Stella Maris CCS

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INFRASTRUCTURE

Who we are

Altera vision: ***Leading the industry to a sustainable future***

- Decades of experience in shipping and offshore operations
- Industry leader and pioneer in harsh weather FPSOs
- Market segment developer of Dynamically Positioned Shuttle Tankers
- By 2026: Allocate the majority of new capital to new business ventures aligned to the energy transition, including CCS
- By 2030: Generate the majority of cashflow from such new ventures

~2300
Total workforce

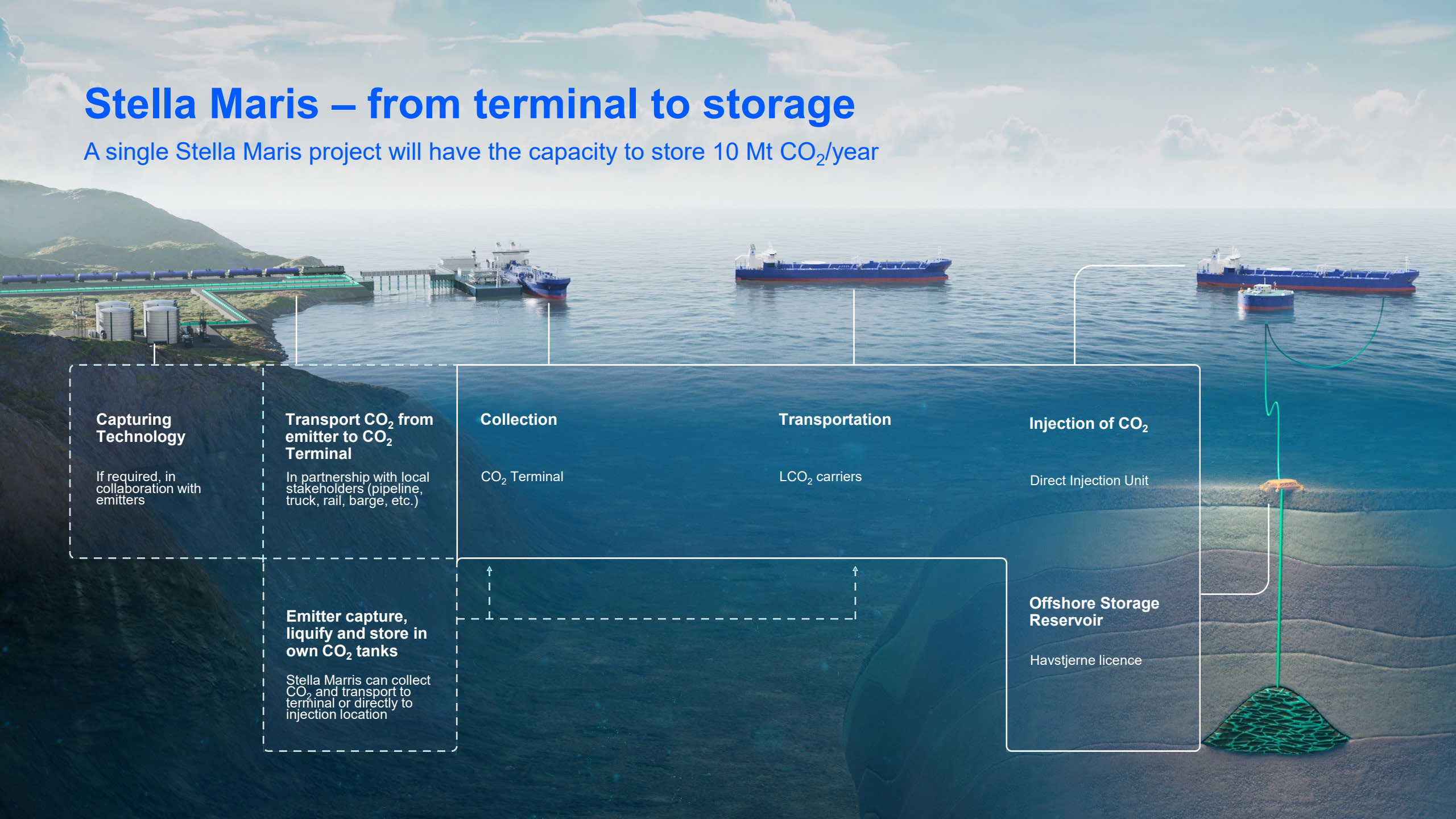
9
Offices

38
Vessels

5
Countries of Operation

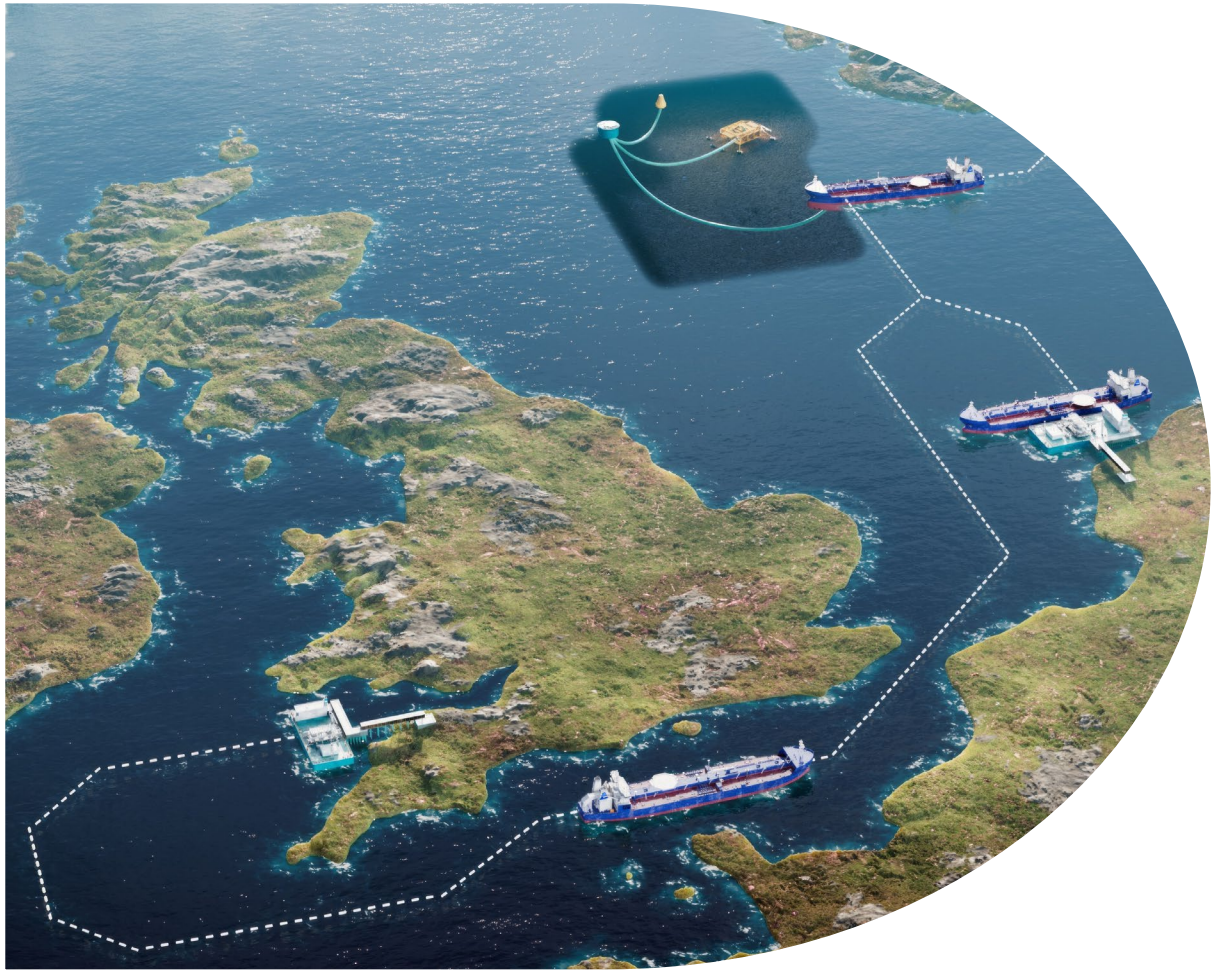
Stella Maris – from terminal to storage

A single Stella Maris project will have the capacity to store 10 Mt CO_2/year



The Stella Maris CCS project

To get CCS costs down, large-scale flexible solutions are required



- One-stop-shop from collection to storage
- Large scale – bringing cost down
- Flexible maritime solution
- Scalable worldwide – design one – build many
- Shared CO_2 infrastructure – also for smaller emitters
- Solution deployed for large scale emitters, clusters and/or nation states in 2028/2029

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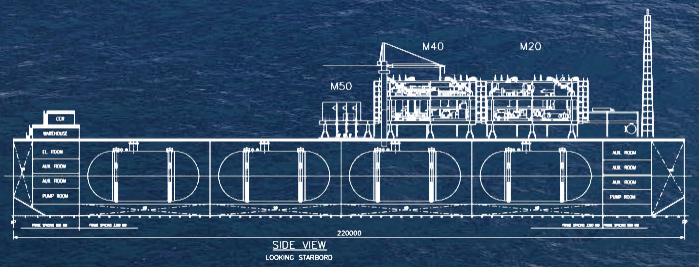
CO_2 Terminal (CO_2T)

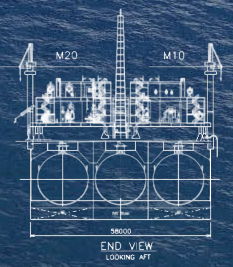
Collection, Processing and Export

Principal dimensions (80k cbm design):

Length o.a.	220m
Breath (M)	58m
Depth (M)	24.5m
Design Draft	13m

- 50–80k cbm storage
- Annual capacity up to 7 mt/unit
- Designed for shore power





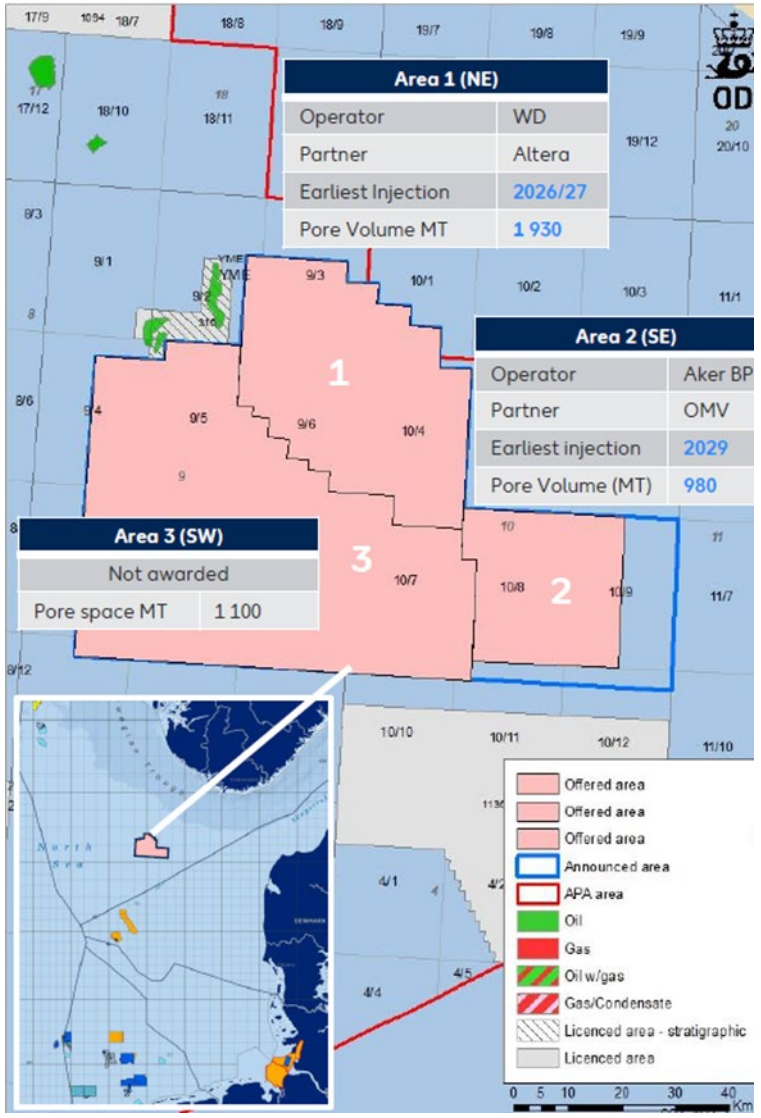
Designed to receive and process:

- High- & low-pressure gas from pipelines
- Medium & low-pressure liquid from road, ships or barges
- Various qualities with different levels of impurity

Altera has been awarded a CO_2 exploration licence offshore Norway

The Havstjerne reservoir is planned to be in operation in 2027

- Licence awarded together with our partner Wintershall Dea
  - 40/60% ownership share
  - Wintershall Dea as operator of the licence
- Located south of the North Sea – closer to the European market
- The reservoir is expected to have the capacity of receiving around 7 Mt CO_2/year and with total capacity of around 200 Mt CO_2
- Plan for first CO_2 injection in 2028/2029



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LCO_2 Carriers

Transport and DP offloading

Key Innovations:

Dynamically positioned LCO_2 carrier

Low pressure CO_2 tanks

Equipment for offshore offloading of CO_2

Power Source for injection unit

New, state of the art LCO_2 carrier design

50,000 cbm - low pressure tanks

CO_2 stored and transported as liquid at 6,5 barg & -47°C

Zero emission capable

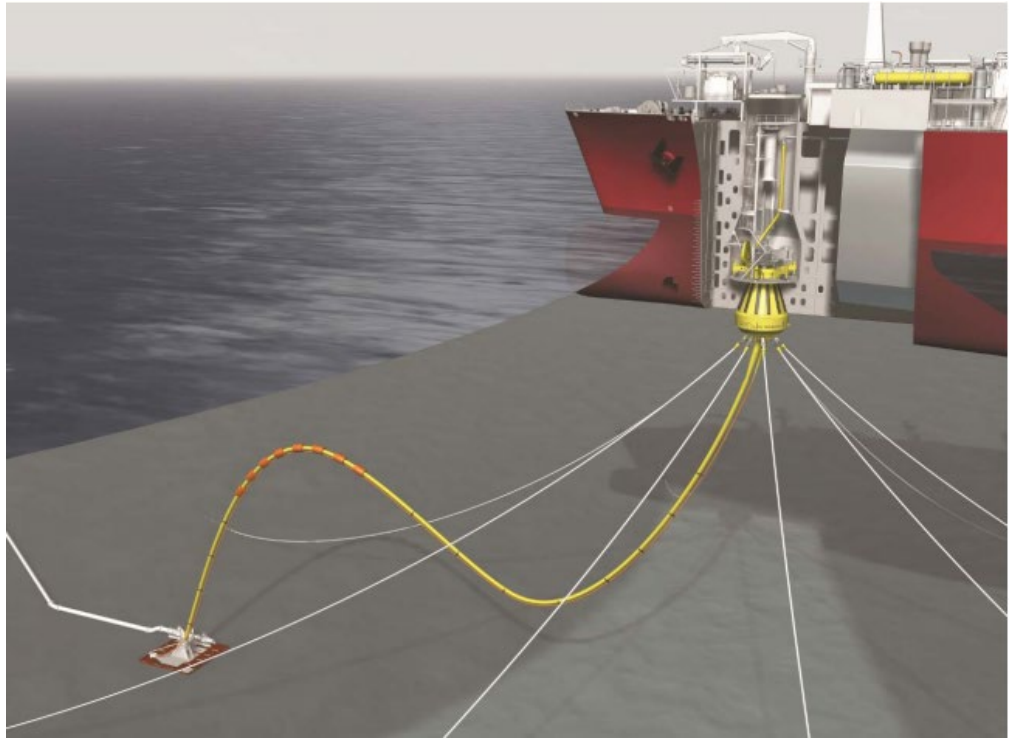
Battery hybrid installation

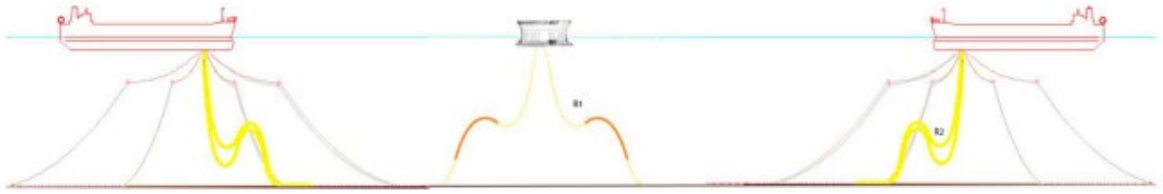
LNG/Biogas/NH3 as fuel

Principal dimensions:

Length o.a.	238m
Breath (M)	38m
Depth (M)	22m
Design Draft	13m

Offshore offloading





- Continuous injection is ensured by always having one carrier at site
- 2nd carrier connects and takes over before the 1st one leaves
- A Submerged Turret Loading (STL) system is used with two independent STL buoys
- Electrical power cable in addition to the CO_2 offloading hose

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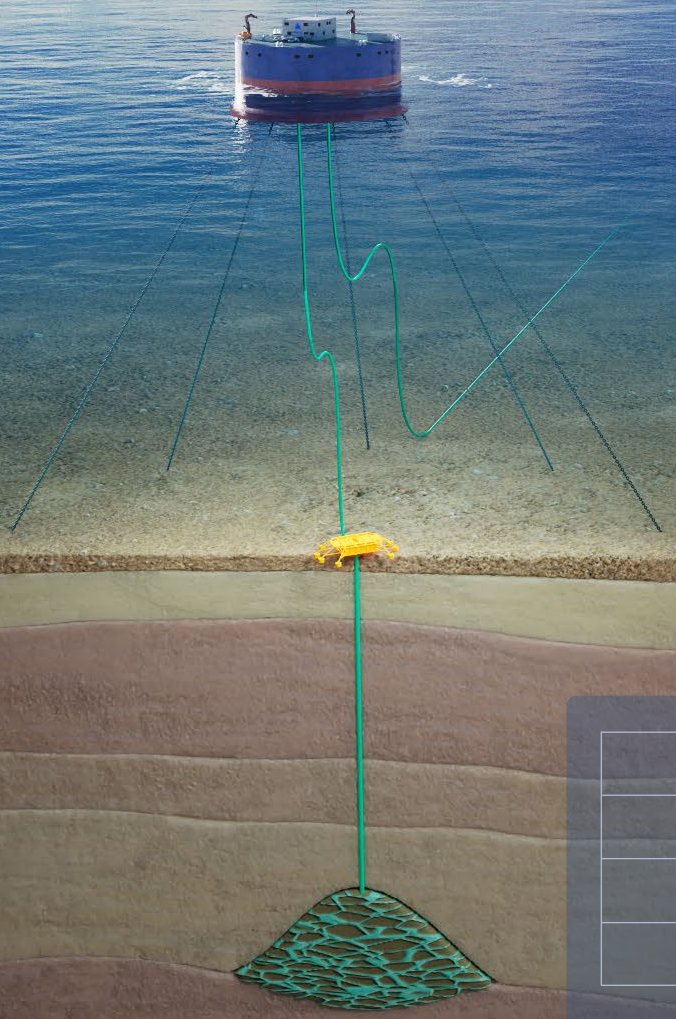
Direct Injection Unit (DIU)

Offshore Injection and Storage



Alternatives

- Injection facilities on an existing offshore installation or on new fixed offshore structure
- Direct injection from LCO_2 carrier

Principal dimensions:

Hull diameter	50m
Bilge Box diameter	62m
Main Deck diameter	50m
Hull depth	22m
Design draft	13m
Draft loaded	14m

- Allows continuous injection
- Heating and injection modules below deck
- Power from LCO_2 carrier (+ battery back-up)
- Unmanned and operations from shore
- CO_2 heated and injected into reservoir in dense phase (>5°C & 65–160 barg)

Key Innovations:

Power from LCO_2 Carrier

Normally Unmanned

Equipment for offshore loading of CO_2

Zero emission capable

Remote operation from shore