

Completion of **HyEnergy Export Project Feasibility** demonstrates technical and commercial feasibility

Highlights:

- Feasibility Study (HyExport Study) completed and delivered to the HyEnergy® Project partners, Province Resources (ASX:PRL) and Total Eren, and issued to the WA Government for final review (Milestone 5).
- The HyExport Study analysed the export of 200,000 tonnes per annum of green hydrogen from the HyEnergy® Project into Asia-Pacific, with a focus on delivery into Singapore.
- Completion of the HyExport Study confirms Provaris' proposal to develop a compressed hydrogen export supply chain from the proposed Gascoyne site is feasible, without the need for a conventional onshore port.
- Hazard identification, operational modelling and an environmental assessment demonstrated there were no significant risks that would prevent the project from progressing to the next stage of design & engineering.
- The HyExport Study was completed on budget, with funding support from the WA Renewable Hydrogen Fund, as part of the Western Australian Government's Renewable Hydrogen Strategy.
- A public Knowledge Sharing Report with a summary of study outcomes is anticipated to be released by the WA Government in the December quarter 2022.

SYDNEY: Provaris Energy Ltd (ASX.PV1, Provaris, or the Company) is pleased to announce it has now completed all key deliverables of the HyEnergy® Export Feasibility Study (HyExport Study) and submitted it to the WA Government and HyEnergy Project partners.

Provaris' Managing Director and CEO Martin Carolan commented: *"After a year of engagement with the HyEnergy® project partners and more than six months of design and engineering, we are delighted to have handed over the completed feasibility report. We are now working with the WA Government on delivering a public knowledge sharing document that will enable Provaris to share the outcomes of the study with shareholders and the broader H2 industry. The outcomes will demonstrate the advantages of our compressed hydrogen solution.*

"The suitability of offshore loading and compressed hydrogen can position Western Australia as an early mover in large-scale hydrogen exports. We are also discussing next steps with the HyEnergy® Project partners on how the findings of this feasibility will integrate with their ongoing project studies and overall development approach."

Province Resources' Managing Director David Frances commented: *"We are very encouraged by the findings of the HyExport Study and look forward to exploring them further in our feasibility studies."*

The scope of the HyExport Study included the integration of the HyEnergy® Project's proposed green hydrogen production facility with an onshore compression facility and offshore mooring and loading system, as well as the operation of a fleet of Provaris' H2Neo carriers for marine transport to nominated markets in the Asia-Pacific region.

As per the Financial Assistance Agreement executed with the WA Government, the **outcomes of the Study Report are anticipated to be made available to shareholders in the December quarter 2022.** To date Provaris has received funding payments for three of the five agreed milestones.



Scope of the completed milestone deliverables and Feasibility Study report includes:

- > Design of the onshore compression facilities to be integrated with the electrolysers.
- > Review of industry solutions for compressed static storage and their suitability for large scale projects.
- > Design of the shore crossing and subsea pipeline from the compression facilities to the offshore loading terminal.
- > Design of the offshore loading terminal using a twin Single Anchor Loading (SAL) solution.
- > Assessment of environmental risks and constraints for marine infrastructure on the Gascoyne coast.
- > Cycle-time analysis for a fleet of H2Neo GH2 Carriers.
- > Designs for various unloading terminals to support delivery of compressed hydrogen into South East Asia, with Singapore used as reference off-take market.
- > Commercial modelling and levelised cost analysis for the loading (compression), transport, and unloading (decompression) of hydrogen.
- > Analysis of future job creation during construction and operations.
- > Hazard identification with a focus on key operational hazards that are unique to the proposed solution.
- > Recommendation on future studies to advance the HyExport project.

The HyExport Study was supported by a world-class team of consultant specialists including WSP, Oropesa, ERM, NOV APL, Paaras Marine Solutions and Turner & Townsend.

Background to the HyEnergy® Export Feasibility Study

In August 2021, Provaris entered into a non-binding Memorandum of Understanding with Province Resources (ASX:PRL) and global renewable company Total Eren (together the HyEnergy Project partners) to support a technical and commercial feasibility study on exporting green hydrogen using compressed shipping from the 8 GW HyEnergy Project located in the Gascoyne region, WA, to nominated markets in the Asia-Pacific region.

The feasibility study is focused on the proposed phase 1 capacity of renewable energy generation and will consider the export of 200,000 tpa of hydrogen, from the total production volume of 275-300,000 tpa.

Notice: This Project receives funding from the Renewable Hydrogen Fund as part of the Western Australian Government's Renewable Hydrogen Strategy. For further information visit www.wa.gov.au/renewablehydrogen

Figure 1: Overview of the HyExport Study export utilising offshore loading. Site locations are conceptual only.



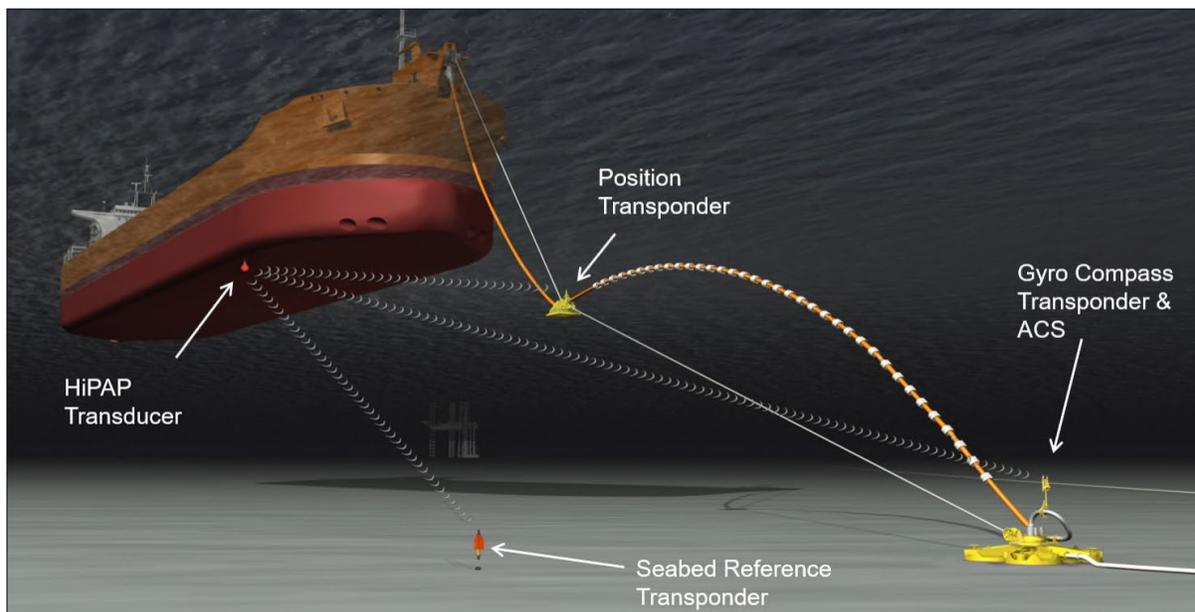
Compression co-located with the upstream hydrogen production facility

The renewable energy is generated via wind and solar, with the compression facility proposed to be co-located with the hydrogen production facility, approximately 6km from the Gascoyne coastline. The compressed hydrogen is piped to the coast. After considering fixed, near shore and offshore loading options, with due consideration of water depths, metocean conditions, local environment, development timeframes, and technology readiness, a decision was made to focus on an offshore solution.

Proposal for offshore loading provides many benefits to the Gascoyne region of WA

- > **Reduced environmental disturbance** – small footprint with minimal dredging or operations in environmentally sensitive shallow waters.
- > **Significantly less capital and operating cost** than constructing an onshore port.
- > **Accelerated development schedule** – designing, permitting and constructing a port could take 5-10 years.
- > **Operational reliability** – single point mooring allows for loading to occur across all non-cyclonic weather events, a significant improvement compared to jetty structures and loading arms.
- > **Ideally fit for compression** – no requirement for insulated pipelines (i.e. Liquefied H2, LH2) or leakage risks to marine life (i.e. Ammonia, NH3)
- > **Application of proven technology** – offshore transfer of high-pressure gases, oil and liquids has been demonstrated for several decades.

Figure 2: Illustration of APL's Single Anchor Loading system (source: NOV APL)



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

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About Provaris Energy – www.provaris.energy

Provaris Energy Ltd (ASX: PV1) is the leading developer of integrated compressed hydrogen projects for export to regional markets. Our purpose is to develop green hydrogen supply chains that are simple and efficient to enable the global transport of zero-carbon energy.

Provaris is developing a portfolio of integrated green hydrogen projects, leveraging our innovative compressed hydrogen GH2 Carrier with a focus on value creation through innovative development that aligns with our business model of simplicity and efficiency.

The choice to support all development phases of a project is in line with Provaris' strategic desire to develop and invest in profitable hydrogen projects across the value chain, with a measured risk profile, and to retain an equity position of these assets over the long term.