



ASX / MEDIA ANNOUNCEMENT

3 AUGUST 2020

## BRAZIL CNG TO POWER PROJECT

### HIGHLIGHTS:

- **Joint Development Agreement (JDA) executed by GEV, Porto Norte Fluminense S.A. (PNF), and GEV's Brazil country associate, GAIA, to evaluate and promote the development of a CNG to Power project, including CNG import facilities, at the Port.**
- **PNF is the owner and developer of an offshore port and gas hub, strategically located in the north of Rio de Janeiro state, within 250 nautical miles from multiple gas supply targets in the Santos and Campos Basins of the Pre-salt.**
- **PNF has secured preliminary environmental approvals, with additional permits expected in 2021 that include gas processing and thermoelectric power plant facilities.**
- **CNG to Power project complements GEV's focus on Brazil having established the technical and commercial viability of marine CNG transport from an FPSO to a dedicated CNG terminal.**
- **Natural gas demand in Brazil continues to outpace supply, with imported LNG being used as fuel for power generation, meanwhile a shortage of midstream infrastructure in Brazil remains a key challenge for offshore oil and gas field operators, typically resulting in the reinjection of gas production.**
- **CNG to Power project with long term Pre-Salt gas pricing expected to be commercially competitive with existing LNG to Power projects as well as having a smaller carbon footprint.**

***GEV Executive Director & Chief Development Officer, Garry Triglavcanin said:** "A 'CNG to Power' project, including CNG import facilities, aligns with our strategy of pursuing multiple projects in Brazil, and extending on our recently completed CNG Commercialisation Plan, we view this to be a solution for multiple developers assessing the commercialisation of Pre-Salt gas."*

***Commenting on the JDA, PNF Chief Executive Officer, Rogerio Sacchi said:** "CNG Optimum ships will bring a cost-effective transportation solution for the abundant gas supply off the Brazilian coast to our port facilities and will enable the creation of a Gas Hub in north of Rio de Janeiro attracting several industries, bringing competitiveness and reducing the gas price to the Brazilian market and the electricity to be produced in our power plants."*

***GAIA Chief Executive Officer, Luiz G. Bodanese said:** "We are proud to bring a new concept, CNG to Power, to the Brazilian market. An integrated view of the gas supply chain is key to develop and monetize the Brazilian gas reserves, whilst bringing competitive gas supply to the Brazilian market enabled by GEV's Optimum design."*

Global Energy Ventures Ltd (ASX: **GEV**, the **Company**), the leading developer of global integrated marine compressed natural gas (**CNG**) projects, is pleased to announce the signing of a Joint Development Agreement (the **JDA**) with Porto Norte Fluminense S.A and GEV's Brazil country associate, GAIA, to evaluate and promote the development of a CNG to Power project, including CNG import facilities, in Brazil.

The JDA outlines the guidelines under which the partners will leverage their respective expertise to jointly evaluate and promote the development of a CNG to Power project, including CNG import facilities, to facilitate the supply, processing and monetisation of natural gas from the Pre-Salt region. If deemed technical and commercially viable, the partners would then endeavour to introduce additional partners with power plant expertise to progress to definitive and binding agreements. Target dates for short and long term milestones have been set which include: engaging additional project partners (including oil and gas operators); the granting of additional environmental



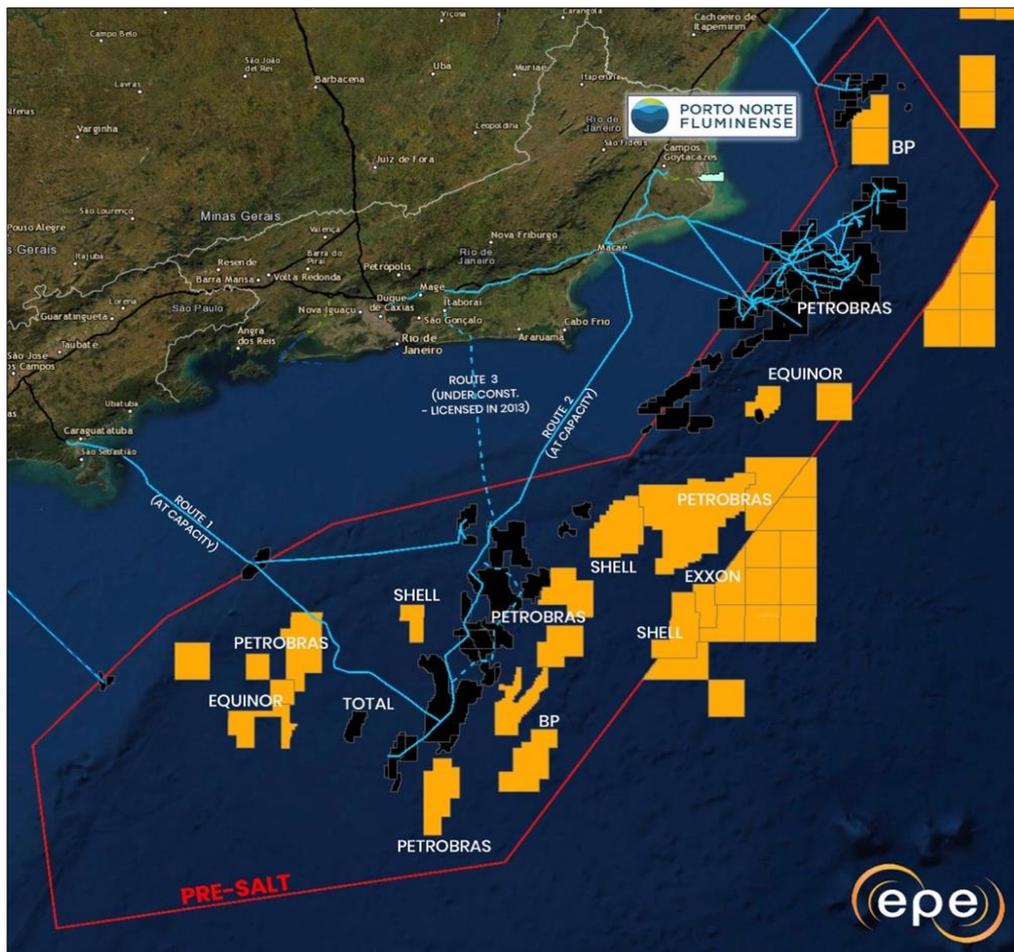
licenses and permits; definitive project agreements; and first operations targeted for 2025.

PNF is a Brazilian company, being the owner and developer of the North Fluminense Port (the **Port**), which is located in municipality of São Francisco de Itabapoana, State of Rio de Janeiro, Brazil. The Port's onshore area covers 126 hectares, which spans across 1500m of coastal frontage. PNF's corporate partners have an extensive history in civil construction and first commenced environmental licensing for the Port in 2011. Additional environmental permits are expected in early 2021 for industrial facilities which include a natural gas processing plant (required to process the "liquid rich" Pre-Salt gas) and two 1.75GW thermoelectric power plants which use natural gas as fuel.

The Port's proposed offshore terminal is well suited for CNG import and unloading, particularly when compared to high traffic ports such as Guanabara Bay, due to its fit for purpose design, dedicated facilities and offshore accessibility.

The offshore terminal design is a low capital cost and fit for purpose solution that is ideally suited for CNG import and unloading operations. The Port is located 250 nautical miles or half a day sail from the Pre-salt fields.

**Figure 1: Pre-Salt regional overview and proximity to Porto Norte Fluminense**

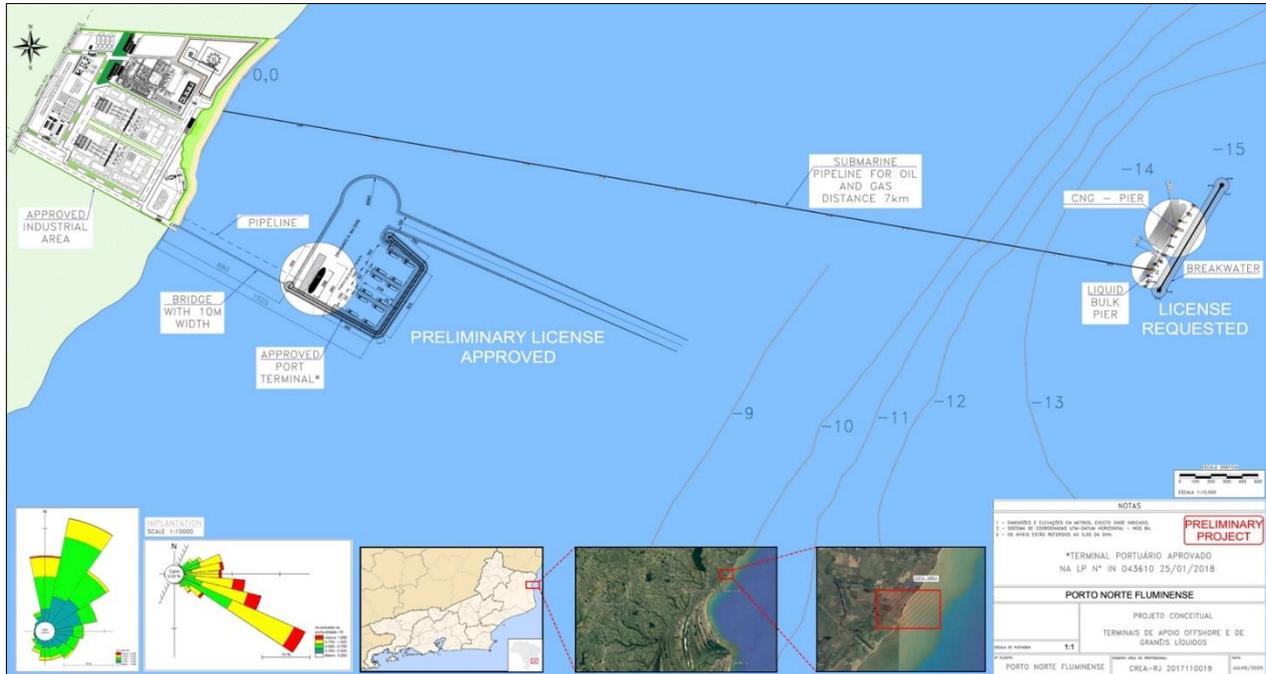


Source: GEV/EPE

Several Gas to Power projects are currently being developed in Rio de Janeiro state, which use either Pre-Salt gas from the Route 2 pipeline (which is at capacity) or imported LNG as fuel. The JDA partners will evaluate the cost competitiveness of specific gas fields for a CNG to Power project, in advance of Brazilian power auctions in 2021.

Jointly evaluating the development of a CNG to Power project, together with CNG import facilities, further complements GEV's ongoing work in Brazil, which has established the technical and commercial viability of marine CNG transport from an FPSO to a dedicated CNG terminal.

Figure 2: PNF has licensed two offshore terminal options with both being suitable for CNG Import Facilities.



Source: PNF

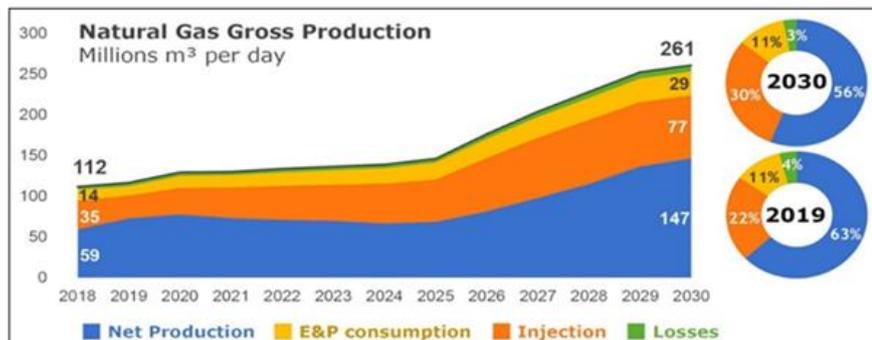
The utilisation of Pre-Salt gas has a threefold advantage to Brazilian operators:

1. Monetising gas reserves that would otherwise be reinjected;
2. Supplementing the shortfall in domestic gas demand (10 – 20 billion cubic metres per annum); and
3. Reducing the carbon footprint by using marine CNG rather than imported LNG.

**GEV Brazil Project Manager, Luke Velterop commented:** “There are several major oil and gas field developments with a suitable export gas composition located within a half day sail from Porto Norte Fluminense. While gas reinjection can be required for reservoir management, operators are having to consider reinjection of the entire gas stream, due to the lack of midstream infrastructure and gas market challenges.

An integrated CNG to Power project would solve both of these issues. CNG Optimum and PNF can unlock value in Pre-Salt natural gas reserves by offering operators a fit for purpose solution with the CNG shipping fleet, port terminal and plant facilities specifically sized to the gas production and market demand. The JDA partners envision a CNG to Power project with a long-term Pre-Salt gas price would be competitive to power plants using imported LNG as fuel. We expect additional project partners will be quick to support the concept and assist in its development.”

Figure 3: Without midstream investment, reinjection will increase from 35 million m<sup>3</sup> (1 bcf) to 77 million m<sup>3</sup> (2 bcf) per day by 2030.



Source: EPE



### Marine CNG transport supports Brazil’s GHG reduction initiatives

GEV’s analysis of CO<sub>2</sub> emissions has highlighted the environmental benefits of using marine CNG rather than LNG for regional transportation, with a >50% reduction in carbon emissions due to CNG having a significantly smaller internal fuel usage of 4% to 7%, compared to that of LNG being 11% to 14%.

### Next Steps

The JDA partners have commenced promoting the CNG to Power opportunity to oil and gas operators who are looking to establish an exclusive area for gas monetisation. Potential project partners, with expertise in gas processing and power plants, have already shown interest to participate. The partners are also seeking support from Brazilian energy and regulatory agencies who have long recognised the need for midstream infrastructure and solutions focussed on Pre-Salt gas.

GEV will advise the key outcomes of its evaluation and when additional project partners have been formally engaged.

– END –

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

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**ABOUT GLOBALENERGY 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 stake-holders 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>	<table border="0"> <tr><td><b>200 MMscf</b></td><td>Net Sales Volume</td></tr> <tr><td><b>3,600 psi</b></td><td>Operating Pressure</td></tr> <tr><td><b>X80/ERW</b></td><td>Pipe Grade &amp; Weld Type</td></tr> <tr><td><b>20"</b></td><td>Pipe Diameter</td></tr> <tr><td><b>100m</b></td><td>Individual Pipe Length</td></tr> <tr><td><b>130km</b></td><td>Total Length of Pipes</td></tr> </table>	<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>	<table border="0"> <tr><td><b>190m</b></td><td>Length</td></tr> <tr><td><b>17.0m</b></td><td>Depth</td></tr> <tr><td><b>31.8m</b></td><td>Breadth</td></tr> <tr><td><b>9.4m</b></td><td>Full Load Draft</td></tr> <tr><td><b>47,500 mt</b></td><td>Displacement</td></tr> <tr><td><b>14 knots</b></td><td>Service Speed</td></tr> </table>	<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
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**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.