Provaris Commences Fully Funded FEED for Proprietary LCO2 Tank paving the way for future Commercialisation

HIGHLIGHTS:

- **FEED scope to mature proprietary LCO2 tank** through structural engineering and hull integration design for Yinson's development of a Floating Storage Injection Unit (FSIU) for offshore LCO2 injection.
- **Yinson funding commitment continues** under the Joint Development Agreement with 100% funding of the FEED phase.
- **Advancing commercialisation** steps towards 2026 includes the development of a Joint Venture Company for the equal ownership and licensing rights of the tank design and fabrication IP.
- **New market opportunities for LCO2 shipping identified** from an Asian Road Show with engagement with K-Line and major Asian shipowners confirms demand for alternative large-scale LCO2 ship designs.
- **First-mover advantage and scalable market opportunity** with Provaris' large-scale capacity tanks enabled through its layered-plate design and robotic-fabrication design to drive down lower cost per tonne of LCO2 directly addressing industry cost and scale barriers.

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Provaris Energy Ltd (ASX.PV1, Provaris, the Company) has received approval from its development partner **Yinson Production AS (Yinson)** to commence the Front End Engineering Design (FEED) development phase for its proprietary large-scale low-pressure liquid CO2 (LCO2) Tanks for integration with Yinson's Floating Storage Injection Unit (FSIU).

Under the Joint Development Agreement, Yinson, will fund 100% of the FEED phase, covering four major engineering and integration packages to be delivered in two phases, with the first deliverables scheduled for December 2025.

The strategic funding allows Provaris to accelerate development without increasing its cash burn, while retaining 50% ownership of the intellectual property (IP) in the planned Joint Venture. The LCO2 tank design and associated fabrication methodology also de-risks the H2 tank applications positioning Provaris as a dual-market technology provider (H2 and CO2).

Provaris Chief Technical Officer, Per Roed said: *"Commencing the FEED phase is a major step forward in validating our design and moving towards a market-ready solution. There is growing interest from the maritime industry in our layered plate, robotic fabrication and laser welding technology to unlock the limitations of traditional Type C tank design. We are building not just a tank for Yinson's LCO2 project, but a platform for multiple applications, including compressed hydrogen. The data and experience gained through Yinson's program will strengthen our ability to deliver Class-approved, large scale storage solutions required to establish large-scale shipping and storage required for carbon capture supply chains globally."*

Provaris Managing Director and CEO, Martin Carolan added: *"This Yinson-funded FEED launch is a pivotal moment for Provaris moving us from concept towards commercial readiness with the backing of a global leader in offshore production. We are delighted with the progress of the technical design and integration with Yinson's project team, which is a testament to the co-operation established under the partnership.*

Shipping is a crucial component of the carbon capture and storage (CCS) value chain and our recent road show in Asia, which included meetings with major ship owners, has provided valuable insights for our assessment of the potential for the LCO2 tank to be suitable to meet the growth in demand for specialised larger capacity low-pressure LCO2 shipping; aligned with industry forecasts of significant growth in CCS as a key lever in reducing carbon emissions globally."

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Focus of the FEED Development Phase

The FEED program will take Provaris' LCO2 tank design from concept design towards commercial and operational readiness. The tank development focus will be on continued compliance with maritime codes and regulations, including integration of the tank for Yinson's FSIU and suitability for LCO2 carriers, as well as optimisation of the tank design related to steel weight and automated fabrication. Fabrication of the innovative tank design will be based on extensive use of robots for material handling and laser welding processes.

The FEED scope includes:

- **Structural / Parametric analysis**: including global finite element modelling.
- **Static and Fatigue Structural design**: modelling for key sub-regions of the tank.
- **Development of experimental test procedures :**, for sections of the tank to be fabricated at Provaris' robotic cell facility in Norway and subsequently tested.
- **Ongoing engagement with Class**: targeting FEED Design Approval in mid-2026.

The Design package from the earlier phase remains under review by a leading Marine Classification Society. This independent review is a critical step in reinforcing the tank's credibility and suitability for global maritime operations. Any updates from this process will be integrated into the FEED scope to ensure full compliance and market readiness.

Illustration of Yinson's FSIU and Supporting Tankers in Partnership with "K"LINE

Yinson and "K" LINE are jointly developing market solutions for the transportation and injection of liquefied CO2, leveraging each party's respective core expertise. 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 LCO2 carrier in the background (Source: Yinson Production AS)

Asian Road Show confirms Strong Market Opportunities for Provaris Tank design in LCO2 carriers

In partnership with our market leading r adviser, Clarksons, Provaris management recently completed a targeted road show Asia to assess emerging focus on LCO2 applications and requirements for the maritime and offshore sectors.

Meetings with major ship owners included a review of the Provaris tank designs and the concept design for a low-pressure large scale LCO2 carrier to be integrated with the Provaris LCO2 tank which we believe has application in rapidly developing European and Asian CO2 and H2 markets.

Market discussions indicate a clear preference for large scale LCO2 tanks of 40,000 to 50,000 bcm capacity aligned with h Provaris' concept design which has the key benefits of fewer, larger tanks and resulting increasing hull utilisation and cargo capacity, based on the same hull specifications. This follows our target of providing "more for less".

Additional information will be shared as market applications and concept designs for particular transport or offshore uses progress toward feasibility.

Formation of a Joint Venture Company for Tank IP and New Markets

Provaris and Yinson are progressing the formation of a new joint venture company (NewCo) to hold exclusive rights to the LCO2 tank design and fabrication methodology and future IP for scalable designs across marine and onshore applications. Each party will own 50% of NewCo, with equal licensing and commercialisation rights.

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

Addressing an Industry Challenge with Larger LCO2 Tank Designs

The Provaris design is targeting a storage capacity at multiples of existing tank designs resulting in a reduction in vessel equipment capex/opex compared to proposed LCO2 vessel designs (which employ more smaller tanks).

Increasing the cargo volume capacity and reducing the number of cargo tanks will increase the hull utilisation, lower vessel capex/opex, and lead to a lower freight cost.

INDUSTRY CHALLENGE	PROVARIS' SOLUTION
Liquid CO2 stored at low pressure typically use standard Type C tank solution with limited capacity.	Experience of novel designs extended to Type C design and Class approvals allows for higher capacity designs.
Increasing tank capacity constrained to 5,000 to 7,500 cbm capacity (60 to 70 mm plates). *Beyond that … steel thickness becomes unmanageable unless new carbon steel materials are used.*	Applying a layered design of thinner plate allows for the use of standard carbon steel materials; enabling higher storage capacity at low pressure and fewer tanks and increase hull utilisation.
Increasing tank diameter requires new material to handle tank thickness. Higher 'yield stress' = higher material and construction costs.	Lower tank construction costs utilising robotic automation for fabrication and use of laser and laser-hybrid welding reduces the heat used welding.

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

For further information please contact:

Norm Marshall
Company Secretary
+61 481 148629
nmarshall@provaris.energy

Martin Carolan
Managing Director & CEO
+61 404 809019
mcarolan@provaris.energy

ASX.PV1 @ProvarisEnergy Provaris Energy Ltd. info@provaris.energy

Sydney | Oslo

About Provaris Energy

Provaris Energy Ltd (ASX: PV1) is advancing innovative Compressed Hydrogen (H2) and Carbon Dioxide (CO_2) 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

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