

Quarterly Activities Report

June 2022



SYDNEY, 25 July 2022: **Provaris Energy Ltd (ASX: PV1, Provaris, the Company)** is pleased to provide the following update on the Company's development activities for the quarter ended 30 June 2022.

Highlights

TIWI H2 PROJECT

- Completion and lodgement of the Referral submission to the Northern Territory (NT) Environmental Protection Authority (EPA).
- Advanced the project's Conceptual Design for completion in July 2022, which covers solar generation, transmission, H2 production, compression, loading and sizing and scheduling of shipping fleet for multiple end-user markets in Asia.
- Continued with outreach programs, supported by Austrade, to attract hydrogen offtake, project investment and technical partners.
- Management and Board site trip to Melville Island completed.

HYENERGY EXPORT PROJECT

- Completion of Milestones 3 and 4 (out of 5) for submission to WA Government, as part of the WA Renewable Hydrogen Fund grant.
- Completed deliverables include environmental assessment for proposed offshore loading terminal, H2Neo fleet cycle-time analysis, design of shore crossing and subsea pipeline, unloading terminal design, and assessment of job creation for construction and operational phases.
- The final Feasibility Report (Milestone 5) remains on track for completion in July 2022.
- A public Knowledge Sharing Report (prepared in consultation with HyEnergy project proponents and the WA Government) is expected to be released in the December quarter 2022.

SHIP ENGINEERING AND CLASS APPROVAL FOR THE 'H2NEO'

- 90% completion of the Contract Design Package for the H2Neo carrier.
- ABS Class commenced FEED review of H2Neo engineering and design.
- ABS Consulting undertaking dispersion, fire, and explosion safety studies to advance HAZID analysis and Class Approval milestones in 2022.
- Small-scale testing underway for structural steel plate and stainless-steel liner plates delivered to CFER Technologies, with cutting, machining and weld plans performed for testing.
- Executed MOU with Northern Marine for a Technical Partnership for GH2 Carrier development.
- Development of near-shore and off-shore compressed H2 unloading terminal designs suitable for Singapore and other target end-market port locations.

BUSINESS DEVELOPMENT ACTIVITY

- Commenced Compressed H2 Study for a full supply-chain transporting H2 into ports of Europe.
- Advanced several opportunities reviewing compressed H2 as an alternative transport carrier into European markets.

CORPORATE

- Cash position of \$11.5 million at 30 June 2022.
- General Meeting held on 5 May 2022 with all resolutions passed, including approval for a change of Company name to Provaris Energy Ltd.
- Provaris Norway AS operating entity established, and Oslo office location secured. Company's CTO, Per Roed, relocating from Rotterdam to Oslo from July.

Provaris Managing Director and CEO, Martin Carolan, commented: "The Company continues to make excellent progress on the development of the H2Neo carrier to remain on track for key approval milestones in 2022. With two project studies advanced to near completion, we continue to refine the detailed engineering and economics of our integrated compressed hydrogen solution. We are also excited to be establishing a European officer to be closer the new commercial opportunities under review, with Oslo being an established hub for gas-carrier companies, including ship owners, engineering companies and equipment suppliers."

TIWI H2 PROJECT, TIWI ISLANDS, NORTHERN TERRITORY

Provaris acknowledges that its proposed Tiwi H2 Project is located on the traditional lands of the Munupi people. It is a privilege to have the support and such a close working relationship with the Munupi Clan and other key stakeholders.

The Company continued to advance the development of a green hydrogen export project during the June quarter. Located on the Tiwi Islands, Northern Territory, the Tiwi H2 project will develop an integrated compressed hydrogen export supply chain for 100,000 tonnes per annum, avoiding up to 1.4 million tonnes of CO₂ annually.

During the June quarter, the project team's focus remains on completing the Conceptual Design phase.

- > The completion and lodgement of the project's Referral submission to the Northern Territory Environment Protection Authority (NT EPA). *Refer to the Company's ASX Announcement on 30 June 2022 for more details.* The Referral submission is the first stage of the NT EPA assessment process, with a decision on assessment level expected in October 2022
- > Advancing the project feasibility through to completion of a detailed Conceptual Design study. The Company expects to complete this work in July 2022 and advise shareholders of further details and outcomes of this phase of development.

Being primarily located on existing plantation land and within Port Melville industrial area, the Tiwi H2 Project aims to minimise environmental impacts (compared to the selection of a greenfield site), development time and costs, as well as provide proximity and access to the future demand markets in the Asia-Pacific region.

Provaris will continue to develop and progress the detailed engineering design of the Tiwi H2 Project throughout 2022 and 2023, in line with the permissions and approvals of the Munupi Traditional Landowners. This work will run in parallel to Provaris' ship engineering and class approval program to complete mid-2023.

The target project schedule can be summarised as follows:

- > Development / detailed engineering: 2022 and 2023
- > Financial close / commence construction: early 2024
- > Initial construction phase: 2024 – 2026
- > Commencement of hydrogen export: early 2027
- > Project life: 30+ years

A site visit to Melville Island was attended by Management and Board representatives during June 2022. The trip was the first opportunity for additional Provaris team members post the removal of all Covid-19 restrictions in April.

Figure 1: Tiwi H2 project's strategic location and proximity to Asia Pacific includes Singapore, Korea & Japan



Figure 2: Management site trip to Port Melville Precinct, Aerial view of plantation areas proposed for solar farm.



Figure 3 below provides an overview of the key project components and locations for the development of the Tiwi H2 project for export. The Tiwi Islands is located approximately 100km from Darwin, a region that has successfully developed and commissioned large-scale export energy projects and is now being targeted by the Federal Government as a major export hub.

Figure 3: Illustration of Tiwi H2 Project proposal footprint and site layout.



Next steps for the Tiwi H2 project during the September and December quarters 2022 include:

- > **Referral consultation** with all key stakeholders, including the key findings and level of environmental impact to the Munupi Clan and Tiwi Land Council, along with Northern Territory and Federal Government agencies.
- > **Engineering surveys and studies** will continue to be undertaken, mostly on-country, in line with the permissions granted to the Company and as required to complete further detailed engineering activities.
- > **Prepare for and commence solar monitoring** in two locations for a period of 12 months. Permissions have been granted, with associated monitoring agreements with the Tiwi Plantation Corporation to be concluded in the September quarter of 2022.
- > **Request for proposal and appointments of lead consultants** in the second half of 2022 to commence detailed engineering and a bankable feasibility to support the target of financial close of an initial phase of development by late 2023.
- > **Ongoing discussions with strategic partners** regarding offtake, investment, development, and future ownership structures for the project.

HYENERGY EXPORT FEASIBILITY, GASCOYNE, WESTERN AUSTRALIA

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. The Study is now due for completion in July 2022. The Study received funding as part of the WA Renewable Hydrogen Fund (Round 2).

Refer to Figure 4 for an illustration of the project scope. The HyExport Export Study team consists of a world-class team of consultant specialists: WSP, Oropesa, ERM, and Turner & Townsend.

During the June quarter, the project team completed the deliverables related to Milestone 3 and 4 (out of 5) for submission to WA Government. Deliverables include:

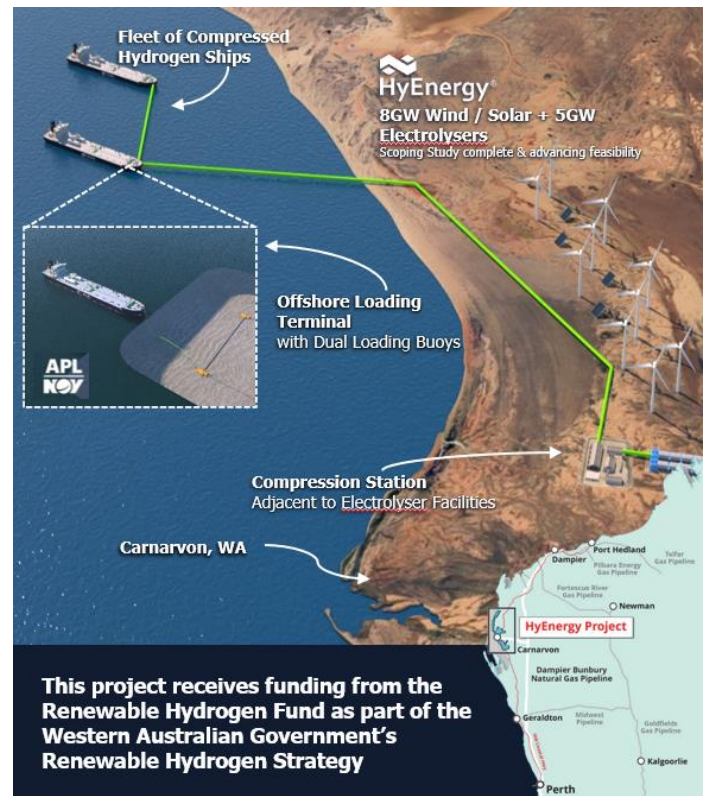
- > Environmental risk and constraints assessment of the proposed marine infrastructure on the Gascoyne coast.
- > Study of the ground conditions at the proposed shore crossing and subsea pipeline solution from the onshore compression facilities to the single anchor loading (SAL) system.
- > Commercial modelling (compression, shipping, and unloading) and cycle-time analysis for a fleet of H2Neo GH2 Carriers.
- > Development of unloading terminal designs for compressed hydrogen into Singapore.
- > Analysis of future job creation for construction and operations.
- > Advanced final Study Reports for completion in July 2022.

Drafting of the final Study Report and Public Knowledge Sharing document are on track to be complete in July 2022 and provided to the WA Government in August 2022 for review and comment.

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.

Provaris will review the outcomes of the Study Report with the HyEnergy Project partners to integrate with the upstream project feasibility being undertaken.

Figure 4: Overview of the HyEnergy Project to evaluate export using a using compressed hydrogen supply chain



BUSINESS DEVELOPMENT ACTIVITY

Management continues to focus business development resources in Europe to advance project opportunities for the development and commercialisation of a Compressed Hydrogen supply chain, with a collaboration now underway to assess the technical and economic feasibility of using compression to move volumes of green hydrogen to an existing port location in Europe to be connected to the proposed hydrogen backbone.

The awareness and qualified interest in Provaris' proprietary integrated hydrogen supply-chain solution using compression continues to increase in 2022, for both suppliers and future buyers of hydrogen. The energy crisis in Europe has seen hydrogen targets and strategies be reset, with **green hydrogen imports essential for reaching targets set under the EU's "Fit for 55" legislative package and REPowerEU by 2030**. This includes an increase to 20 million tonnes per annum per year total demand, which will require 10 million tonnes per annum through hydrogen imports.

Figure 5: Provaris' global approach to developing a portfolio of compressed hydrogen projects



The Company will continue to update shareholders as new project opportunities move to an agreement required for public disclosure.

GH2 CARRIER – DETAILED ENGINEERING AND CLASS APPROVAL FOR H2Neo

During the quarter, the Company's ship design team advanced the detailed Contract Design Package (CDP) phase, which is now 90% complete. Design and engineering documentation has now been provided to ABS for their review as part of the next approval milestone of Class Approval for Construction.

ABS Consulting have been engaged to complete a gas dispersion, fire and explosion study that will feed into the next ABS engineering review and a HAZID workshop planned for September 2022.

The hydrogen dispersion, fire and explosion studies are underway for the identification and assessment of potential release scenarios during transportation. Releases from the blowdown stack and topside piping and equipment is being modelled. The goal of this work is to aid in the classification of the H2Neo by ABS Class

Figure 6: Provaris H2Neo Ship Outline



Provaris and ABS have been selected by the organisers of the 2022 Gastech conference in Milan in September in order to present a technical paper on the development of the novel H2Neo ship design and supporting supply chain.

Key de-risking milestone for Design Approval for Construction of the H2Neo remains on track for December 2022.

Small Scale Testing, at CFER Technologies in Edmonton (Canada), of steel structural plate and stainless-steel liner is now underway with weld combinations on both the inner liner material and outer layers of carbon steel, some of which is to be conducted in a high-pressure hydrogen environment. Completion of the testing is scheduled over multiple phases through to the March 2023.

Figure 7: Provaris CTO, Per Roed, with sample structural plate. Plates prepared for welding. And photo of the special environments lab that will be utilized to test materials in a hydrogen environment.



A Technical Partnership with Northern Marine was established to advance the development of the GH2 Carrier. Northern Marine is a member of the Stena AB group and a global leader for technical and ship management services with close to 40 years of operation; managing a fleet of 70 vessels, including LNG, chemical, VLCC, product, and passenger ferries.



The MOU and Partnership will cover specialist technical and operational services to support Provaris' GH2 Carrier development program through Class and Flag approval, shipbuilding contract negotiations, newbuild supervision, and operations. During the term of the MOU, Northern Marine and Provaris will identify and agree terms on opportunities for Northern Marine to be appointed as Ship Manager for future operational fleets of GH2 carriers, starting with the H2Neo.

Discussions remain ongoing with further technical partners aligned with the development of a supply chain for compressed hydrogen.

CORPORATE

A General Meeting was held on 5 May 2022 which included the approval to change the company name to Provaris Energy Ltd. The ASX code also changed to PV1.

In alignment with expanding the executive management team in Europe, the Company has registered for a new corporate entity in Norway, Provaris Norway AS. The Company has secured a corporate office in Oslo, with CTO Per Roed relocating during July.

Europe is a vital region for Provaris, and the Company expects this to remain the case long term. Provaris is excited to be opening a European headquarters, and Oslo, being an established hub for gas-carrier companies, with ship owners, engineering companies, equipment suppliers, and a strong capital market for shipping, will allow the Company to leverage local knowledge and expertise as it grows in the coming 12 months.

Provaris has experienced an increase in interaction with supply and demand hubs in Europe, validating the Company's decision to be close to suppliers and off-takers. Hydrogen is high on Norway's agenda, and compression is widely accepted as a means for production and distribution.

Cash balance on 30 June 2022 was \$11.6 million.

Refer to the separately announced Appendix 4C for further details. Cash expenditure during the quarter was in line with the FY2022 approved budget, with total operational cash outflows of \$1.97 million that includes corporate costs, project costs for Tiwi H2 and HyEnergy, and the H2Neo ship engineering, material testing and Class approvals program.

The aggregate amount for payments to related parties and their associates included in item 6.1 in the Company's ASX Appendix 4C for the quarter ended 30 June 2022 is \$214,000, comprising of fees, salaries and superannuation paid to Directors, including Executive Directors.

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This ASX announcement has been authorised by the Board of Provaris Energy Ltd.

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About Provaris Energy

Provaris Energy (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 of the 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.

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