



ASX / MEDIA ANNOUNCEMENT

24 SEPTEMBER 2020

## US PATENT FURTHER PROTECTS CNG OPTIMUM INTELLECTUAL PROPERTY

Global Energy Ventures Ltd (ASX: **GEV**, the **Company**), the leading developer of global integrated marine compressed natural gas (**CNG**) projects, is pleased to provide the following update on the Company's CNG Optimum patent portfolio.

### HIGHLIGHTS:

- The US Patent office has issued GEV a Patent (US 10,752,324 B2) with a term of 20 years providing strong protection for our 'CNG Optimum' intellectual property.
- 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 Original Optimum Patent Application, filed as a PCT <sup>(1)</sup> application, is now in the National Phase for review in 36 countries and patents are pending in these jurisdictions. This second patent will be extended to a broader number of countries when it enters the National Phase' during 2021.
- The inventor of both patents is GEV's Chief Technical Officer, John Fitzpatrick.

**Executive Chairman & CEO of GEV, Maurice Brand commented:** "This patent awarded for CNG Optimum gas storage and transport, demonstrates the robust IP developed as a result of the 'design approval for construction' by ABS in 2019 for the CNG 200 Optimum ship. A strong Patent Portfolio is a critical asset of the Company as full technical information is made available to shipyards, financiers, regulators, and ship charter customers. This patent supports and strengthens the first patent application which is now pending in 36 countries."

### The Second Patent (Pipe Containment System for Ships with Spacing Guide) encompasses two main ideas

- I. **To avoid overstressing of the ship's side structure, small spaces are required between the pipes.** When the pipes are pressurised, they will try and expand radially but since they are constrained vertically by the forcing beam, they will tend to oval horizontally. If there were no spaces, these horizontal expansions would accumulate and press against the side shell of the ship and cause distortion and overstress. In the patent application, GEV is laying claims to the idea of separating the pipes with a small space (methodology) and a mechanism for easily accommodating these spaces during construction (apparatus).
- II. **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.** Two improved ways of filling these gaps were developed and GEV has captured these ideas within the patent.

### Overview of the Original Optimum Patent Application

The original Optimum Patent application (now pending in 36 countries) protects the concept of forcing long straight pipes, in the hold of a ship or on the deck of a barge, together so forcefully that the friction developed between the pipes prevents relative movement between the pipes themselves and between the pipes and the ship or barge. This is the key Intellectual Property (IP) owned by GEV that allows bundles of long-straight pipe to be used as CNG pressure vessels in a ship or on a barge.

Notes: 1. The Patent Cooperation Treaty (PCT) process makes it possible to seek patent protection for an invention simultaneously in each of a large number of countries by filing an "international" patent application.



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**This ASX announcement has been authorised by the Board.**

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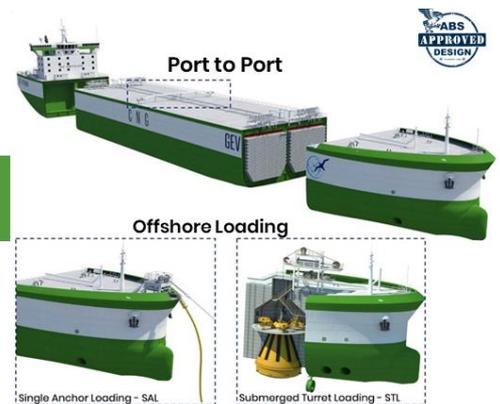
**ABOUT GLOBAL ENERGY VENTURES LTD**

The Company's mission is to create shareholder value through the delivery of integrated CNG solutions to global gas markets. CNG is a well proven gas transport solution with design and commercial advantages along with being safe and environmentally friendly. This will be achieved by:

- Continue the roll out of GEV CNG Optimum ship and maintaining global leadership in marine CNG design.
- Pursue a portfolio of CNG projects to improve to mitigate against binary outcomes.
- Offer CNG project stakeholder's flexible commercial arrangements.
- Secure access to strategic gas resources that provides for an integrated CNG gas supply solution.
- Employ world class management and staff that are leaders in their chosen discipline.
- Maintain the highest standards of efficiency, safety and environmental responsibility.

**2019**  
**CNG Optimum Ship**  
**Approved for Construction**

**2020**  
**Design upgrade includes**  
**offshore loading**



Gas containment system integrated into the ship design.	Long horizontally stacked pipe minimises connections and optimises the gas containment system.	Optimum IP overcomes the gas storage pipes rubbing together in a marine environment.
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<b>OPTIMUM STORAGE SYSTEM</b>	<b>200 MMscf</b>	Net Sales Volume
	<b>3,600 psi</b>	Operating Pressure
	<b>X80/ERW</b>	Pipe Grade & Weld Type
	<b>20"</b>	Pipe Diameter
	<b>100m</b>	Individual Pipe Length
	<b>130km</b>	Total Length of Pipes

<b>CNG SHIP</b>	<b>190m</b>	Length
	<b>17.0m</b>	Depth
	<b>31.8m</b>	Breadth
	<b>9.4m</b>	Full Load Draft
	<b>47,500 mt</b>	Displacement
	<b>14 knots</b>	Service Speed

**DISCLAIMER:** This announcement may contain forward looking statements concerning projected costs, approval timelines, construction timelines, earnings, revenue, growth, outlook or other matters ("Projections"). You should not place undue reliance on any Projections, which are based only on current expectations and the information available to GEV. The expectations reflected in such Projections are currently considered by GEV to be reasonable, but they may be affected by a range of variables that could cause actual results or trends to differ materially, including but not limited to: price and currency fluctuations, the ability to obtain reliable gas supply, gas reserve estimates, the ability to locate markets for CNG, fluctuations in gas and CNG prices, project site latent conditions, approvals and cost estimates, development progress, operating results, legislative, fiscal and regulatory developments, and economic and financial markets conditions, including availability of financing. GEV undertakes no obligation to update any Projections for events or circumstances that occur subsequent to the date of this announcement or to keep current any of the information provided, except to the extent required by law. You should consult your own advisors as to legal, tax, financial and related matters and conduct your own investigations, enquiries and analysis concerning any transaction or investment or other decision in relation to GEV. \$ refers to Australian Dollars unless otherwise indicated.