface. The permit was awarded to INEOS' Greensand pilot project, which involves the injection and storage of up to 15,000 tonnes of CO₂ in the former Nini West oil field over a four-month period.¹¹

For pilot and demonstration projects, permits for establishing storage facilities will include necessary conditions, including safety requirements such as monitoring programmes to ensure any CO₂ leakage is detected promptly and that corrective measures are implemented quickly and effectively.

Full-scale CO₂ storage is not yet operational in Denmark, but the first projects are anticipated to commence between 2026 and 2030.

3 Environmental assessment of the Executive Order

The Environmental Assessment Act aims to ensure a high level of environmental protection during the preparation of plans and programmes and to integrate environmental considerations at an early stage of the planning process. Consequently, an environmental assessment includes an evaluation of any likely significant environmental impacts prior to the implementation and

¹⁰ Danish Energy Agency, About CCS – The potential for CCS in Denmark, <https://ens.dk/forsyning-og-forbrug/om-ccs>

¹¹ Danish Energy Agency, <https://ens.dk/presse/energistyrelsen-giver-foerste-tilladelse-til-co2-lagringsprojekt-i-danmark>

adoption of plans and programmes. The Environmental Assessment Act applies to plans and programmes as defined in Section 2(1)(1) of the Act, including executive orders and their amendments.

For plans covered by the Environmental Assessment Act, an environmental assessment must generally be conducted when the plan is developed within certain sectors and establishes the framework for future construction permits for projects listed in Annexes 1 and 2 of the Act, as set out in Section 8(1).

The Executive Order establishes a framework for future construction permits for the geological storage of CO₂ in amounts below 100 kilotonnes, intended for research, development or the testing of new products and processes for a period of up to two years. As such, it falls within the scope of the Environmental Assessment Act, pursuant to Section 8(1) of the Act.

The current Executive Order on pilot and demonstration projects¹² has already been subject to an environmental assessment.¹³ Accordingly, the present assessment focuses exclusively on the proposed amendment to the Executive Order, namely, the extension of the geographical scope from selected areas of the North Sea to include the entire land and sea territory of Denmark.

The environmental assessment of the amended Executive Order concentrates on the decision to permit pilot and demonstration projects for the geological storage of CO₂ across Denmark. The Executive Order does not prescribe specific technologies or project locations. However, it sets clear parameters: each project must involve no more than 100 kilotonnes of CO₂ and may run for a maximum duration of two years. Each individual pilot or demonstration project will remain subject to a separate application, administrative processing and permitting procedure, including independent assessments in accordance with applicable environmental legislation.

4 The environmental assessment process

The purpose of an environmental assessment is to ensure that likely significant environmental impacts of a plan are considered during public consultation and prior to the competent authority's final decision, as outlined in Section 1(2) of the Environmental Assessment Act. This means that an assessment must be carried out in relation to the environmental factors covered by the Act, including biodiversity, population, human health, flora, fauna, soil, land, water, air, climatic factors, material assets, landscape and cultural heritage, such as churches and their settings, as well as architectural and archaeological heritage. It must also consider major man-made and natural disaster risks and accidents, resource efficiency and the interrelationship between these factors.

According to the Act, both the negative and positive impacts of the plan must be assessed. The aim of conducting an environmental assessment of the Executive Order is therefore to identify and evaluate its potential environmental impacts, both beneficial and adverse, as a basis for any necessary modifications before the plan's final adoption.

¹² Executive Order No. 974 of 22 June 2022 on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes [Executive Order on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes](#)

¹³ Public Consultation Portal: <https://hoeringsportalen.dk/Hearing/Details/66208>

The environmental assessment is conducted at a strategic level, reflecting the available knowledge regarding the changes introduced by the Executive Order. The overall process of environmental assessment is illustrated in Figur 4.1 and briefly described below:

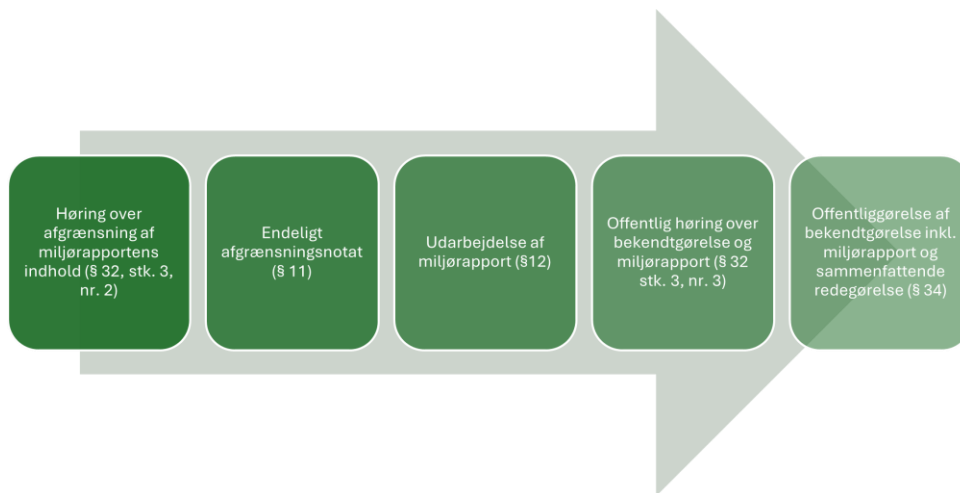


Figure 4.1 Main process steps for the environmental assessment of the Executive Order.

Consultation on the scope of the environmental report This phase is used to determine the scope of the environmental assessment and to consult affected authorities and states in order to gather relevant knowledge for the assessment. Scoping is based on the amendments to the Executive Order, the identification of provisions that establish the framework for future construction permits, the potential environmental impacts of these provisions and an assessment of the plan's effects on the environment based on existing knowledge and available data.

Final scoping note Following the consultation, the responses are reviewed and considered on a case-by-case basis and the scoping report is finalised.

Preparation of the environmental report Based on the scoping note, the environmental report is prepared. This includes a description and assessment of the plan's likely impact on the environmental factors identified during the preceding scoping. The scoping statement is annexed to the environmental report.

Public consultation on the executive order and the environmental report. The environmental report is submitted for public consultation together with the draft executive order, allowing the public to comment on any potential environmental impact of the executive order.

Publication of the executive order including the environmental report and summary statement. After the public consultation and consideration of consultation responses, the executive order is formally adopted. The final adopted executive order is then published together with the authority's summary statement, which outlines any changes made to the plan as a result of the environmental assessment's conclusions and public comments on the executive order and environmental assessment report.

5 Scoping of the content and methodology of the environmental report

This memo outlines the scope of the content of the environmental report for the proposed amendment to the Executive Order on geological storage of CO₂ below 100 kt for the purpose of research, development or testing of new products and processes.

According to the Environmental Assessment Act, environmental reports must include a description and assessment of the likely significant effects the executive order may have on the environment in relation to the environmental factors.

As part of the environmental assessment process, the authority must undertake scoping to define the content of the environmental report, as per Section 11 of the Environmental Assessment Act, to determine the significant environmental aspects to be described and assessed in the environmental report, along with the scope and level of detail of the assessments.

The scoping must consider whether, and to what extent, the executive order may be assumed to have a significant effect on one or more of the aforementioned environmental factors. For those environmental factors where a significant impact from the Executive Order cannot be ruled out, these will be examined further in the environmental report. Environmental factors that are not expected to be significantly affected are not addressed further in the report.

A schematic representation has been prepared in Tabel 8.1 of relevant environmental topics, indicating whether they could potentially be significantly affected by the executive order or whether such effects can be ruled out on the current basis. The assessment includes the scoping and rationale for the delimitation of each individual environmental factor.

The following summary indicates the environmental topics to be included in the environmental report, see Tabel 8.1:

- Surface water and groundwater (Water Planning Act)
- Annex IV - species
- Natura 2000
- The ocean (marine strategy) – only at sea
- The ocean (marine plan) – only at sea
- Other nature
- Section 3 protected areas and watercourses – on land only
- Building and protection lines - on land only
- Fishing - only at sea
- Noise and vibration - only on land
- Air, odour and emissions
- Risk of major accidents and disasters
- Soil and soil contamination
- Landscape - only on land
- Visual conditions
- Climate

Furthermore, the report includes an assessment of the interrelationships between the aforementioned environmental topics, cumulative impacts with other plans, transboundary effects and an evaluation of possible alternatives.

The executive order on pilot and demonstration projects forms the overarching basis for subsequent specific project permits. The environmental report must, pursuant to Section 12 of the Environmental Assessment Act, contain the information that can reasonably be required, taking into account current knowledge, established assessment methods, the level of detail of the plan and its position within the plan hierarchy. In practice, this means that the assessments in the environmental report will be conducted at a level of detail reflecting the overall nature of the Executive Order, based on generic considerations. This is due to the fact that construction methods and locations for subsequent specific projects are only determined during the design phase and the processing of individual applications. Consequently, the environmental assessment will largely address likely environmental impacts arising from the provisions of the Executive Order. The assessments will be based on existing knowledge, including publicly available databases

such as the river basin plans (baseline analysis, latest version), data from the River Basin Management Plan 2021-2027, Revisiting the River Basin Management Plan 2021-2027, the Danish Environment Portal, including area information, miljodata.dk and vandplandata.dk.

6 Consultation with affected authorities

In accordance with Section 32 of the Environmental Assessment Act, the responsible authority preparing a plan with an associated environmental assessment must consult the relevant authorities on the scope of the environmental report. Section 5(1)(2) of the Environmental Assessment Act defines an affected authority as one which, due to its specific environmental responsibilities or local and regional competences, can be expected to be impacted by the environmental effects of the plan, programme or project.

The Danish Energy Agency has assessed that the following authorities etc. must be consulted on the scoping note for the environmental report:

Affected authorities, associations and organisations

- Ministry of Environment and Gender Equality mim@mim.dk
- Ministry of the Implementation of the Green Three-Partite Agreement mgtp@mgtp.dk
- Ministry of Food, Agriculture and Fisheries fvm@fvm.dk
- Ministry of Industry, Business and Financial Affairs em@em.dk
- Ministry of Urban, Rural and Ecclesiastical Affairs blkm.dk
- Ministry of Transport trm@trm.dk
- Ministry of Public Safety and Emergency Preparedness mssb@mssb.dk
- Ministry of Culture kum@kum.dk
- Danish Business Authority erst@erst.dk
- Danish Geodata Agency gst@gst.dk
- Danish Agricultural and Fisheries Agency mail@lfst.dk
- Danish Agency for Planning and Rural Development plst@plst.dk
- Danish Environmental Protection Agency info@mst.dk
- Danish Coastal Authority kdi@kyst.dk
- Danish Agency for Green Transition and Aquatic Environment mail@sgav.dk
- All municipalities
- All regions
- Ministry of Climate, Energy and Utilities kefm@kefm.dk
- Danish Energy Agency ens@ens.dk
- Defence Command fko@mil.dk
- Danish Ministry of Defence Estate Agency fes@mil.dk
- Danish Emergency Management Agency brs@brs.dk
- Danish Agency for Culture and Palaces post@slks.dk
- Danish Health Authority sst@sst.dk
- Danish Maritime Authority sfs@dma.dk
- Danish Civil Aviation and Railway info@trafikstyrelsen.dk
- Geological Survey of Denmark and Greenland (GEUS) geus@geus.dk
- The Danish North Sea Fund (Nordsøfonden) and the Danish North Sea Agency (Nordsøenheden) nordsoeen@nordsoefonden.dk
- National Association of Local Authorities kl@kl.dk
- Danish Society for Nature Conservation dn@dn.dk
- DOF-BirdLife Denmark dof@dof.dk
- Danish Association for Sport Fishing post@sportsfiskerforbundet.dk
- NOAH noah@noah.dk
- Danish Chamber of Commerce info@danskerhverv.dk
- Confederation of Danish Industry di@di.dk
- Danish Outdoor Council fr@friluftsradet.dk
- HAV (think tank) info@taenketanken-hav.dk
- Dansk Offshore info@danskoffshore.dk
- Danish Council on Climate Change mail@klimaraadet.dk

7 Espoo consultation of affected states

According to Sections 32 and 38 of the Environmental Assessment Act, the authority issuing an Executive Order that may have transboundary environmental impacts must consult the affected states on the scope of the environmental report. The consultation is conducted through the Espoo authority at the Danish Agency for Green Transition and Aquatic Environment in accordance with the SEA Protocol (BKI no. 13 of 10/08/2017).

The Danish Energy Agency has assessed that the following countries should be consulted in an Espoo consultation on the scoping note for the environmental report for the proposal to amend the Executive Order:

Affected countries

- Norway
- Sweden
- UK
- Germany
- Poland
- The Netherlands

8 Scope of the environmental report

The scoping table identifies the environmental aspects to be included in the environmental assessment, as it cannot be ruled out in advance that they will be significantly affected by the project. The scoping is based on the environmental factors of the Environmental Assessment Act. See more on methodology and scoping in section 5.5.

Table 8.1 Scoping chart of relevant environmental topics.

Environmental factor		Description and assessment of impact	Scope of assessment Included/not included
Water			
Surface water and groundwater	On land	The Executive Order allows for facilities and activities that may affect surface water and groundwater, including coastal waters. Impacts on groundwater bodies and surface water can arise from construction work involving drilling and CO ₂ leakage. The potential impact of the activities on groundwater and surface water is assessed in accordance with the Water Framework Directive at a level corresponding to the level of detail and overall purpose of the Executive Order. The assessments are based on generic considerations due to a lack of knowledge about construction methods and locations for the subsequent specific projects.	Included
	At sea	A similar assessment is carried out regarding potential impacts on coastal waters.	Included
Marine	On land	Not relevant	Not included
	At sea	Activities regulated by the Executive Order may potentially affect the defined environmental objectives within the 11 descriptors of the Marine Strategy aimed at achieving or maintaining good environmental status in the marine environment. An assessment of the 11 descriptors will be conducted based on existing knowledge. For certain descriptors, this assessment will be closely linked to evaluations performed for Annex IV species, Natura 2000 sites and the Water Framework Directive, as the goal of achieving good environmental status for several descriptors is anchored in legislation	Included

		<p>regulating these areas. Knowledge from other topics under biodiversity, flora and fauna will also be included.</p> <p>Activities regulated by the Executive Order can potentially affect zones designated in the Marine Spatial Plan. Based on the Marine Spatial Plan, the Marine Spatial Plan Report and including assessments from other environmental topics, the impact on the Marine Spatial Plan is assessed at an overall level.</p>	
Biodiversity, flora and fauna			
Annex IV species	On land	An assessment will be made of any impacts that the activities under the Executive Order may have on Annex IV species, as well as an assessment of whether the activities can be carried out in accordance with relevant protection regulations. The activities regulated by the Executive Order have the potential to affect Annex IV species on land during both the construction phase and the operation/monitoring phase. Potential impacts include physical disturbance, noise, land take and similar factors. The assessments are based on existing knowledge of the sensitivity of relevant Annex IV species to such impacts.	Included
	At sea	An assessment will be made of any impacts that the activities under the Executive Order may have on Annex IV species, as well as an assessment of whether the activities can be carried out in accordance with relevant protection regulations. Annex IV species at sea could potentially be affected during the construction phase by, for example, underwater noise from geotechnical and geophysical surveys including seismic activities, increased ship traffic and suspended sediment in the water column resulting from drilling and installations on the seabed. During the operation and monitoring phase, potential impacts include underwater noise and habitat loss associated with fixed installations. These assessments rely on existing knowledge of the sensitivity of relevant Annex IV species to these types of impacts.	Included

Natura 2000	On land	The activities regulated by the Executive Order could also potentially affect the designation basis for Natura 2000 sites (species and/or habitats) on land directly during the construction and operation/monitoring phases. This may arise from physical disturbance, noise, placement of technical installations or local leakage of CO ₂ . A significance assessment will be prepared based on existing knowledge and at a level of detail reflecting the overall level of the Executive Order, based on generic considerations due to a lack of detailed knowledge about methods and locations for the subsequent specific projects. If a significant impact on Natura 2000 sites cannot be ruled out, an impact assessment will be conducted in accordance with the habitat regulations.	Included
	At sea	The activities regulated by the Executive Order can potentially affect the designation basis for marine Natura 2000 sites (species and/or marine habitats), for example through underwater noise from geotechnical and geophysical surveys, increased ship traffic, suspended sediment in the water column from drilling and seabed installations, habitat loss or local CO ₂ leakage. A materiality assessment will be prepared based on existing knowledge and at a level of detail reflecting the overall scope of the Executive Order, based on generic considerations due to a lack of detailed knowledge and locations for subsequent specific projects. If a significant impact on Natura 2000 sites cannot be ruled out, an impact assessment will be carried out in accordance with habitat regulations.	Included
Other nature	On land	The activities regulated by the Executive Order may also potentially affect other species, including birds listed on Annex I of the Birds Directive, species protected under the Species Protection Order or red-listed species. Potential impacts include physical disturbance, noise, the placement of technical installations or local CO ₂ leakage. All descriptions and assessments of other nature will be made at a general level and based on existing knowledge.	Included
	At sea	The activities regulated by the Executive Order may also affect marine nature including benthic flora and fauna, fish, seabirds and seals (whales are treated separately under Annex IV, as all whales are listed in Annex IV of the Habitats Directive). Impacts may include physical disturbance of seabed areas (loss or alteration of habitats), increased suspended sediment in the water column, sediment deposition, release of MFS (Miscellaneous Foreign Substances), underwater noise and increased ship traffic.	

		Seals are the only marine mammals covered under the section on other marine nature, although they are also partially addressed in the Natura 2000 section. Birds, especially protected species listed in Annex I of the Birds Directive and red-listed species, will be assessed in the environmental report. These are mainly resting seabirds. All descriptions and assessments of other marine nature will be at a general level and based on existing knowledge.	
Section 3 Protected areas and watercourses	On land	Activities regulated by the Executive Order can potentially affect protected nature areas through land take and CO ₂ leakage to the surface. The environmental report will include an overall assessment of the impact on habitats based on generic considerations.	Included
	At sea	Not relevant	Not included
Building and protection lines	On land	Building and protection lines, including the beach protection line, are included only at a general level in the environmental assessment, as there are no area designations for the activities covered by the Executive Order. Building and protection lines are protected under sections 15–17 of the Nature Conservation Act. Any impact on these lines will require an exemption from the relevant municipality in connection with the specific project.	Included
	At sea	Not relevant	Not included
Population and material goods			
Land use	On land	Land use, including agricultural interests, business activity and the social structures of the areas, is not included in the environmental report for the Executive Order, as no specific locations are designated for the facilities and the impact is assessed to be so geographically limited that it will not be significant in relation to the overall area covered by the nationwide Executive Order.	Not included
	At sea	Land use is not included in the environmental report for the Executive Order, as no specific locations are designated for the facilities and the impact is assessed to be so geographically limited that it will not be significant in relation to the total area regulated by the national Executive Order. However, the topic is addressed in relation to Marine Strategy Descriptor D6 on seabed integrity.	
Fishing	On land	Not relevant	Not included

	At sea	Activities regulated by the Executive Order may cause impacts on commercial fishing by restricting the fishing industry's ability to operate in fishing areas due to potential safety zones around, for example, fixed installations during the lifetime of the projects and partly due to possible impacts on fish stocks of commercial species. The assessments are based on existing knowledge using available data from the Danish Agricultural and Fisheries Agency. Impacts on the fishery resource (fish) are also addressed in the section on Other Marine Nature.	Included
Outdoor life and recreational interests	On land	Outdoor life and recreational interests are not included in the environmental report for the Executive Order, as no locations are designated for the facilities, which are otherwise assessed to occupy small areas. The impact is assessed to be geographically limited so that it will not be significant for outdoor life and recreational interests.	Not included
	At sea	Outdoor life and recreational interests are not included in the environmental report for the Executive Order, as no locations are designated for the facilities, which are otherwise assessed to only occupy small areas. The impact is assessed to be geographically limited so that it will not be significant for outdoor life and recreational interests.	
Resources, including resource consumption and waste management	On land	Resources, including resource consumption and waste management, are not included in the environmental report for the Executive Order. This is because the construction phase involves only minor facilities and installations, resulting in very limited resource use and there will be no significant waste management during construction or operation, including drilling mud and similar materials. Therefore, the impact is considered insignificant at the national level for this nationwide Executive Order and is not included. Regarding raw material interests, the geological storage of CO ₂ takes place in deep soil layers, so there is no potential impact on raw material extraction.	Not included
	At sea	Resources, including resource consumption and waste management, are not included in the environmental report for the executive order, as the activities in the	

		<p>construction phase will only involve the establishment of minor facilities and installations, and thus very limited resource consumption, and there will be no significant waste management in the construction and operational phases, including drilling mud and the like. Therefore, the impact is considered insignificant at the national level for this nationwide Executive Order and is not included.</p> <p>Regarding raw material interests, the geological storage of CO₂ takes place in deep soil layers, so there is no potential impact on raw material extraction.</p>	
Human health			
Traffic and road safety	On land	The activities enabled by the Executive Order will lead to an insignificant increase in truck traffic to and from the injection stations nationwide. Therefore, this issue is not included in the environmental report.	Not included
	At sea	The activities enabled by the Executive Order will lead to an insignificant increase in ship traffic to and from the injection stations on a national level. Therefore, this issue is not included in the environmental report.	
Noise and vibration	On land	The activities regulated by the Executive Order may cause noise and vibrations during construction and operation. The environmental assessment will include a general evaluation of noise impacts on human health, based on generic considerations from similar drilling and construction projects.	Included
	At sea	Noise and vibrations at sea are only considered in relation to protected species.	See section on protected species
Air, odour and emissions	On land and at sea	The activities enabled by the Executive Order may impact air quality, odour and emissions, including the unintentional release of CO ₂ during construction and operation.	Included
Risk of major accidents and disasters	On land and at sea	The activities enabled by the Executive Order can potentially lead to unintentional CO ₂ emissions during construction and operation. The environmental report will provide an overall description and assessment of disaster risks based on existing knowledge of the activities covered by the Executive Order.	Included
Soil and soil contamination			

Soil and soil contamination	On land	The activities regulated by the Executive Order may cause physical impacts and pollution of sediment and seabed, including geological layers, due to the construction of facilities and installations, as well as from the injection and geological storage of CO ₂ in the subsurface. The impact will be assessed at an overall level based on existing knowledge.	Included
	At sea	The activities regulated by the Executive Order can potentially cause physical impacts and pollution of sediment and seabed, including geological layers, from the construction of facilities and installations, as well as from the injection and geological storage of CO ₂ in the subsurface. The impact will be assessed at an overall level based on existing knowledge.	
Landscape			
Landscape and visual conditions, including light	On land	The types of installations covered by the Executive Order can potentially affect the landscape visually during the operational phase. Therefore, landscape impacts are included at a general level in the environmental report, based on existing knowledge of the visual appearance of the installation type. The impact on the landscape during the construction phase is not included, as it will be localised and temporary, and therefore unlikely to cause significant effects at the national level.	Included
	At sea	The types of installations covered by the Executive Order can potentially affect visual conditions at sea during operation. This topic is also addressed generally in the environmental report, drawing on existing knowledge of the installation type's visual impact. Visual impact during any potential construction phase is not included, as it will be local and temporary and unlikely to cause significant effects at the national level.	Included
Protections	On land	The types of facilities covered by the Executive Order may potentially be located within protected areas. However, this is only permitted if the installation does not conflict with the conservation objectives, in accordance with the Nature Conservation Act. Given the prohibition of facilities that conflict with conservation purposes, and the absence of designated areas within the Executive Order, it is assessed that the order will not have a significant impact on protected areas.	Not included
	At sea	Not relevant	

Cultural heritage and archaeology			
Cultural heritage, ancient monuments and archaeology	On land and at sea	Cultural heritage, ancient monuments and archaeology are not included in the environmental report for the Executive Order, as no specific areas are designated for the activities covered by the order. Additionally, since the activities are only expected to occupy small areas, there will be ample opportunity to carry out the activities in locations without cultural heritage values. Therefore, a significant impact can be ruled out at this overall planning level.	Not included
Protected stone and earth dykes	On land	Protected stone and earth dykes are not included in the environmental report, as no specific areas are designated for the activities under the Executive Order. Moreover, since the activities are only estimated to occupy small areas, there will be good opportunities to carry out the activities in locations without protected stone and earth dykes. Consequently, a significant impact can be dismissed at this planning level.	Not included
	At sea	Not relevant	
Churches and their surroundings	On land	Churches and their surroundings are not included in the environmental report, as no specific locations for the facilities are identified and any potential impact is assessed to be geographically limited and therefore not significant.	Not included
	At sea	Not relevant	
Climatic factors			
Climate	On land and at sea	The activities covered by the Executive Order may impact the climate, as the order enables pilot and demonstration projects aimed at promoting the underground storage of CO ₂ . The environmental assessment will include a general evaluation of this impact at an overall level.	Included
Interrelationships between the above environmental factors and cumulative impacts			
Relationships between environmental factors, such as water and nature.	On land and at sea	Included in the environmental report	Included
Cumulative impacts with other plans	On land and at sea	Included in the environmental report	Included

Cross-border impacts	On land and at sea	The Executive Order may lead to transboundary activities requiring notification to affected countries in accordance with the SEA Protocol.	Included
Alternatives	On land and at sea	The environmental report highlights and evaluates possible alternatives to the Executive Order.	Included