



SYDNEY, 20 April 2022: Global Energy Ventures Ltd (ASX: **GEV**, the **Company**) is pleased to provide the following update on the Company's development activities for the quarter ended 30 March 2022.

HIGHLIGHTS

TIWI H2 EXPORT PROJECT

- Granted key permissions from the Munupi landowners to increase the land areas proposed for solar generation, hydrogen and compression facilities, and required on-country activities for environmental and engineering studies.
- Advanced the EIA Referral submission with completion of on-country flora and fauna survey across the proposed solar site, transmission line and adjacent ground to the Port Melville Industrial precinct.
- Completed high-level engineering for water desalination and brine discharge modelling, and the proposed high voltage transmission line.
- Advanced design and configuration of solar site for integration with electrolyser facilities.
- Commenced engagements with the Australian Embassy and Austrade staff in Singapore, Korea and Japan for outreach programs to attract hydrogen offtake, investment and technical partners.
- Completion of Singapore roadshow to showcase the Tiwi H2 project and the advantages of marine compressed hydrogen to key government agencies along with potential off-take and project investment partners.

HYENERGY EXPORT PROJECT

- Multiple deliverables completed relating to the offshore components of the HyEnergy Export Study. These include the proposed offshore loading site location, design of the offshore loading facilities, and a marine environmental risks and constraints assessment.
- Commenced detailed onshore compression facilities design and reliability modelling to assess round-trip schedule and fleet size.
- First milestone payment received from the WA Government's Renewable Hydrogen Fund for work completed in the December 2021 quarter.
- Feasibility Report remains on schedule for completion in the June quarter of 2022.

GH2 CARRIER - DETAILED ENGINEERING AND CLASS APPROVAL

- Progress continues on the detailed design and ship specification of the GH2 Carrier, with completed packages including hull design optimization (speed-power, structural steel weight reductions, watertight subdivisions), finite element modelling, and shipboard safety systems.
- The final Contract Design Package remains on track for completion in June 2022 and support revised capital and operating cost assumptions.
- Commenced identification of suitable shipyards for the construction and testing of a prototype tank and future construction partner for newbuild carriers.
- Small-scale testing program underway with procurement of materials including carbon steel and stainless-steel plates for testing of various welding alternatives.

CORPORATE

- Cash position of \$13.6M to fund all planned 2022 development programs.
- Appointment of new Independent Non-Executive Director and Chairman Greg Martin. Current Non-Executive Director and interim-Chair Andrew Pickering remains on the Board as Non-Executive Director.
- Appointment of European-based executives, Per Roed as Chief Technical Officer and Mats Fagerberg as Commercial Advisor, to drive additional technical and marketing activity within key markets for hydrogen.
- Continue to qualify and advance additional compressed hydrogen project opportunities focussed in Europe.
- Subsequent to the quarter, a Notice of General Meeting was lodged for 5 May 2022 with resolutions to include a change of Company name to 'Provaris Energy Ltd'.

Martin Carolan, Managing Director and CEO, commented: *“During the quarter, the Company continued to track to plan and budget across the focus areas of ship design, class approvals and project development to support our goal for first exports in 2026. The next two quarters will start to see completion of several scheduled milestones and deliverables. We also welcomed GEV’s new chairman, Greg Martin, who will bring experience to refine and help deliver on our strategy for the year ahead.*

“The recent appointments of senior technical and commercial resources into Europe are increasing the awareness of compression as an alternative approach to bulk carrier transport of hydrogen, and we are now marketing to several high-demand markets in Europe within a 2,000 nautical mile distance from supply. The energy crisis in Europe has resulted in an increased level of interaction, as new natural gas infrastructure proposals will be required to be ‘H2 ready’, meaning the infrastructure available to hydrogen can be brought forward to before 2030 and strategies for energy security include greater volumes of renewable energy, including hydrogen.

“Overall, the awareness of Tiwi H2 as an advanced export project from Australia continues to develop given the outreach program we have underway, supported by the Australian Trade Commissions across Asia, with the first of our roadshows to Singapore resulting in further interest from government agencies, investors and offtake groups seeking further engagement on the advantages of compression and our target for supply in 2026. The selection of GEV by Austrade for the Team Australia stand at the World Hydrogen Summit in May is another example of our promotional activity beginning to see compression as mainstream when marine transport is being considered.”

TIWI H2 PROJECT, TIWI ISLANDS, NORTHERN TERRITORY

GEV 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.

Following the announcement of the Tiwi H2 project in October 2021, the Company continued to advance the development of a green hydrogen export project during the March quarter. Located on the Tiwi Islands, Northern Territory, the **Tiwi H2 project will develop a completely off-grid integrated energy to green hydrogen from up to 2.8 GW of solar generation, avoiding up to 1.4 million tonnes of CO2 annually.**

The modular nature of a compressed hydrogen export solution will support a phased approach to produce up to 100,000 tonnes per annum. Key project milestones include environment approvals mid-2023, financial investment decision late 2023 and first production for export late 2026. The project includes solar generation, transmission and backup, desalination, electrolysis, compression, and port facilities.

The Tiwi H2 project supports GEV’s strategy of becoming a fully integrated green hydrogen production and export company, with the development of a fleet of GH2 Carriers to align with the Tiwi H2 project schedule. Selection of the Tiwi Island location provides a brownfield site that will have a low environmental impact, reducing the development time and cost, and an export site providing the shortest shipping distance to the future demand markets in the Asia-Pacific region from Australia.

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



During the March quarter, the project team advanced or completed:

- Preliminary engineering and modelling for water desalination and discharge requirements for hydrogen production using electrolysis.
- Preliminary engineering for a 30km high voltage transmission line from the solar site to the Port Melville industrial zone.
- On-country flora and fauna surveys across the project areas required for installation of solar generation, transmission line and H2 production.
- Drafting Referral submission to the NT Environment Protection Authority (NT EPA) so that a decision can be made on the level of assessment required for the Tiwi H2 Project.

- Stakeholder meetings with the Northern Territory Government, Tiwi Land Council, Tiwi Plantation Council and Munupi clans, with permissions granted for various on-country activities and an increase to the land areas for proposed solar generation and H2 generation adjacent to Port Melville.
- Engagements with the Australian Embassy and Austrade staff in Singapore, Korea and Japan for ongoing outreach programs to attract offtake, investment and technical partners.
- Three-day Singapore roadshow to showcase the Tiwi H2 project's export timeline and volumes to prospective offtake parties and Singapore government agencies for future approvals for import site and license.
- Collaboration to develop a concept level design for a compressed hydrogen import terminal suitable for the operational and land constraints for new import terminals in Singapore. Collaboration partners will include marine engineering, port operators and the relevant government agencies.
- Refinement of the project's Prefeasibility Study with updated information from work undertaken on the solar and transmission line.

Munupi landowner support for the project: GEV continues to receive support from the various stakeholders involved in the Tiwi H2 project to be located on the traditional land of the Munupi people, Melville Island. At a recent meeting convened with Munupi Landowners and the Tiwi Plantation Corporation, several permissions were requested and granted, allowing GEV to undertake the necessary environmental and engineering surveys for the EPA Referral submission to be completed, with further engineering surveys and studies to follow in 2022 for the project's pre-feasibility study.

Key permissions included an increase in the land available to the Referral submission, with the scope to include solar generation now based on ~2,580 hectares (up from 1,800 hectares) and an additional 40 hectares (for a total of 72 hectares) of land adjacent to the existing port facilities for hydrogen production and compression facilities. Other permissions include solar monitoring to get underway in the September quarter of 2022 and will be based on agreed sites for clearing and installation.

Singapore marketing showcases Tiwi H2 for offtake and investment: With the assistance of Australian High Commission, Management completed a roadshow in Singapore that included key government agencies defining strategy, roadmap and approvals for hydrogen, hydrogen offtake groups and sovereign funds seeking investment in hydrogen supply chain projects and supportive technologies. Indicative support received by GEV has resulted in further engagement and case study analysis specific to near-term and long-term import hydrogen volumes and end markets aligned with the country's hydrogen strategy.

Solar Panel Preliminary Layout / Design:

Specialist consulting group CE Partners have been engaged to provide project delivery expertise on the proposed 2.8 GW solar farm and 30km transmission line, covering design, construction, operation, and generation modelling. CE Partners brings +20 years of delivery expertise on renewable energy projects across Australia, including the Cohuna Solar Farm, Gannawarra Solar Farm, Gannawarra Energy Storage System, Wemen Solar Farm and Clermont Solar Farm.

Figure 2 outlines the proposed solar site on Melville Island, with the proposed land package increased to 2,580 hectares from existing commercially zoned plantation areas on the island. The selection of existing plantation land reduces the environmental and cultural impact of the proposed site layout. Site selection and planning is underway for solar monitoring equipment to be procured in the June quarter.

Figure 2: Tiwi H2 solar site and illustration of layout



Figure 3 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 commission large-scale export energy projects and is now being targeted by the Federal Government as a major export hub.

Figure 3: Outline of the Tiwi H2 Project - Including site locations for solar, transmission line, H2 production, compression and existing jetty for loading and export.



NEXT STEPS FOR THE PROJECT

1. **Environmental and engineering surveys and studies** will continue to be undertaken, mostly on-country, in line with the permissions granted and as required to complete the Referral submission in the June quarter of 2022.
2. **Prepare for and commence solar monitoring** in two locations in the September quarter of 2022 for a period of 12 months. Permissions have been granted, with associated monitoring agreements with the Tiwi Plantation Corp to be concluded in the June quarter of 2022.
3. **Request for proposal and appointments of lead consultants** in the June quarter of 2022 to commence detailed engineering and support the target of financial close of an initial phase of development by the second half of 2023.
4. **GEV to continue its preliminary marketing activities for investment and offtake** from Tiwi H2, with several strategies underway to identify bankable parties for potential offtake and investment in the markets of Singapore, Japan and Korea. GEV's selection for participation in Austrade's Team Australia Stand at the World Hydrogen Summit, Rotterdam in May will showcase Tiwi H2 as an early export project.

HYENERGY EXPORT FEASIBILITY, GASCOYNE, WESTERN AUSTRALIA

In August 2021, GEV 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 focussed on the proposed phase 1 capacity of 4 GW of renewable energy generation and consider the export of approximately 200,000 tpa of hydrogen. The Study is due to be completed in June 2022.

In November 2021, GEV was selected by the WA Government for feasibility funding of \$300,000 (plus GST) as part of the WA Renewable Hydrogen Fund (Round 2). GEV has successfully met and received its first milestone payment during the quarter, with funds received in January. The remaining milestones are on track for submission in the June quarter of 2022.

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, Turner & Townsend.

During the March quarter, the project team advanced or completed:

- Offshore site selection of proposed moorings, connected to a subsea and onshore pipeline, to transport compressed hydrogen from the electrolyser to the fleet of GH2 Carriers.
- Environmental risk and constraints assessment of the proposed marine infrastructure on the Gascoyne coast.
- Design of offshore facilities, including APL’s Single Anchor Loading (SAL) system, for loading compressed hydrogen.
- Design of onshore compression facilities with detailed vendor inputs, process modelling and plot plans.
- Review of available onshore storage concepts.
- Commercial modelling and round-trip schedule scenarios for the proposed fleet of GH2 Carriers.

APL’s Single Anchor Loading system provides an illustration of the proposed use of offshore loading for a compressed hydrogen export solution. APL’s SAL technology has been adopted on many projects worldwide with 16 SAL systems installed and operated (3 of which are twin/dual systems). The SAL is traditionally designed for oil and gas, however most components are ‘H2 ready’ with a clear path to qualification for use with compressed hydrogen. The SAL system is both safety and environmentally friendly, providing a low visual and environment impact and small footprint.

The completed deliverables continue to demonstrate the technical, commercial, and environmental advantages of a compressed export solution. Completion of the feasibility is scheduled for June 2022. Outcomes of the Study will be subject to a Knowledge Sharing review process with the WA Government, before details are to be made public. Discussions with the HyEnergy Project partners are underway to integrate the outcomes of the Study with the upstream development strategy and project feasibility phase.

Figure 4: Overview of the HyEnergy Project to evaluate export using GEV’s compressed hydrogen



HYDROGEN BUSINESS DEVELOPMENT

With an increased focus on Europe, the Company has made two key executive appointments with Per Roed as Chief Technical Officer in Rotterdam (the world's largest port and proposed gateway to EU for all future green fuels, including H2) along with a senior commercial advisor, Mats Fagerberg, who has extensive networks with energy infrastructure owners and consumers of LNG who are also now key decision makers on the sourcing of hydrogen.

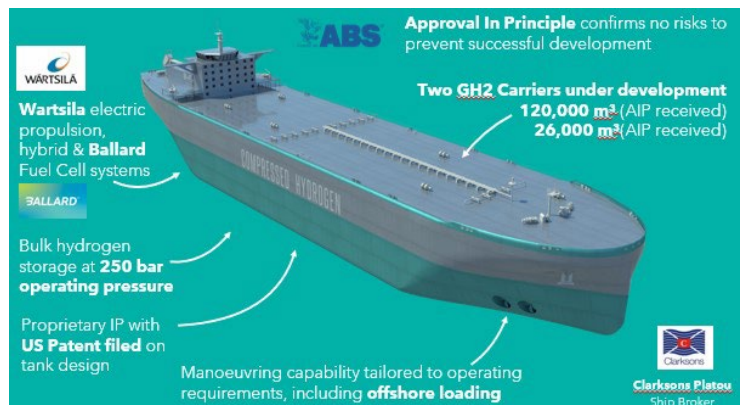
Management continues to screen further opportunities for the development and commercialisation of a Compressed Hydrogen supply chain in the regions of Asia, Europe and North America. The level of interest in GEV's proprietary integrated hydrogen supply-chain solution using compression has continued to increase in 2022. The energy crisis in Europe has resulted in an increased level of interaction as new natural gas infrastructure proposals will be required to be 'H2 ready', thus the infrastructure available to hydrogen can be brought forward before 2030 and strategies for energy security will include greater volumes of renewable energy, including hydrogen.

Austrade has selected GEV as part of 'Team Australia' stand for the WHS in Rotterdam (9-10 May 2022). Management has also been invited to speak at various energy and hydrogen conferences, with the objective of getting compression on to the mainstream discussion for the industry and markets seeking near-term solutions for the import of a hydrogen gas.

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

During the quarter, the Company's ship design team advanced the detailed Contract Design Package (CDP) phase, which included several work packages to provide an updated outline specification, general arrangement drawing, and other key design and engineering plans. Completed packages include hull design optimization (speed-power, structural steel weight reductions, watertight subdivisions), finite element modelling, and shipboard safety systems. The CDP, alongside ABS Approval in Principle, enabled GEV to commence early discussions with shipyards of interest.



GEV remains on track to complete engineering and detailed design in the September quarter 2022, which will run in parallel with a two-stage testing program to achieve Approval for Construction from ABS in the first half of 2023. Further work with ABS Consulting will include process, risk and safety studies necessary to allow Class to verify the safety issues of the vessel surrounding its operation, especially in regard to the hydrogen storage tanks and cargo loading and discharge operations.

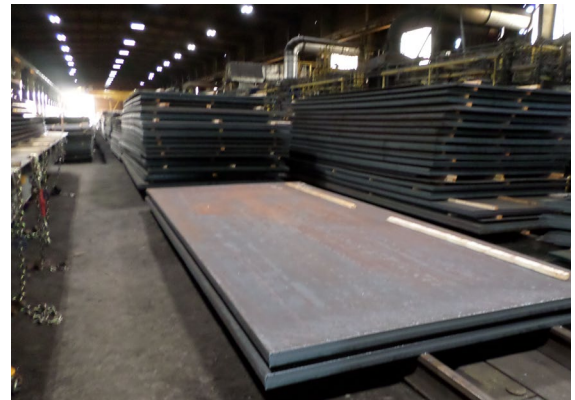
The testing program includes two key phases to achieve Approval of Construction, a critical milestone for the advancement of our business plan. The primary focus of the testing relates to the design of two large cargo tanks to contain the compressed hydrogen gas. The proposed cargo tanks consist of two elements: 1) a barrier liner designed to inhibit the permeation and loss of hydrogen through the tank wall; and 2) a structural shell of carbon steel, consisting of multiple nested layers of uniform thickness.

During 2021, GEV undertook extensive research and analysis of a selection of materials to be used to construct the cargo vessels based on an assessment of the impacts of hydrogen embrittlement on the selected materials, as well as an assessment of their weldability and currently accepted welding procedures.

Small Scale Testing to be run over the next 8 months will be performed on a range of material and 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. Testing will be executed in a series of tests to meet various stage gate requirements. Key objective of this phase will be to confirm the intended materials and weld processes that is likely to perform without failure or degradation under the expected service conditions for the barrier liner and the structural steel shell of the proposed hydrogen cargo vessel.

Prototype Testing to be designed and run in the first half of 2023 will include the construction of a 'scaled' prototype of the cargo vessel, using the selected material and weld combination confirmed in the Small-Scale Testing phase. The final configuration will be determined in the December quarter of 2022 and involve the selected shipbuilder to ensure constructability is taken into consideration at the outset and there is familiarisation of the design.

Figure 5: Carbon steel plate procured for Small Scale Testing



CNG OPTIMUM DEVELOPMENT

Dialogue continues with an operator of producing and exploration assets in offshore Brazil about the future application of a CNG shipping solution where CNG offers a unique solution to gas that is proposed to be reinjected. While the continuation of information requests is encouraging, there is no certainty of a commercial agreement.

CORPORATE

The Company continued to develop the depth and diversity of skill, experience and independence of the Board with the appointment of Non-Executive Chairman Greg Martin. Greg is an experienced Chairman and Non-Executive Director of both listed and unlisted companies with over 40 years' experience in energy, utilities, resources and financial services in Australia, New Zealand and internationally. For further details on Greg's credentials, refer to the ASX announcement on 1 February 2022.

Subsequent to the quarter, the Company lodged a notice for a General Meeting to be held on 5 May 2022. Included in the notice is a resolution to change the company name to Provaris Energy Ltd. The Board and management believe the name change reflects the transition and growth into a developer of integrated renewable energy projects that will include the production and transport of hydrogen using the Company's innovative GH2 Carrier. The ASX Code "PV1" has been reserved for when the Company begins trading as Provaris Energy Ltd in approximately mid-May.



Cash balance on 30 March 2022 was \$13.6 million.

Refer to the separately announced Appendix 4C for further details. Cash expenditure during the quarter was in line with guidance, with total operational cash outflows of \$1.037 million, including project costs for Tiwi H2, HyEnergy and ship engineering and approvals.

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 March 2022 is \$211,000, comprising of fees, salaries and superannuation paid to Directors, including Executive Directors.

- END -

This ASX announcement has been authorised by the Board of GEV.

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