

CCS IN DENMARK: STATUS

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STATUS ON CCS IN DENMARK

Political agreements:

- *Climate agreement on energy and industry 22 June 2020*
 - Decision to make CCS legal and to be used in hard to abate sectors
 - Emphasizing CCS does not mean less-ambitions on the climate agenda
- *Agreement on CCS roadmap part 1, 30 June 2021 + part 2, 14 December 2021*
 - Decision to make import/export of CO₂ legal
 - Decision to give GEUS funding for investigating potential storage sites
 - Decision to make DK a European hub for CCS, and to roll out CCS on market terms in the long run in CCS strategy
 - Decision to involve municipalities, regions and citizens + industry dialogue + CCUS stakeholder forum
- *Agreement on framework conditions for CO₂ storage June 21 2022*
 - State co-ownership of storage permits at 20%
 - Onshore pilot project in Stenlille

STATUS ON CCS IN DENMARK

Legislation

- Speedier and less extensive approval process for storage pilot projects in the North Sea entered into force on 1 July 2022.
- Exempting storage and transport of CO₂ from the prohibitions against dumping in the Marine Environment Act entered into force 1 August 2022.

Implementation

- First pilot project permit given for exploration and storage of CO₂ in a delimited area in the Danish part of the North Sea.
- Three full scale exploration permits given as of beginning February 2023 (Bifrost and Greensand)
- Two final and binding offers the first round of the CCUS funds. DEA are evaluating the offers and expects to award a contract in May 2023.
- GEUS has begun seismic preliminary studies of possible storage structures on land and near the coast and Danish Energy Authority has started the Environmental Impact assessment.
- MoU on CCUS with the Netherlands. MoU on CCUS with Belgium + bilateral arrangement on CO₂ transportation.

Overall:

- Total funding for CC(U)S of approx. 39 billion DKK (approx. 5,2 bill. EUR) in 2023 prices.
- Total expected reduction estimate from CC(U)S of DKK 3.2 million. tonnes of CO₂ annually from 2030.

TO-DO LIST

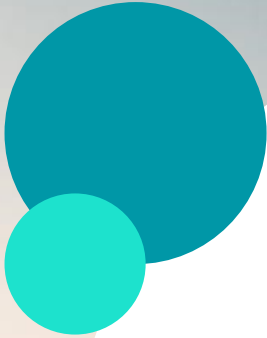
- ENABLING CCS IN DENMARK

- Future tenders for subsidy schemes
- The legal framework for transporting CO₂
- State participation in future storage licensing rounds
- Clear regulatory framework for CCS on waste incineration and combined heat and power plants
- Cross boarder infrastructure
- Bilaterale arrangements on transportation of CO₂
- International and EU regulation on CCS

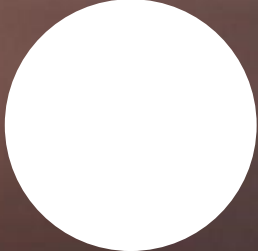
And more...

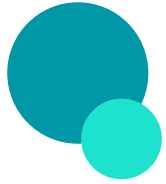
NECCS

INVITATION TO MARKET DIALOGUE



INTRODUCTION TO THE NECCS FUND





WHAT IS THE NECCS FUND?

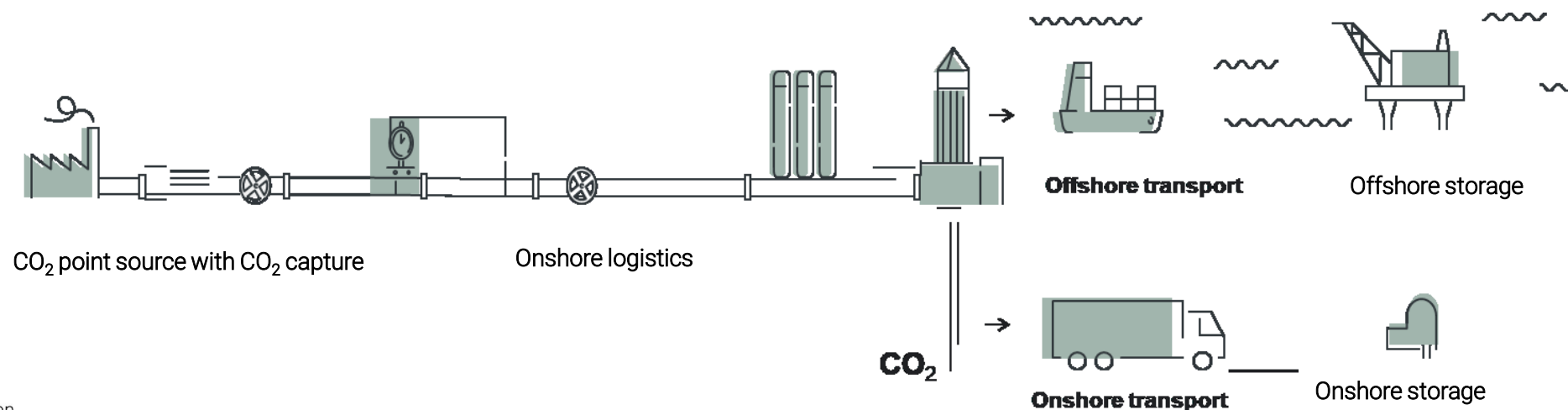
- On 4 December 2021, the Negative emissions carbon capture and storage fund (“NECCS”) was introduced as part of an agreement on Investments in a continually greener Denmark under the Finance Act for 2022.
- The goal is to achieve negative emissions of 0.5 million tonnes CO₂ per year from 2025 to 2032 through CO₂ capture of biogenic sources and subsequent geological storage.
- Biogenic sources refer among others to CO₂ capture from biogas upgrading, biomass-based power and heat production, the biogenic share of CO₂ captured in waste incineration plants, as well as carbon captured directly from the atmosphere (DACCS).
- Any source that can provide geological storage of biogenic CO₂ can participate in the tender
- A total of DKK 2.6 billion (current-prices) has been allocated to the NECCS Fund



KEY ELEMENTS OF THE NECCS FUND

SCOPE OF CONTRACT - CAPTURE AND STORAGE FROM 2025

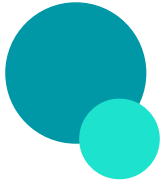
- The fund will cover costs of capture, transport, and geological storage of biogenic or atmospheric CO₂.
- The Bidder is responsible for the full CCS value chain.
- The Bidder can be any legal entity that can assume responsibility for the full CCS value chain.
- The Bidder must ensure capture and storage of CO₂ starting from the year 2025



SCOPE OF CONTRACT - CAPTURE AND STORAGE FROM 2025

- The point source of emission must be placed in Denmark.
- There is no requirement that the captured CO₂ must be stored in Denmark.





MULTIPLE CONTRACTS AND CONTRACTED QUANTITY

NO MINIMUM QUANTITY

There will be no minimum amount of CO₂ to be captured and stored by the individual bidders.

Hence, the DEA has the possibility to offer multiple contracts for the capture, transport, and storage.

NO MAXIMUM QUANTITY

There is no maximum amount of CO₂ captured and stored by the individual bidder either.

However – there is a cap of DKK 2.6 billion over the entire 8-year aid period from start of January 2025.

ANNUAL QUANTITY

The quantity to be delivered annually will be the actual, verified quantity of CO₂ stored.

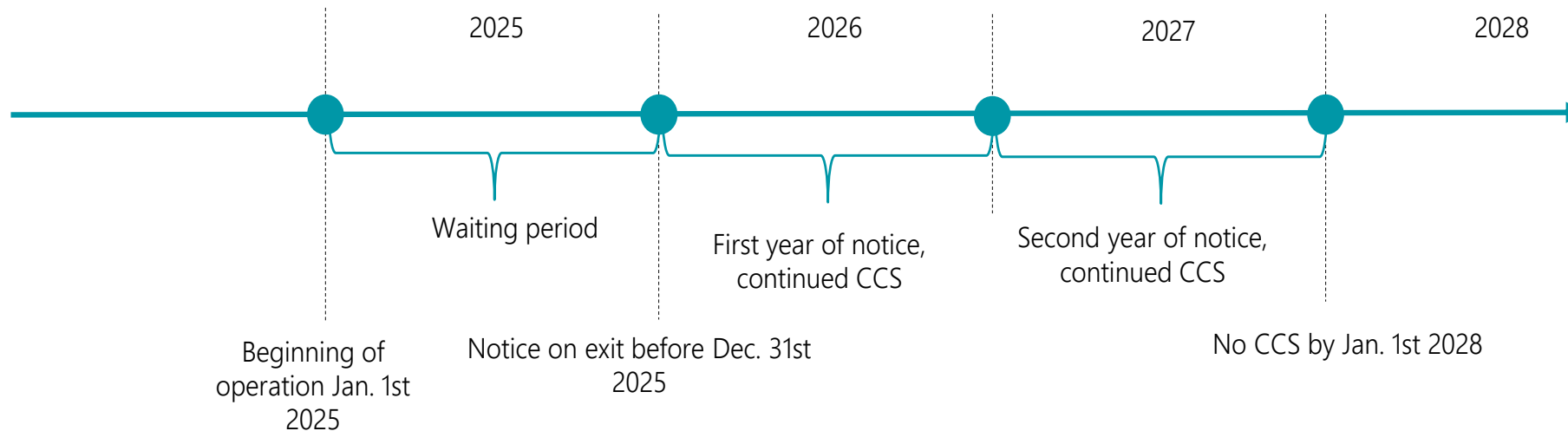
The stored quantity will not be subject to corrections due to any emissions from the operation of the Value Chain



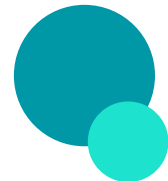
DURATION OF CONTRACT AND EXIT CLAUSE



- The Contract will be an 8-year operating agreement from 2025-2032.
- It is considered to build in a unilateral exit clause that can be used by the Operator at the earliest after one year of storing CO₂, with minimum two (2) full calendar years notice.
- This means the first notice can be handed in ultimo 2025 with 2 years of notice and hence leaving the Contract ultimo 2027

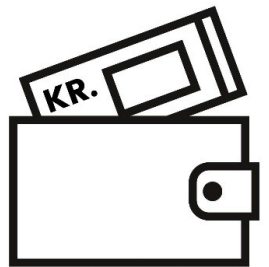


DEPLOYMENT PROFILE



The NECSS Fund’s deployment profile is based on the political agreement. However, funds allocated in 2023 and 2024 have been reallocated to 2025-2032:

Year	2024	2025	2026	2027	2028	2029	2030	2031	2032
Annual subsidy cap, million DKK (2023-prices)	50.2	319.9	319.9	319.9	319.9	319.9	319.9	319.9	319.9



- The subsidy will be paid per tonne CO₂ captured and stored.
- A fixed subsidy per tonne CO₂ will be offered for a fixed annual amount of CO₂ for the contracting period.
- The price per tonne CO₂ will be adjusted throughout the contracting period to reflect inflation.

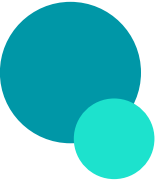
TENDER PROCEDURE AND AWARD CRITERIA

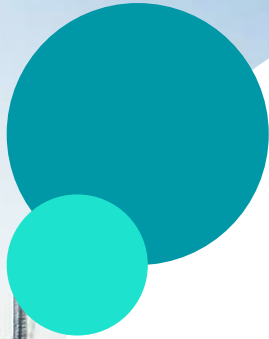


- The NECCS funds will be conducted as an open procedure
- The open procedure is a one-step tender process without negotiations
- Bidders can submit one offer
- The contract will be awarded based on an evaluation of the best price-quality ratio.
- The DEA expects to apply the following sub-criteria:
 - Price per tonne captured and stored CO₂
 - Project maturity will be qualitatively evaluated based on to what extent the bid demonstrates certainty of execution of the proposed project

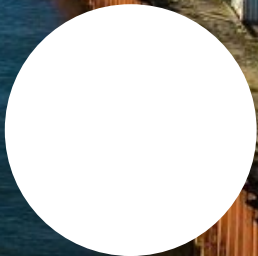


TENDER PROCEDURE





MARKET DIALOGUE



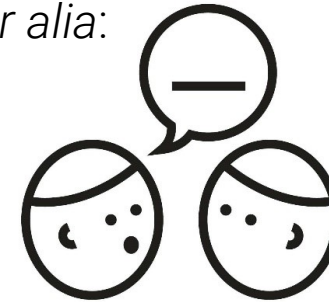
SECOND ROUND OF MARKET DIALOGUE



The purpose of the second market dialogue is to present the DEA's overall considerations regarding the deployment of the NECCS fund*. The output of the market dialogue will serve as input for the Danish Energy Agency's final design of the tender documents.

The DEA invites the market to comment on its considerations regarding *inter alia*:

- Scope of Contract
- Duration of Contract and Exit Clause
- Feasibility of CO₂ capture and storage from year 2025
- Guarantee provisions
- Penalties + Extension of time in case of delays
- Tender Procedure
- Technologies eligible for aid



Invitation to market dialogue
NECCS Fund

Officielt dokument
Såvel resources CCS
Dato
31-03-2023
J. nr. 2023 - 715
(6 LFE)

Danish Energy Agency
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* Thus, all aspects of the assumptions and considerations presented in the invitation to the market dialogue may be subject to change

WHAT IS THE PROCES FOR THE SECOND MARKET DIALOGUE?



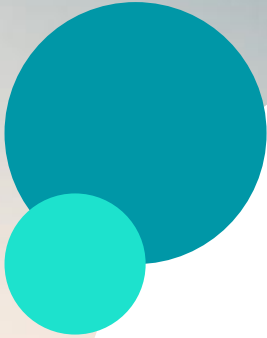
The deadlines for submitting written contributions to the second round of market dialogue are:

8 May: Deadline for submitting written input on the DEA's questions as well as for general remarks to the content of this market dialogue

17 May: Deadline for submitting written input on questions regarding views on the aid scheme's competition impact and proportionality (State aid EU)

The invitation to the second market dialogue can be accessed via ens.dk choose CCS

Information meeting hosted by the DEA regarding the market dialogue and upcoming tender on the 26th of April at Danish Energy Agency



Thank you

