



ASX / MEDIA ANNOUNCEMENT

28 OCTOBER 2020

ACTIVITIES REPORT FOR THE SEPTEMBER 2020 QUARTER

Global Energy Ventures Ltd (ASX: **GEV**, the **Company**), a leading developer of global integrated shipping projects for compressed natural gas (CNG) and hydrogen, is pleased to provide the following update on the Company's business development activities for the quarter ended 30 September 2020.

QUARTERLY HIGHLIGHTS:

- **GEV continues to progress projects across its four Strategic Pillars of growth.**
 1. In the **Brazilian Pre-Salt** GEV has confirmed a second Brazilian operator plans evaluate CNG Optimum for producing and in-development fields in the region. GEV will supply the technical and commercial inputs for a marine CNG transport solution to the operator as part of a "Request for Information" which the Company expects could lead to a "Request for Quotation" in 2021.
 2. The **CNG to Power** strategy has been strengthened by the Brazilian Government approving a Bill to open their natural gas markets to private competition. The move from the Brazilian authorities supports GEV's strategy to evaluate and promote the development of a CNG to Power project to commercialise GEV's CNG Optimum gas transportation solution.
 3. In the **Gulf of Mexico** GEV has progressed a binding Precedent Agreement for the transport of gas on pipeline infrastructure owned and operated by Kinetica Partners. Discussions remain ongoing for gas supply and offtake.
 4. Post the end of the quarter GEV launched a **Compressed Hydrogen ship design (H2 Ship)** to establish an integrated compressed hydrogen supply chain for the export of hydrogen from Australia to major energy trading partners across the Asia Pacific region.
- The low **Green House Gas (GHG) emissions profile** of GEV's CNG Optimum transport solution has been peer reviewed by leading professional services company GHD and agreed for the case studied, CNG's full cycle supply chain reduces GHG emissions by 3-4x to that of LNG (savings in CO₂ is equivalent to removing 110,000 passenger vehicles of the road per annum).
- The **US Patent office has issued a patent** to GEV with a term of 20 years providing strong protection for our 'Optimum' intellectual property. This is the second patent awarded for the CNG Optimum design and an important asset for the company as it moves through commercialisation phases.

Maurice Brand, Executive Chairman and CEO commented: *"The September quarter has been an active and productive period for the Company as we continued to confirm the commercial economics and Environmental Social Governance (ESG) credentials of our CNG Optimum transport solution. Our multi-project approach for CNG Optimum provides a greater opportunity for commercial success and highlights the adaptability of our CNG transport solution for a range of opportunities. The move by the Brazilian Government to open their natural gas market to greater competition supports our strategy of pursuing multiple projects in Brazil. CNG Optimum ships will bring a cost-effective transportation solution for the abundant gas supply off the Brazilian coast. GEV has been confident for some time that Brazil Pre-salt is a multi-project region for the Company. The confirmation by a second operator to study a gas supply chain utilising CNG Optimum to transport from producing and in-development fields is another important step forward towards our goal of commercialisation.*

Progress with the US CNG export project has been slower than we expected due to external factors but the fundamental business case is compelling and we remain confident that further progress will be achieved shortly.

As global oil and gas producers look to lower their environmental footprint, a low emission transport solution will help them achieve their emission targets, whilst maximising the economic value of their oil and gas fields. In our view, the peer review by GHD that CNG Optimum has significantly lower emissions by a factor of 3-4x (compared to LNG to the case studied by GEV) will be relevant to the marketing CNG Optimum.



Post the quarter we announced the Company's decision to move forward with the development of a compressed hydrogen ship, which can position GEV as an early mover in the future of energy. Governments and corporations globally are aligning on 'net-zero carbon', with hydrogen chosen as the pillar for decarbonising the world's heavy CO2 emitters. We see a compressed hydrogen ship as a complementary development program to CNG and I can assure shareholders it will not distract us from our focus to commercialise CNG Optimum in the near term."

GREEN CREDENTIALS OF CNG OPTIMUM ADVANCED WITH LOW EMISSIONS PROFILE REVIEW

During the quarter, the low Green House Gas (GHG) emissions profile of GEV's CNG Optimum transport solution has been peer reviewed by leading professional services company GHD.

The analysis was based on a load of 200MMscf/d of gas transported over a distance of 500 nautical miles and the comparison assumed a full fuel cycle of compression/liquefaction, transport and decompression/regasification. The case assumed all compression/liquefaction facilities are fuelled by natural gas.

When the full fuel cycle of compression-shipping-decompression is assessed, GHD agrees that for the case presented, transporting the gas as CNG is a lower emissions intensive process than transporting the gas as LNG by a factor of approximately 3-4x.

A saving of 500,000 tonnes of CO2e per annum is equivalent to removing 110,000 passenger cars from the road each year (Source: EPA).

As global oil and gas producers increasingly refocus their business plans to attain a 'net-zero carbon' target, a cost competitive, low emission marine gas transport solution will enable companies to reduce their emission profile whilst maximising the economic value of their oil and gas fields.

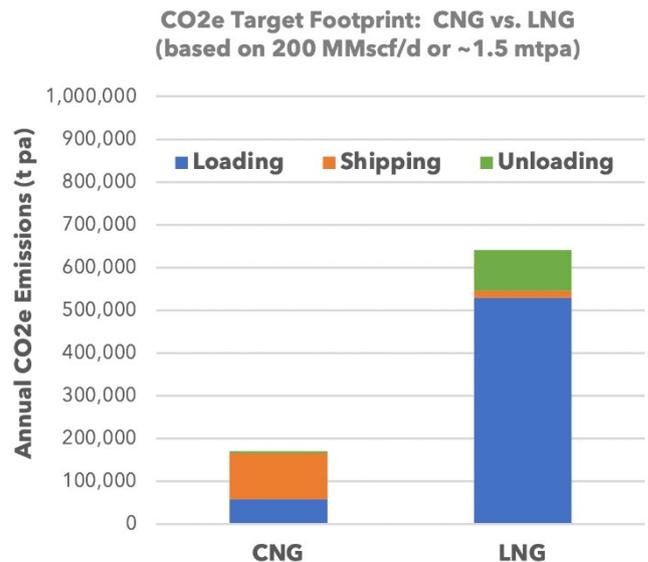
BRAZILLIAN PRE SALT

The Company received increasing levels of interest during the quarter from commercial parties looking to review the CNG Optimum transport solution for Pre-Salt gas in Brazil. The Company has now qualified a second CNG opportunity, with work to commence in the December quarter with a Brazilian operator to evaluate marine CNG for producing and in-development Pre-Salt fields.

- The new CNG opportunity will include GEV supplying the technical and commercial inputs for a marine CNG transport solution as part of a "Request for Information" with the outcome to progress to a "Request for Quotation" on specific business cases. This process will differ from the "CNG Commercialisation Plan" conducted and completed with another operator in April earlier this year, in that this opportunity is being driven by the operator and includes resources across the operator's full supply chain.
- Detailed work is expected to begin in November, with the full timelines associated with an outcome of this process to be confirmed by the operator. The Company will keep shareholders informed as to any material updates.

As updated in the June 2020 quarterly report, a CNG Commercialisation Plan was delivered to a global E&P company (as the operator of an in-development field in Santos Basin of the Pre-salt region) in April 2020.

- The Company has received an update from the operator who has advised they have undertaken a technical evaluation and concluded that there are no technical impediments with the proposed CNG export solution.





- CNG Optimum continues to be a solution of interest to the operator. However, progressing further engineering studies will be subject to the operator concluding their internal screening and economical assessment for the project, which they have advised, has suffered delays as a result of COVID-19.
- The Company remains in dialogue with the operator and will update shareholders on the revised project schedule in early 2021.

CNG TO POWER - BRAZIL

Following the Company's announcement of a CNG to Power project in Brazil (ref ASX 21 September 2020), GEV and Brazilian in-country partners, Porto Norte Fluminense (PNF) and Gaia have been promoting the opportunity of Pre-Salt Gas Hub and integrated CNG to Power project, supported by CNG Optimum, to oil and gas producers, operators and industry leaders.

In early September 2020, Brazil's lower house approved a bill to further open up the Brazilian natural gas market to private competition (ref ASX 21 September 2020). The New Gas Market is also the result of regulation changes as part of a coordinated effort between the Brazilian Ministry of Mines and Energy, the Ministry of Economy, the National Petroleum Agency, the Antitrust Authority and the National Council of Energy Policy. The New Gas Market aims to create an open, dynamic and competitive natural gas market, promoting conditions to reduce its price and, thus, contribute to the country's economic development. The measures are aimed at the more efficient use of existing infrastructure, the attraction of new investments and the promotion of competition in the natural gas market.

Figure 1: Pillars of Brazil's New Gas Market

| Pillars of the New Natural Gas Market | Expected Outcomes |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Promotion of competition • Harmonization of state and federal regulations • Integration of the gas sector with electrical and industrial sectors • Removing tax barriers | <ul style="list-style-type: none"> • Improve the use of Pre-salt gas • Increase investments in infrastructure for the flow, processing, transportation and distribution of natural gas • Increase competition in gas thermoelectric generation • Create competitiveness in the industry |

Source: Ministry of Mines & Energy

The Company looks forward to the benefits of this New Gas Market as it continues to progress the commercialisation of Pre-Salt gas opportunities in Brazil via its CNG Optimum ships. GEV is now established in the Brazil market as the only viable gas transport solution outside of new pipelines being developed. The technical work completed over the past twelve months validates our strategy to commercialise CNG Optimum in the region.

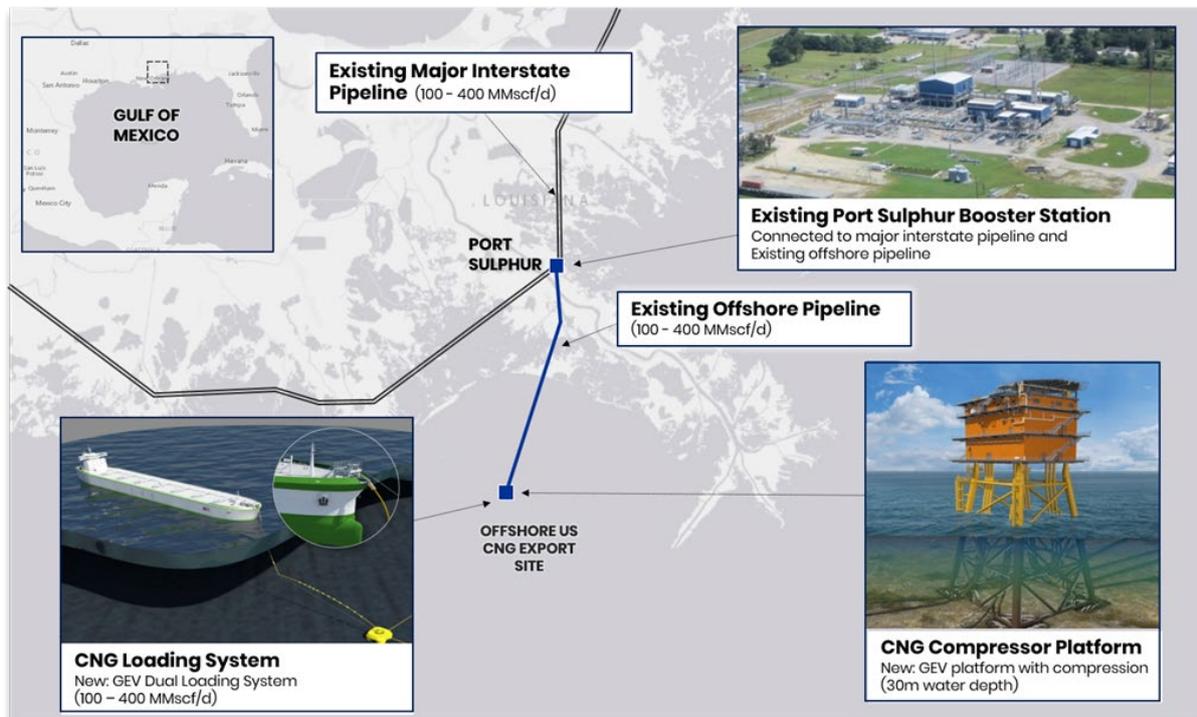
US CNG EXPORT PROJECT

During the quarter the Company announced it had finalised the selection of its offshore US CNG export site in Louisiana and the execution of a non-binding agreement in principle of a Key Terms Agreement (KTA) with Kinetica Partners LLC (Kinetica) for firm transportation service of natural gas supply (via an existing pipeline network) from on-shore facilities at Port Sulphur to an offshore loading facility (ref ASX 15 July 2020).

GEV's strategy has been to locate a project site where all or most of the infrastructure is already in place such that GEV would simply need to add compression and facilities to load CNG Optimum ships.

The offshore CNG export facility will be located directly adjacent to existing gas pipeline infrastructure and is connected to a nearby major mainline interstate pipeline system at Port Sulphur, on-shore Louisiana. There is adjacent pipeline infrastructure that clearly appears to have sufficient capacity to supply and deliver up to 400 MMscf/d of natural gas from Port Sulphur to the Site.

Figure 2: GEV's US CNG Export Project



GEV has continued to work with Kinetica on the execution of a fully termed and binding Precedent Agreement and expects to finalise this agreement shortly. The Precedent Agreement will include agreement to the rates for firm transportation service for up to 400 MMscf/d over an operating term of 15 years. The Parties intend that the firm transportation services be implemented in blocks of 100 MMscf/d as gas demand and sales increase.

The Company has completed scoping activities with Engineering, Environmental and Legal Consultants providing preliminary details to ascertain development costs and schedules required to lodge the application for obtaining all necessary permits for the US CNG Export Facility project. The regulatory approval process is well defined.

Following the execution of the proposed binding Precedent Agreement, GEV will provide a further update that will incorporate an indicative project schedule to a final investment decision.

In parallel with finalising the Kinetica Precedent Agreement, GEV is in discussion with several potential gas suppliers to deliver gas to Port Sulphur. This is the next step for the US CNG Export Site and positions GEV to move forward with relevant approvals, subject to being satisfied with progress on gas offtake agreements.

As advised, key markets to secure in the short term for gas offtake remain the Yucatan region in Mexico and Central America, with a minimum of 100 MMscf/d (equivalent to 375,000 tonnes of LNG). This would be sufficient for GEV to commence the approvals process and proceed to a Final Investment Decisions (FID).

COMPRESSED HYDROGEN SHIP - TRANSPORTING THE FUTURE OF ENERGY

Post the September quarter, the Company announced the development of a new compressed Hydrogen ship design (**H2 Ship**) to transport clean, renewable energy (ref ASX 14 & 20 October 2020). Hydrogen is set to become the pillar for decarbonising the world's heavy CO₂ emitting industries.

GEV sees Australia as the global leader for establishing a national hydrogen strategy and industry with major Government funding programs in place. Australia has also established future hydrogen export agreements with regional customers in Asia that can replicate the success of the LNG export industry, however through the supply of hydrogen.



Globally, governments, corporations and investors are now committed to 'net-zero carbon' and mobilising policy and investment to build a hydrogen industry. In Australia, the Federal and State Governments have committed to provide significant financial stimulus to accelerate funding and policy support to further develop the full supply chain of hydrogen, including the growth of export markets. There is a growing list of Australian hydrogen projects moving through successful pilot or into a domestic scale-up phase that have export plans.

It is logical for GEV to expand its offering to a growth sector in 'zero-carbon' energy fuels and leverage the key assets we have in our people and IP.

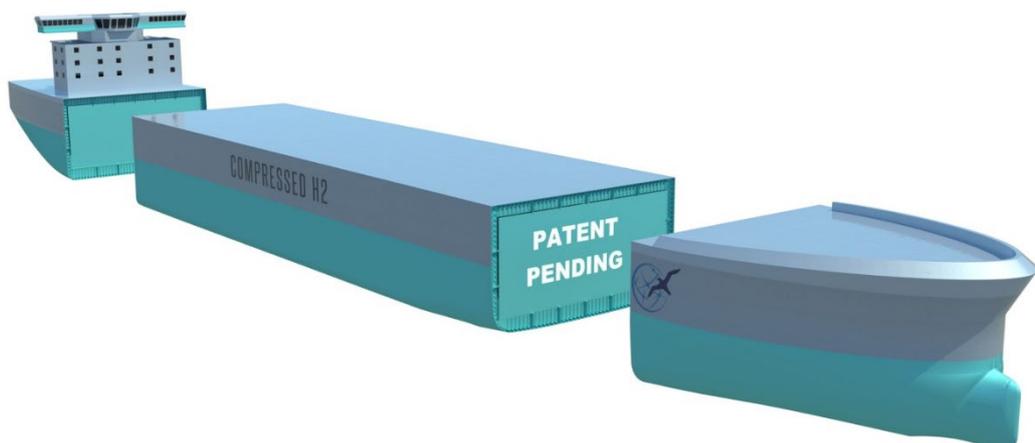
The application of GEV's compressed hydrogen vessel will be viewed as being a very competitive against other marine transport options, including liquefaction or ammonia.

GEV's internal marine engineering and development teams have established an accelerated program to develop the technical specifications for an innovative compressed H2 Ship design, including the cargo containment system, to be designed in accordance with the American Bureau of Shipping (ABS) rules and guidelines. The Company is confident that its credentials in successfully attaining design approvals with ABS, on two occasions, utilising proprietary marine designs will enable GEV to execute an efficient and cost effective program to achieve the first key milestone of Approval In Principle (AIP) from ABS targeted for completion in the first half of 2021.

Figure 3 is an illustration of GEV's compressed hydrogen ship. The ship and its innovative cargo system are in the patent process and GEV expects to receive broad patent protection for this novel ship, further extending our intellectual property suite. The containment system will include ambient temperature hydrogen at a target pressure of 3,600 psi (or 250 bar). GEV's H2 Ship will have a storage capacity of up to 2,000 tonnes (23 million m³) of compressed hydrogen. Smaller capacity ships will be evaluated by GEV for demonstration purposes based on specific pilot export projects.

With the rapid advancement fuel cell technology for vessels, GEV intends to include engines that burn pure hydrogen, providing a 'zero-carbon' shipping solution.

Figure 3: Illustrative ship design - Compressed H2 Ship





CNG OPTIMUM PATENT ISSUED IN THE US

The US Patent office has issued a GEV Patent (US 10,752,324 B2) with a term of 20 years providing strong protection for our 'Optimum' intellectual property (ref ASX 24 September 2020). This patent protection will be extended to a broader number of countries when it enters the national phase in the spring of next year.

This second patent application for CNG Optimum technology arose out of the engineering work undertaken to achieve the successful Design Approval for Construction by the American Bureau of Shipping (ABS) in January 2019. The patent incorporates two main ideas:

- To avoid overstressing of the ship's side structure, small spaces are required.
- The Original Optimum Patent application (see description below) taught that shims could be used to take up any gaps that exist between the forcing beam and the pipe.

The Original Optimum Patent Application, filed as a PCT application, is now in the national phase for review in 36 countries and patents are pending in these jurisdictions.

CORPORATE

Cash on 30 September 2020 was \$2.5 million (\$3.14 million 30 June 2020). 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 \$588,000. The Company has completed the 2020 R&D Tax Incentive application for lodgement and anticipates the receipt of a cash rebate during the December quarter.

Aggregate amount of 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 2020 of \$163,000 comprises fees, salaries and superannuation paid to directors for varying periods.

- END -

This ASX announcement has been authorised by the Board.

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ABOUT GLOBAL ENERGY VENTURES LTD

Global Energy Ventures Ltd was founded in 2017, with the Company’s mission to create shareholder value through the delivery of integrated marine pressure vessel solutions transporting energy to regional markets. The business model is to build, own and operate integrated energy transport projects for either natural gas or hydrogen.

The primary focus is the development of integrated Compressed Natural Gas (CNG) marine transport solutions with the Company’s construction ready **CNG Optimum ship**. CNG is a well proven gas transport solution with design and commercial advantages along with being safe and a ‘lower emission’ solution for the transport of gas than in the form of liquified natural gas (LNG).

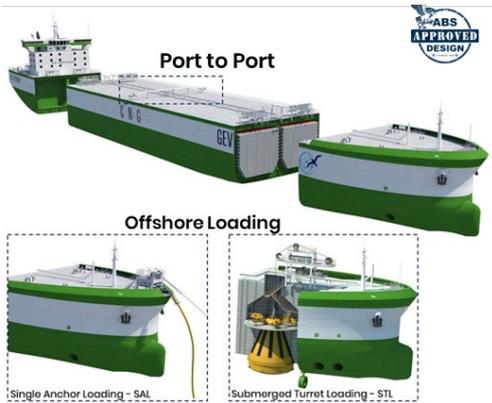
With the world’s focus on Energy Transition gaining momentum, the Company has also introduced the world’s first **Compressed H2 Ship** that will support the transport of hydrogen as a green energy fuel of the future. Hydrogen’s role in the future energy mix will greatly assist governments and corporations with their respective ‘net-zero carbon’ targets through the decarbonisation of heavy emitting industries.

This will be achieved by:

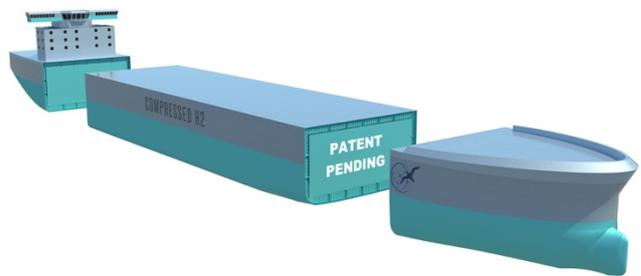
- Continue to maintain global leadership in marine pressure vessel designs and intellectual property.
- Pursue a portfolio of CNG Optimum projects to improve and mitigate against binary outcomes and offer CNG project stakeholders’ flexible commercial arrangements.
- Advance the future transport of green energy through the development of the compressed H2 Ship.
- Employ world class management and staff that are leaders in their chosen discipline.
- Maintain the highest standards of efficiency, safety and environmental responsibility.

For more details on the Company please visit www.gev.com

CNG Optimum Ship
Approved for Construction & Ready for Commercialisation



Compressed H2 Ship
Under Development



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\$ refers to Australian Dollars unless otherwise indicated.