

Provaris and Yinson Production join forces to innovate on CO₂ storage and marine transport solutions

Highlights:

- **Strategic collaboration:** Provaris Energy Ltd and Yinson Production agree to co-develop CO₂ tank designs for storage and bulk marine transportation of CO₂.
- **Innovation in storage:** The partnership will evaluate the technical and economic viability of adapting Provaris' proprietary technology, including tank design and fabrication methodology, for CO₂.
- **Global emission goals:** This collaboration aims to deliver a new CO₂ tank design solution and support the development of CO₂ storage and transport infrastructure critical for the widespread deployment of carbon capture.

(OSLO, 30 September 2024) - Provaris Energy Ltd (Provaris, ASX.PV1) and Yinson Production Offshore Pte Ltd (Yinson) are pleased to announce a binding Joint Development Agreement (**Collaboration**) for the development of storage tank solutions for the bulk storage and marine transportation of carbon dioxide (CO₂).

Yinson Production and Provaris will jointly evaluate the technical and economic viability of adapting Provaris' proprietary tank design for compressed hydrogen to develop innovative and cost competitive alternatives for bulk-scale storage and transport of compressed and liquid CO₂ (**CO₂ Tanks**). The Collaboration will also assess the potential for other hydrogen derivatives such as ammonia. This collaboration combines Yinson Production's long track record in the construction of floating production, storage, and offloading (FPSO) vessels for the offshore production industry with Provaris' proven expertise in creating Class-level designs for bulk marine storage and transportation (H2Neo Carrier) of compressed gaseous hydrogen. As Yinson Production expands into the carbon capture and sequestration sector, this partnership will help develop cost-effective and scalable solutions for the storage and transport of CO₂.

Currently, there is no ship transport of CO₂ in a low pressure and temperature range suitable for long sailing distances and large cargo volumes. This collaboration aims to help develop a new CO₂ tank design solution that will address current CO₂ transit and storage limitations.

The development of CO₂ storage and transport infrastructure is crucial for the widespread deployment of carbon capture, which is a critical pillar in meeting global emission targets. The design of the CO₂ tanks is important for maximizing the amount of CO₂ that can be stored and transported in a single cargo.

Comments from Yinson Production and Provaris leadership

Lars Gunnar Vogt, Yinson Production's Chief Technical Officer, said: "We recognize the importance of carbon capture and storage in achieving global emission targets, and we're committed to playing a key role in this space. Our collaboration with Provaris Energy will leverage our combined expertise to develop cost-competitive and innovative solutions for CO₂ storage and transportation. We're excited to explore the potential of adapting Provaris' proprietary tank design for compressed hydrogen to meet the needs of the growing carbon capture market. This collaboration is a significant step forward in Yinson Production's plans to drive the carbon value chain."

Martin Carolan, Provaris' Managing Director and CEO, added: "This is an extremely exciting partnership and highlights the transferable technology and design of Provaris' proprietary tank IP and shipping solutions. The CO₂ market is already well-developed and seeking cutting-edge, scalable and cost-effective storage and transport solutions. We are grateful to be working alongside another reputable partner in Yinson, as we broaden the focus and application of our advanced development in proprietary tanks. This opportunity allows Provaris to explore alternate pathways in the commercialization of its tank technology in partnership with an industry leader in the offshore industry."

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Provaris' record in developing novel designs for shipping

Provaris has been successful in developing a Class-level package for the innovative H2Neo Carrier, obtaining Agreement in Principle (AIP) in 2021 and an extensive Hazard Identification (HAZID) and Front End Engineering Design (FEED) Design Approval in late 2022, with final Class Approval pending the completion of a prototype tank construction and testing program. Provaris is also instrumental in the development of regional compressed hydrogen supply chain projects with collaborations in place with hydrogen production and export project developers, port developers and German utilities for future offtake.

Provaris' proprietary cargo containment system incorporates multiple carbon steel layers with an internal layer of stainless steel, all produced through a very high level of automation in a robotic cell controlling material handling and laser welding robots.

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

Material Terms of the Joint Development Agreement:

- Binding agreement on Provaris and Yinson Production to complete the agreed work program and corresponding budget for the CO₂ Tank Project.
- The Agreement provides for the allocation of CO₂ Tank Project costs and a fee to Provaris for the provision of related intellectual property access and services.
- Exclusivity provided to Yinson for the adaption and use of Provaris' technology for the storage and marine transportation of CO₂ and NH₃.
- Development of new intellectual property in relation to CO₂ and NH₃ storage and shipping will be jointly owned by Provaris and Yinson Production.
- Each party retains ownership of its existing intellectual property.
- Agreement has a term of 24 months.

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About Yinson Production

"Passionately delivering powerful solutions"

Yinson Production is a leading independent owner and operator of FPSO vessels worldwide. With a fleet of 9 vessels, we have an orderbook of over USD 22 billion until 2048 and global presence in 10 countries.

Our position as a top tier FPSO contractor is driven by our excellent track record in project execution, industry-leading safety and uptime performance, and a leadership position in sustainable FPSO designs. Our innovative Zero Emissions FPSO Concept is paving the way for the decarbonisation of the FPSO industry.

We are a business of Yinson Holdings Berhad, a global energy infrastructure and technology company active in offshore energy with Yinson Production, renewable energy with Yinson Renewables, green technologies with Yinson GreenTech, sustainable investment and asset management with Farosson, and offshore marine with Regulus Offshore.

Website: [Yinson Production – Passionately delivering powerful solutions \(yinson-production.com\)](https://www.yinson-production.com)

Linkedin: <https://www.linkedin.com/company/yinson-production/>

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

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About Provaris EnergyFor more information: www.provaris.energy

Provaris Energy Ltd (ASX: PV1) is an Australian public company developing a portfolio of integrated green hydrogen projects for the regional trade of Europe, leveraging our innovative compressed hydrogen bulk carrier (H2Neo) and storage barge (H2Leo). Our focus on value creation through innovative development that aligns with our business model of simple and energy efficiency hydrogen production and transport can establish an early-mover advantage for regional maritime trade of hydrogen and unlock a world of potential. In August 2022 Provaris Norway AS was established to advance the development of regional hydrogen supply in Europe.

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