

Provaris Energy

Pioneering CO2 Tank Solutions
to Capitalize on a Rapidly
Expanding Global Market

May 2025

www.provaris.energy

ASX:PV1

Executive Summary

Global Challenge

- > Global CO2 emissions from energy combustion and industrial processes reached record highs in 2024
- > Swing by energy majors to produce more fossil fuels will boost investment in Carbon Capture and Storage (CCS) to cut CO2 emissions
- > Existing infrastructure for liquid CO2 (LCO2) capture is mature, however limited in capacity based on existing industry needs

Industry Hurdles

- > Primary CO2 transportation methods over longer distances are pipelines and shipping.
- > Shipping of LCO2 limited to 7,500 cbm vessels, with new orders for 22,000 cbm vessels, and demand for +30,000 cbm capacity
- > Cost efficiencies requires larger "bulk scale" storage and vessels to meet growing CO2 marine transportation requirements.

Provaris Partnership with Yinson

- > Yinson is a global operator of energy infrastructures assets with strong financial position
- > Leveraging Provaris' proprietary storage and marine transportation design and construction methodology
- > Design of new bulk-scale LCO2 tank and integrated shipping solutions
- > Fully funded development program with key milestones in 2025/26; includes fee income to Provaris
- > Yinson bring access to immediate market opportunity through its joint development of the 10 Mtpa Havstjerne CCS, Norway

Benefits

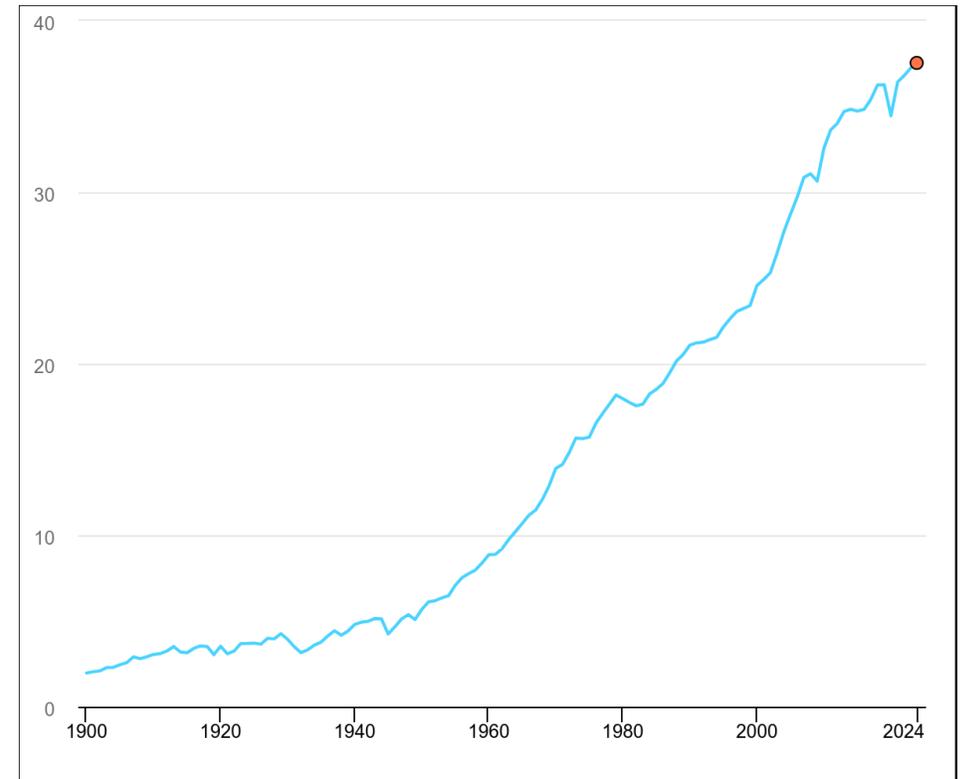
- > Lower capital and operating costs per cbm of LCO2 storage
- > Global pipeline of CCS projects advancing to FEED and FID will need low-cost cost storage and transport solutions
- > Offers Provaris growth in License Fee for tanks required in floating storage, shipping, and land-based storage solutions

Global CCS industry valued at USD 8 billion (2024), forecast +20% CAGR¹

Global CO₂ emissions from energy combustion and industrial processes reached record highs in 2024

- > Total **CO₂ emissions** from energy rose by 0.8% in 2024, reaching a **record high 37.8 Gt CO₂**, primarily from natural gas and coal.
- > Advanced economies are adopting low-emission energy sources, though the Energy Transition is progressing more slowly.
- > In 2025, global energy companies will boost investment in Carbon Capture and Storage (CCS) to cut CO₂ emissions, supported by established carbon markets and net-zero targets.
- > Carbon Policy is being implemented in industries, with the EU's Carbon Border Adjustment Mechanism (CBAM) payments starting in 2026.
- > CO₂ is seen as a low-value waste product (cost to industry), necessitating investment in efficiency and scalability.

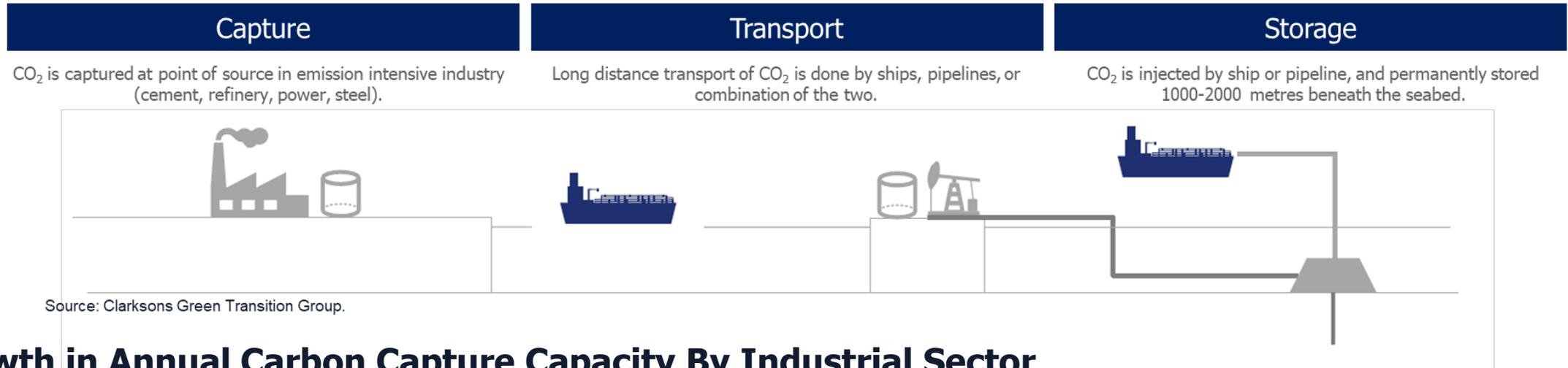
Global CO₂ emissions from energy combustion and industrial processes and their annual change, 1900-2023 (IEA, GigaTonnes CO₂)



IEA (2025), Global CO₂ emissions from energy combustion and industrial processes and their annual change, 1900-2023, IEA, Paris <https://www.iea.org/data-and-statistics/charts/global-co2-emissions-from-energy-combustion-and-industrial-processes-and-their-annual-change-1900-2023>, Licence: CC BY 4.0

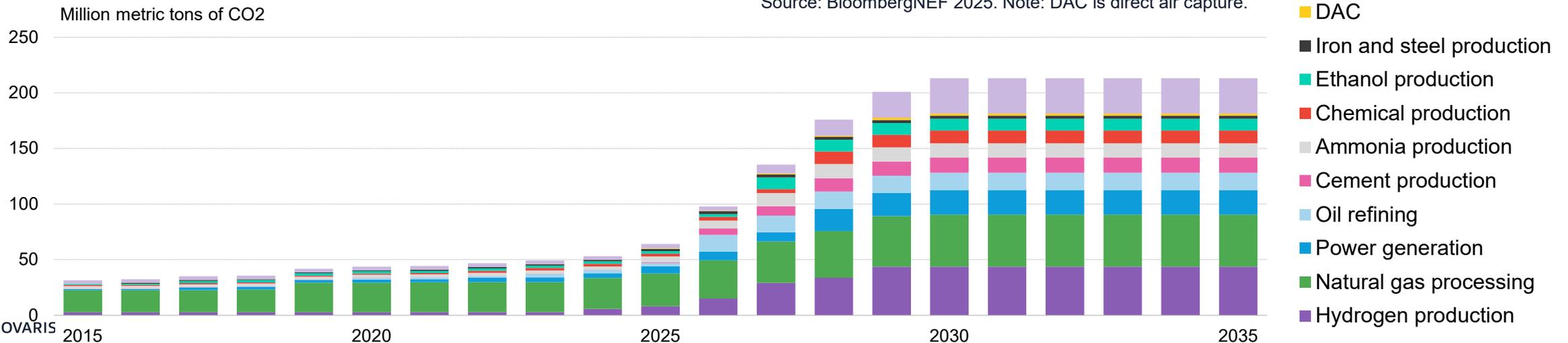
Carbon Capture and Storage (CCS) value chain well established

Infrastructure for CO₂ liquefaction, storage, and transport established for hard-to-abate industries.



Growth in Annual Carbon Capture Capacity By Industrial Sector

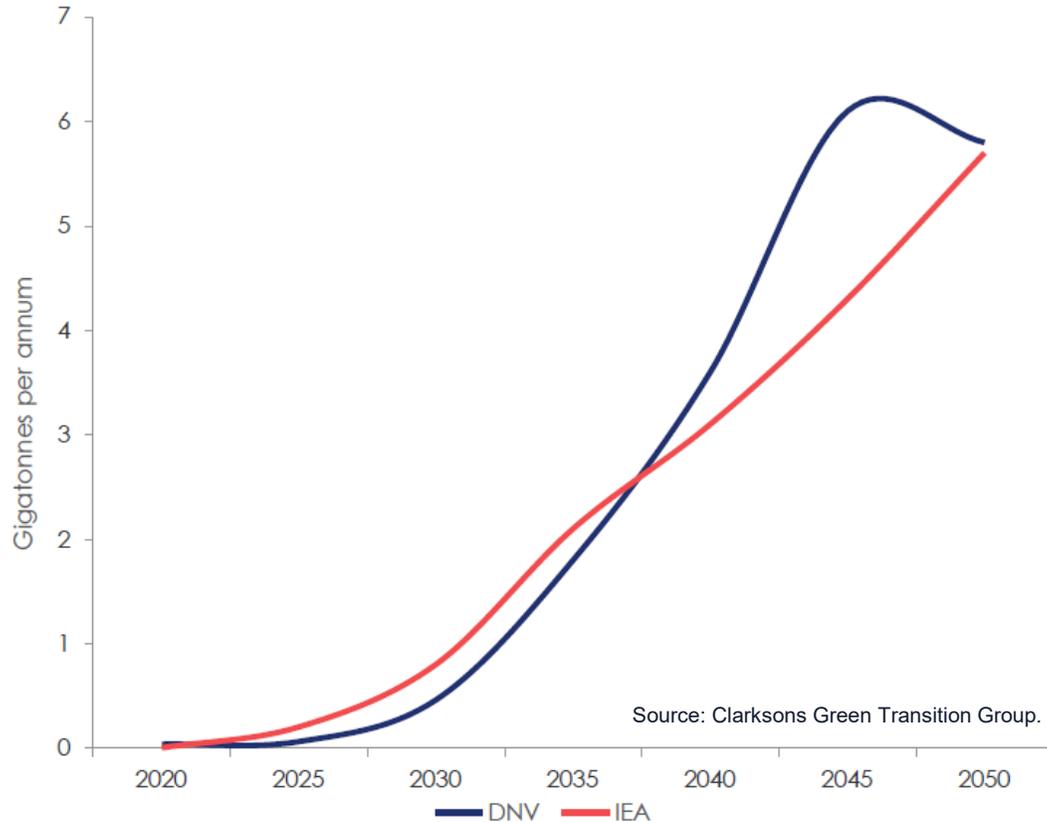
Source: BloombergNEF 2025. Note: DAC is direct air capture.



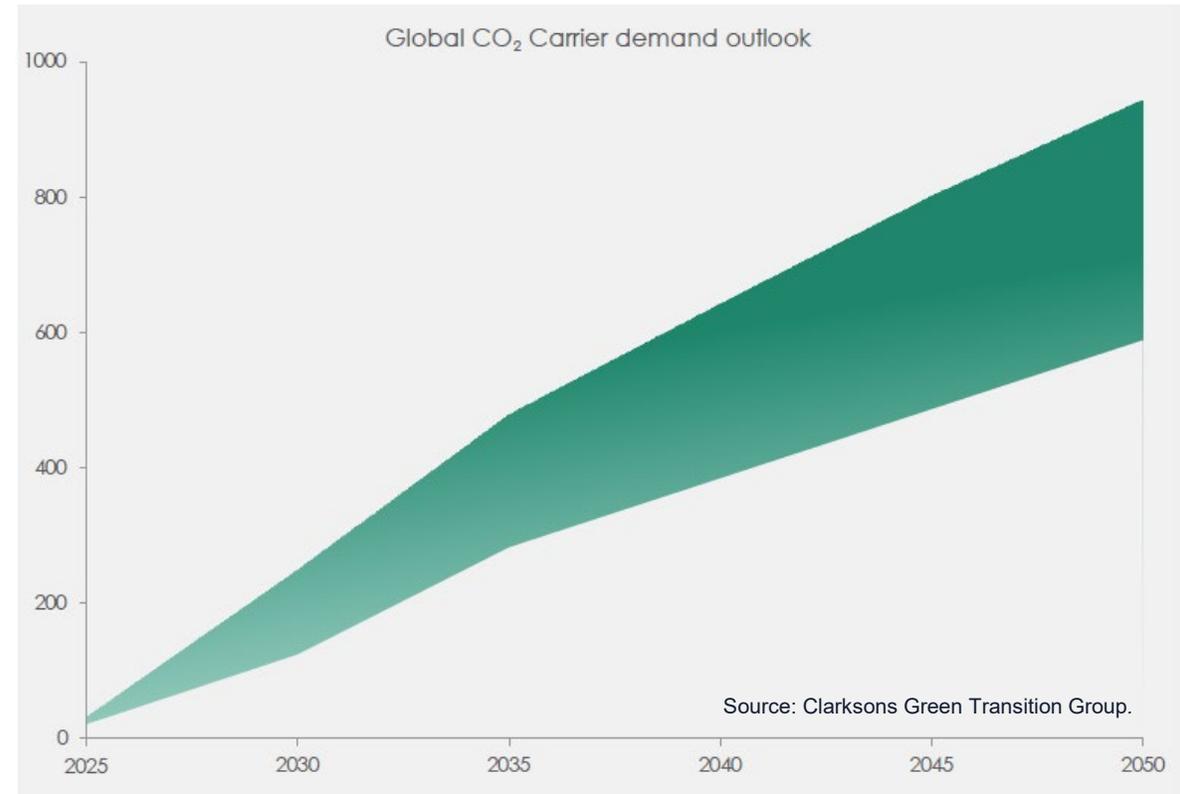
Global CCS outlook and driving demand for large scale LCO2 carriers

Opportunity for Provaris to secure key role early in a new growth shipping sector

Rapid growth in CCS capacity post 2030



Translating to Demand for LCO2 Carriers



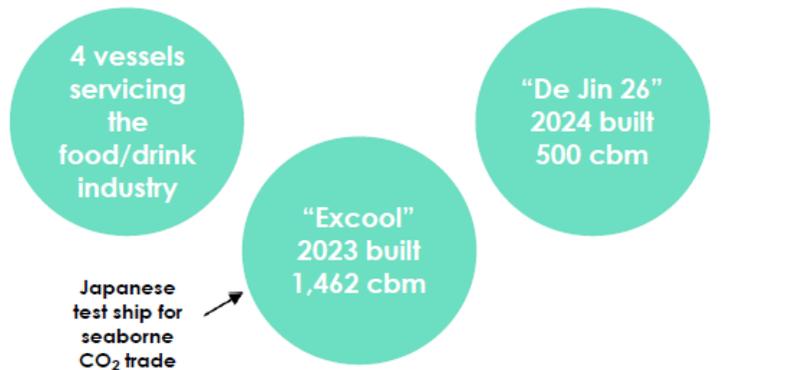
CCS projects driving demand for newbuild injection units and carriers

Storage and containment design typically based on existing Type C tank design limited in storage capacity

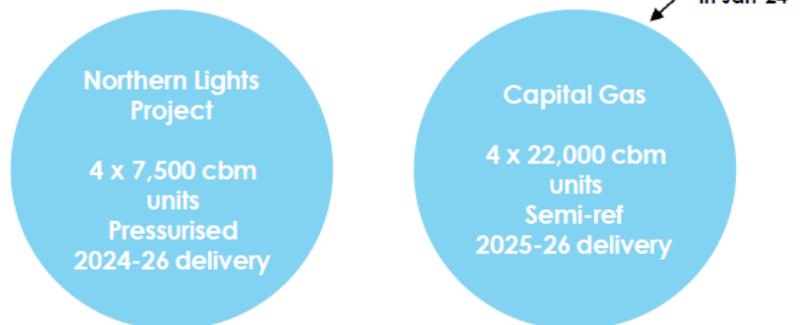
Order Potential – CO₂ Carriers

6 units in the fleet and 8 on the orderbook at present; several new projects in various stages of development

Current CO₂ Carrier Fleet



Current CO₂ Carrier Orderbook



Significant Newbuild Order Potential, Selected CO₂ Projects

Selected CO ₂ Projects	Project Type	Status	Country	CO ₂ Injection Capacity	FID Year/ Expected FID Year	Expected Start-Up Year	Vessel Size Assumption	Implied Vessel Requirement*
Northern Lights CO ₂ Storage	Offshore CO ₂ Injection	Install & Com'n	Norway	1.5 mtpa	2020	2024	7,500 cbm	6 [^]
Coda Terminal CCS	Onshore CO ₂ Injection	Pre-FEED	Iceland	0.5-3 mtpa	2022	2026+	24,000 cbm	5
Greensand CCS (Nini West)	Offshore CO ₂ Injection	Pre-FEED	Denmark	1.5-8 mtpa	2023	2025	22,000 cbm	12
Borg CO ₂	Offshore CO ₂ Injection	Pre-FEED	Norway	0.6 mtpa	2023	2026+	5,000 cbm	3
Luna CCS	Offshore CO ₂ Injection	Appraisal	Norway	5 mtpa		2028+	7,500 cbm	23

Source: Clarksons Research. *Assumes 95% utilisation of project, speed of 15 knots and standard assumptions around e.g. port time. Not reported vessel requirements. [^]4 units already on order.

Provaris and Yinson innovating bulk-scale LCO2 storage

Offers Provaris growth in License Fee for floating storage, shipping, and land-based storage solutions

Leveraging Provaris IP to fast-track CO2 tank design

- › **Yinson Production - Global energy infrastructure leader** (FPSOs, CCS, Renewables). 2024: Operating 9 FSPOs; USD 1.6 B revenue; ~USD 1 billion private placement
- › **Fully funded Joint Development Agreement** to deliver bulk liquid CO2 tank for floating, onshore, and ship-based storage applications
- › **Solving industry bottleneck** = LCO2 tank capacity limited to ~7,500 cbm
- › **Targeting major gains in storage volume and reduced costs**
- › **~USD 500,000 investment by Yinson**, includes technical and management fees to Provaris
- › **Tank designs and IP to be jointly owned**
- › Global opportunity to license tank designs to maritime and storage applications from 2026

Yinson commit to full-scale development of CCS in Norway

- › Acquisition of Stella Maris CCS, includes development of **10 Mtpa Havstjerne CCS** Reservoir, Norway's continental shelf
- › JV partner is Harbour Energy PLC
- › **Access to immediate market opportunity** for commercializing new tank design across vessels for storage, transport and injection



Why the need for new tank designs?

The bigger the tanks, the bigger the SAVINGS in associated capital equipment & operating costs

- > CO2 must be stored at pressure with Type C tank the solution, or other alternative designs.
- > Class and IGC regulations already in place to accelerate design and approvals.
- > Market is offering large **LCO2 tanks at 5,000 to 7,500 cbm capacity (60 to 70 mm plates)**. Beyond that ... steel thickness becomes unmanageable!

Provaris investment to date in novel layered tank designs and automated tank fabrication enables:

- Accelerated development timelines through knowledge of novel designs and Class approvals;
- Storage capacity at multiples of existing designs;
- Lower tank construction costs; and
- Ownership of IP maximizing design and licensing revenues.

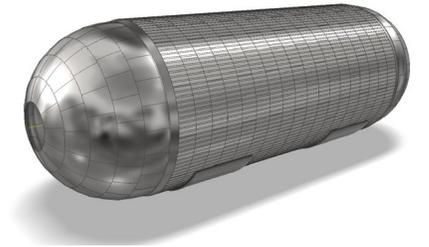


Illustration: LCO2 Type C tank concept at low (10 barg) pressure and -40 to -55 deg C

2025 Development Program

Fully funded by Yinson under Joint Development Agreement

Phase 1: Concept Design Complete

- > Accelerated concept design leverages Provaris' development of novel tank designs.
- > Basis of Design for large-scale LCO2 tank.
- > USD 200,000 technology fee received.
- > **COMPLETED MARCH 2025.**

Phase 2: Pre-FEED (In Progress)

- > Detailed design for LCO2 tank & fabrication
- > Integration with Floating Storage Injection Unit (FSIU)
- > Define Onshore/Barge storage alternatives.
- > Ongoing fee income to Provaris for management, design and QA services.
- > **June-2025 milestone:** Class-level approval LCO2 tank design and integration with FSIU.

Phase 3: FEED

- > *Planning underway for scope and key terms*
- > *Target commencement in August 2025*
- > *Integrated development plan with upstream CCS and downstream injection projects...*

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