

# Provaris and Yinson Complete LCO2 Tank Design and Establish Joint Venture to Commercialise LCO2 Marine and Offshore Applications

## HIGHLIGHTS:

- Successful completion of Phase 2 Design Stage for innovative LCO2 Tank and submission to a Marine Classification Society for an approval that reinforces suitability for deployment in maritime solutions.
- Engagement and planning of an extensive FEED design stage to commence in Q3 CY2025.
- Critical point for CCS supply chains to scale, reduce costs, and meet significant increase in annual CO2 capture capacity required by 2030 and beyond.
- Formation of a joint venture company with Yinson provides strategic alignment and will capitalize on new tank designs, unlocking significant growth potential in marine and offshore markets.

**Provaris Energy Ltd (ASX.PV1, Provaris, the Company)** is pleased to advise shareholders it has achieved a significant milestone in the collaboration with **Yinson Production AS (Yinson)** under the Joint Development Agreement (JDA) for the development of an innovative large-scale liquid CO2 (LCO2) tank design. The Phase 2 Design Stage has been completed successfully on time and budget, culminating in the submission of a comprehensive Design to Yinson and a Marine Classification Society for preliminary Class approval.

***Provaris Managing Director and CEO, Martin Carolan said:** "The partnership between Provaris and Yinson continues to rapidly advance the development of a game-changing solution for CO2 storage and transport. The successful completion of the Phase 2 Design Stage, coupled with the planned establishment of a joint venture company between Provaris and Yinson, provides the focus and strategic alignment in our collaborative efforts to deliver industry-leading innovations in CO2 storage and transport."*

***Yinson Production AS, Chief Technical Officer, Lars Gunnar Vogt added:** "The completion of this Design stage marks a significant milestone, demonstrating the technical viability of large-scale LCO2 tanks tailored for marine and offshore applications. We're excited by the potential this unlocks, not only for our Havstjerne CCS development project in Norway, but also for the broader decarbonisation value chain and long-term opportunities we see for Yinson."*

## The focus of the Design Stage for the LCO2 tank includes:

- > Storage capacity for low-pressure LCO2 that is more than double the size Asian shipbuilders and tank fabricators are currently offering to the market for bulk-scale LCO2 maritime storage and transport.
- > A tank that supports simplification of the process engineering and associated equipment to reduce the costs (capital and operating) and increase the scale of LCO2 carriers and other floating storage assets.
- > A design that meets the stringent International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code). Similarly, materials have been selected according to the IGC Code.
- > The integration of larger tanks at low pressure tank design to lower vessel capex (by removing the process equipment required for a large number of small capacity tanks) and target lower freight cost.

The Design package has been submitted to a Marine Classification Society for an approval process that reinforces the tank's credibility and suitability for deployment in maritime operations. A successful outcome is expected in the near-term and planning is now underway for the Front-End Engineering Design (FEED) stage.



## Next Steps: FEED Design Stage and FSIU Integration

Planning is now underway for the FEED stage. This stage will involve incorporating the LCO<sub>2</sub> tank design into a Floating Storage Injection Unit (FSIU) under development by Yinson for CO<sub>2</sub> injection. All necessary Class approvals of the FSIU are also planned as part of the FEED stage.

The FEED design phase will be critical in advancing the design towards commercial and operational readiness. The focus on tank developments will be on continued compliance with maritime codes and regulations, as well as optimisation of the tank design including steel weight, hull integration, and fabrication. Fabrication of the innovative tank design will include the use of material handling robots and tools, as well as laser welding processes.

## Demonstrating Yinson's commitment to the development of CCS supply chains, Yinson has recently announced an agreement with "K" LINE Energy Shipping (UK) LIMITED (KLES)

Yinson and K Line will jointly develop and market solutions for the transportation and injection of liquefied CO<sub>2</sub>, leveraging each party's respective core expertise. Under the memorandum of understanding (MoU), KLES and Yinson Production will jointly develop and market a floating storage and injection unit (FSIU) and a liquefied CO<sub>2</sub> carrier. The collaboration will target carbon capture and storage (CCS) projects being developed mainly in Europe. Further details available [here](#).

*Illustration of a FSIU in the foreground, receiving cargo from a LCO<sub>2</sub> carrier in the background  
(Source: Yinson Production AS)*



## CCS Growth Requires Scale, Driving Market Opportunities and New Designs

Provaris and Yinson have commenced the review of LCO<sub>2</sub> supply chain requirements and projects in both Europe and Asia and will also explore new market opportunities for large tank designs to expand the application of the new tank design across multiple segments – storage, injection and gas carriers.

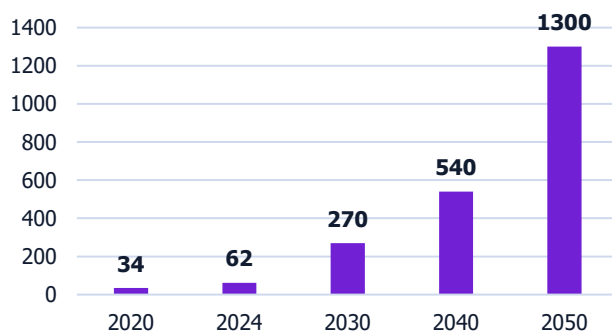
By capitalizing on the expertise and intellectual property (IP) created under the JDA, the ongoing joint venture aims to position itself as a leading innovator in CO<sub>2</sub> storage and maritime transportation solutions.

While existing infrastructure for LCO<sub>2</sub> capture is mature proven technology, available tanks are limited in capacity based on existing industry needs, translating to high operating costs.

New solutions are required to support lower costs as the industry scales to match expected growth rates in annual capacity. With DNV forecasting USD 80 billion in new investment required by 2030.

### Global CO<sub>2</sub> CCS Capacity (Mt/yr)

Source: DNV CCS Outlook 2025



**Formation of a Joint Venture Company Provides Strategic Alignment**

In alignment with the JDA announced in October 2024, Provaris and Yinson will jointly establish a new joint venture company (NewCo) that will hold exclusive rights to the tank design, fabrication methodology, and all future IP generated for tank designs.

The ongoing partnership underscores the strategic alignment between the two entities as we accelerate the commercialisation of CO2 tank opportunities with the combination of Yinson's strong operational and financial track record as a global energy infrastructure provider, and Provaris' core IP on novel tank designs for gas and liquid carriers.

The NewCo will focus on leveraging the scalable design features of the LCO2 tank IP to develop additional tank designs of different capacity, including those for LCO2 carriers (shuttle tankers) and onshore storage applications. Ownership of the NewCo will be shared equally, with Provaris and Yinson holding 50% each.

As part of the ongoing partnership, Provaris will issue 10 million ordinary PV1 shares in Provaris to Yinson, at no cost, in consideration for Yinson's ongoing commercial, technical, and global market commercialisation support provided from the Yinson Group of companies.

Provaris is being advised by the Energy Infrastructure Group, Clarksons Norway AS

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This announcement has been authorised for release by the Board of Provaris Energy Ltd

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Provaris Energy Ltd (ASX: PV1) is advancing innovative Compressed Hydrogen (H2) and Carbon Dioxide (CO2) storage and transport solutions through proprietary tank designs for storage maritime gas carriers, and integrated supply chain development. Focused on simplicity, efficiency and scalability, Provaris enables regional supply chains that support the global energy transition. [www.provaris.energy](http://www.provaris.energy)

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