

Shipping solutions for the Energy Transition

Compression | Simplicity | Efficiency

H2
PATENT PENDING



The Energy Transition in 2020 is focussed on net-zero targets

Unprecedented pace to meet the goal of decarbonisation with hydrogen as the fuel of choice

The conversation in 2019...

- > Natural gas is one of the mainstays of global energy, replacing higher polluting fuels, to improve air quality and limit CO2 emissions.
- > Since 2010, the market share of gas has increased more than any other energy source.¹
- > Coal to gas switching reduces emissions by 50% when producing electricity and by 33% when providing heat.¹
- > Switching between unabated consumption of fossil fuels, on its own, does not provide a long-term answer to climate change.¹



Fast forward to 2020...

- > COVID has delivered unprecedented alignment of scientific, political, and commercial forces on climate change.
- > This is leading to accelerated plans around the world to increase renewable energy supply.
- > Deflationary environment provides governments with very cheap source of funding.
- > Hydrogen chosen as the pillar to decarbonise heavy emitting industries.
 - > Electricity generation
 - > Cement
 - > Fertilisers
 - > Petrochemicals
 - > Industrial transport

GEV already supporting the energy transition with CNG Optimum



Hydrogen shipping solution positions GEV for the future of energy

⁽¹⁾ IEA, 2019



Global developer of integrated compressed shipping projects

Advancing regional green marine transport solutions for natural gas and hydrogen



CNG Optimum

Ready for Commercialisation

Patented design for 200 MMscf gas volume capacity
Full Design Approval for Construction
CNG full cycle low CO₂e emissions



Brazilian Pre-Salt & CNG to Power

- > Multiple development projects backed by global oil majors seeking a commercialisation strategy for associated offshore gas.
- > Joint venture with local partners to provide CNG for power generation supported by new Brazilian gas market legislation.



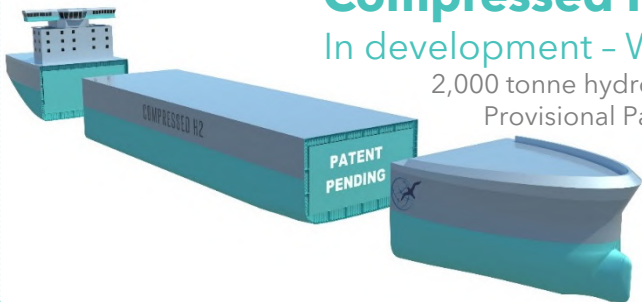
US Gulf of Mexico

- > Offshore site selected, adjoining existing infrastructure to export US Henry Hub gas to Mexico and Central America. Discussions on market off-take underway.

Compressed H₂ Ship

In development - World First

2,000 tonne hydrogen capacity
Provisional Patent pending



Hydrogen Export

- > Development of a new compressed H₂ Ship and patent protection to deliver a solution for transporting hydrogen to regional markets.
- > Initial focus on Australia's hydrogen export industry.

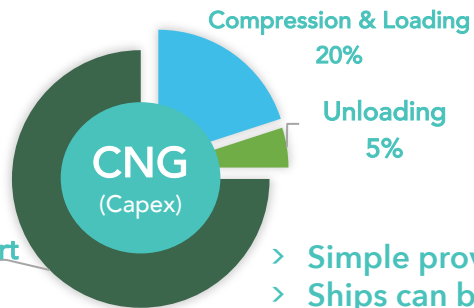
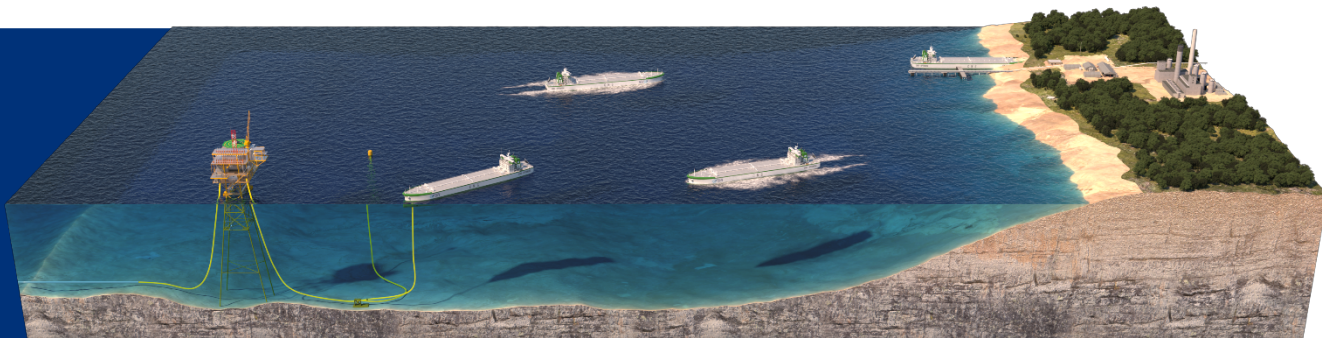
"Hydrogen is now a global mega-trend and the future of the energy transition to zero-carbon fuels"



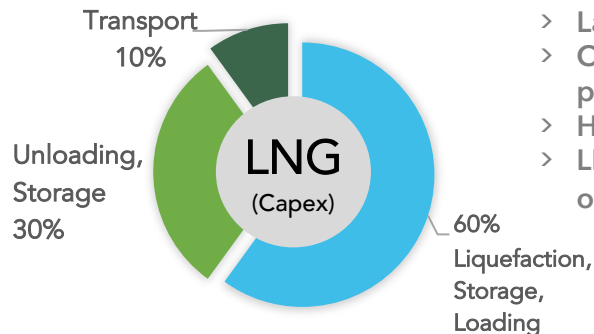
Why Compressed Natural Gas ?

A simple and energy efficient supply chain ideally suited for regional transportation

Floating gas pipeline solution



- > Simple proven technology
- > Ships can be re-deployed
- > Reduced investment risk
- > Low-cost financing for ships
- > Construction contained to single shipyard
- > Lower CO2e emissions than LNG



- > Large investment in facilities
- > Complexity in liquefaction process (design & build)
- > History of cost overruns
- > LNG ships benefit from history of built on time and on budget



CNG Optimum - Energy efficient & low emission solution

Supports net-zero carbon targets

CNG Optimum's carbon footprint is expected to be at least 50% lower than that of LNG for the full cycle

Global oil & gas producers increasing their focus on 'low emission' solutions whilst maximising the economic value of oil and gas fields

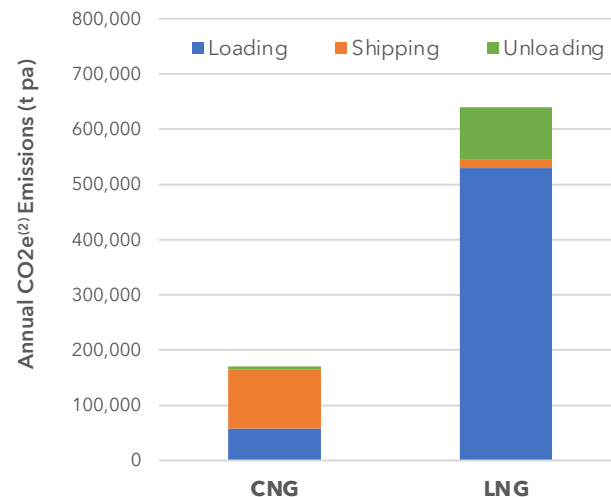
Gas consumed as fuel for "full cycle"
CNG: 5%
LNG: 15%

- › **Case Example:** "LNG: liquefaction-shipping-regasification" versus "CNG: compression-shipping-decompression"
 - › Based on the transportation of 200 MMscf/d (or ~1.5 mtpa LNG) of gas over a distance of 500 nautical miles (regional).
 - › Assuming all compression/liquefaction facilities are fuelled by natural gas
- › **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**⁽¹⁾

CNG project could save 500,000 tonnes of CO₂e emissions annually - equivalent to 110,000 passenger vehicles off the road per year

CO₂e Footprint - CNG vs. LNG

(based on 200 MMscf/d or ~1.5 mtpa)



⁽¹⁾ GHD | Report for Global Energy Ventures Ltd - GHG Emission Calculations, September 2020. For the case example presented by GEV below of a load of 200 MMscf of gas transported over a distance of 500 nautical miles, GHD agrees that the approach for calculating GHG emissions is appropriate. ⁽²⁾ CO₂e or Carbon dioxide equivalent or is a term for describing different greenhouse gases in a common unit.



CNG Optimum - Construction ready

Development program supported by global partnerships

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.

2019

ABS Approved for Construction & Letter of Intent with CIMC Raffles

Globally recognised technical partnerships:



American Bureau of Shipping

Ship Classification & Approvals



Clarksons Platou

Ship Broker & Financial Advisor



SEAQUEST

SeaQuest Marine

Technical Advisor



KONGSBERG



CIMC RAFFLES

CIMC Raffles

Shipyard



CIMC ENRIC

CNG Engineering



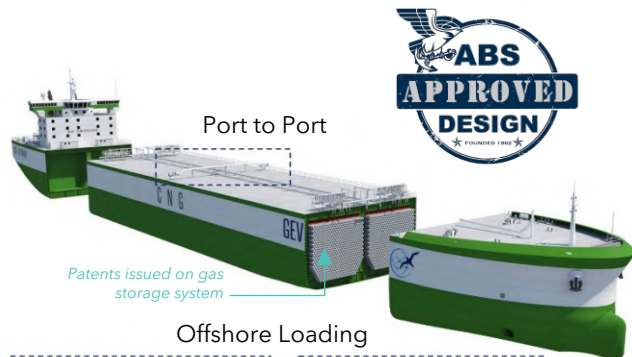
TechnipFMC



2020

Design upgrade to include offshore loading

With support from:



Patents issued on gas storage system

Offshore Loading



Single Anchor Loading - SAL



Submerged Turret Loading - STL

CNG SHIP

190m	Length
17.0m	Depth
31.8m	Breadth
9.4m	Full Load Draft
47,500 mt	Displacement
14 knots	Service Speed

OPTIMUM STORAGE SYSTEM

200 MMscf	Net Sales Volume
3,600 psi	Operating Pressure
X80/ERW	Pipe Grade & Weld Type
20"	Pipe Diameter
100m	Individual Pipe Length
130km	Total Length of Pipes



Commercialisation advancing across four strategic pillars

Portfolio approach to project development given repeatability and low development costs of compression

CNG Optimum



1

Offshore Pre-salt

- > Multiple development projects, backed by global oil majors, seeking a gas commercialisation strategy.
- > Abundance of offshore gas currently being re-injected, or proposed to, as well as the proximity of such gas to large onshore gas markets.
- > Discussions in place with multiple operators seeking a solution for gas using CNG transport.



2

CNG to Power

- > Joint venture with local partners to provide CNG for local power production in Brazil.
- > New Brazilian legislation to open natural gas market to greater competition and markets for domestic gas production.
- > Extends the commercialisation of CNG Optimum via direct market access for downstream gas sales.



3

US Gulf of Mexico

- > US has abundance of long-term, stable supply and pricing of gas.
- > Access to under-utilised gas infrastructure reduces capital and accelerates development timelines for CNG export facility.
- > Focus on regional gas markets unable to secure gas on long-term commercially viable terms.

H2 Ship



4

Hydrogen

- > Compressed H2 Ship competitive against other transport methods and early mover advantage.
- > Australia with clear hydrogen strategy that includes a focus on export markets.
- > Hydrogen now chosen as the pillar to decarbonising industries.
- > Unprecedented policy and funding support in place to develop a hydrogen industry.



Brazilian Pre-Salt has multi-CNG project potential

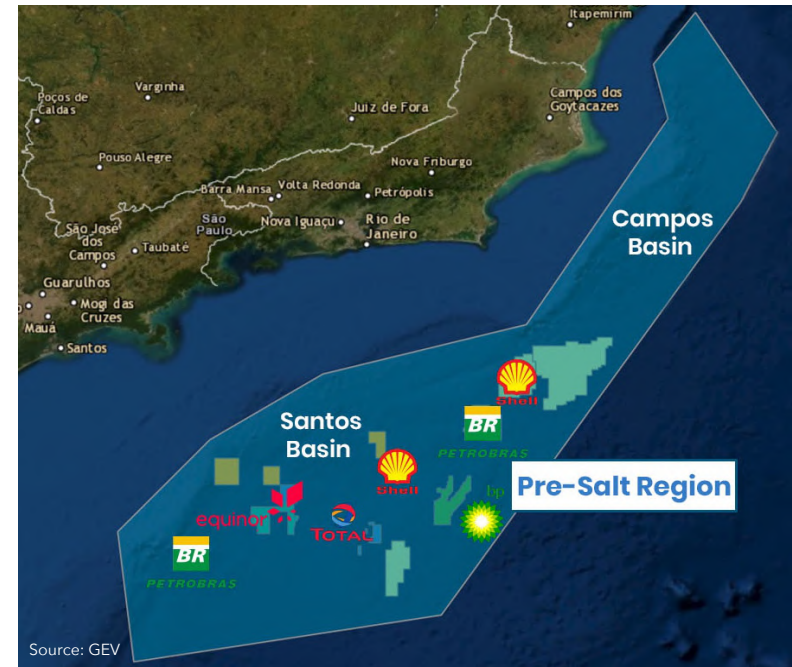
CNG can accelerate gas development timelines and enhance project economics

CNG Optimum launch into Brazil in July 2019 together with local country associate, GAIA

Successful completion of a CNG Commercialisation Study for major O&G operator of an in-development field

Advancing discussions with multiple operators who are developing Pre-Salt projects in Santos & Campos Basins

- > Santos and Campos Basins are prolific hydrocarbon producing regions with significant volumes of associated gas.
- > Major projects progressing to FID with first operations in 2024/25
- > Existing deep-water pipelines are under contract and at capacity.
- > New pipelines are environmentally and commercially challenging requiring long lead time & billion dollar plus investments.
- > In many development cases, gas reinjection is considered the only feasible option given water depth
- > **Advancing multiple gas 'tolling' opportunities backed by major oil and gas companies seeking commercialization alternatives to reinjection.**



Brazil Project scope

Completion of the CNG Commercialisation Plan concluded no technical 'show-stoppers'

- > Gas is compressed on FPSO and loading via flow line to the dual STL system.
- > Fleet of up to 5 ships to match the gas export design rate. Dual loading systems and redundancy in ship fleet required to satisfy continuous operating reliability.
- > Base design CNG Optimum ship upgraded to include DP2 & STL capability (increases cost of base ship).
- > **Proposal is for a 20+ year charter** for gas delivered to a dedicated CNG unloading terminal
- > Next stage of engineering to recommence in early 2021.
- > **Second Brazilian operator now confirmed to evaluate CNG transport for producing and in-development Pre-salt fields.**

✓ Technical Acceptance

The ability of the proposed export solution to load, store, transport and unload the gas specification provided, by maintaining the gas in single phase throughout each of these processes.

✓ Competitive Charter Rates

The commercial model to be reviewed includes competitive charter rates for the proposed fleet of CNG ships.

✓ Continuous Gas Export

GEV considers the proposed CNG ship fleet provides the FPSO, with a reliable, available and maintainable solution for continuous gas export.



CNG to Power

A seamless value chain from gas supply to sales

New Brazilian legislation to open natural gas market to greater competition and markets for domestic gas production



www.portonf.com.br/en/

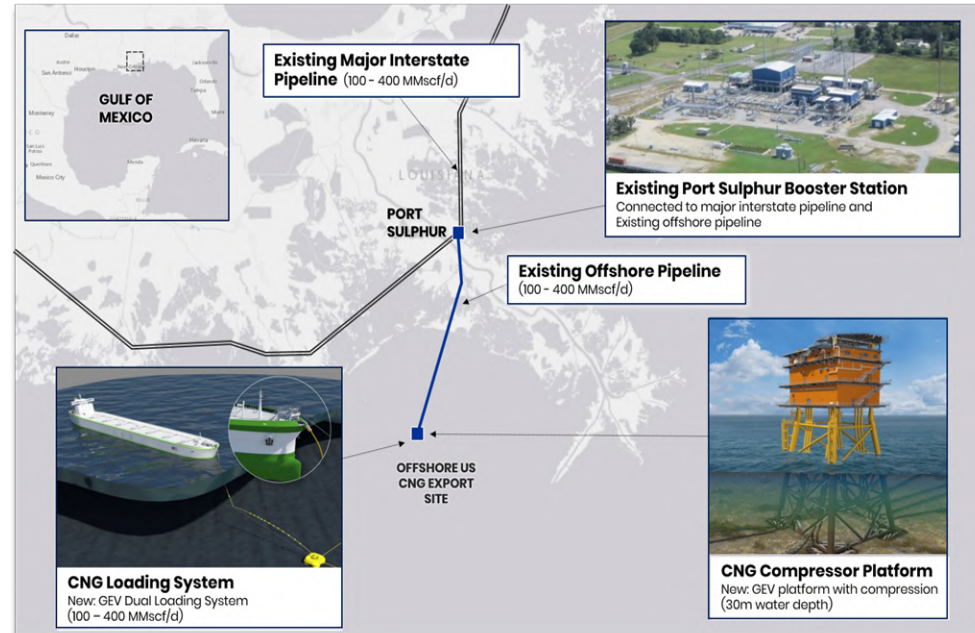
- › Joint Development Agreement (JDA) with Brazilian partners Porto Norte Fluminense S.A. (PNF) and GEV's country associate GAIA.
- › Complements GEV's focus on Brazil having established the technical and commercial viability of marine CNG transport from an FPSO to a dedicated CNG terminal.
- › Natural gas demand in Brazil continues to outpace supply, with imported LNG being used as fuel for power generation
- › 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.



Offshore US CNG export terminal

A low cost and fast-tracked loading terminal

- > CNG export facility directly adjacent to existing pipeline infrastructure with capacity up to 400 MMscf/day.
- > Multiple parties with capacity to supply gas at Port Sulphur and installation of compression facilities, on the proposed offshore platform for CNG loading.
- > Key Terms secured for transporting up to 400 MMscf/d of gas to the export facility (Precedent Agreement Pending).
- > Advancing discussions with gas supply partners to deliver required volumes referenced/indexed to Henry Hub pricing.
- > Engineering, Environmental and Legal consultants engaged to provide schedules and costs required to lodge and received necessary permits.



Source: GEV

GEV is focusing on regional gas markets

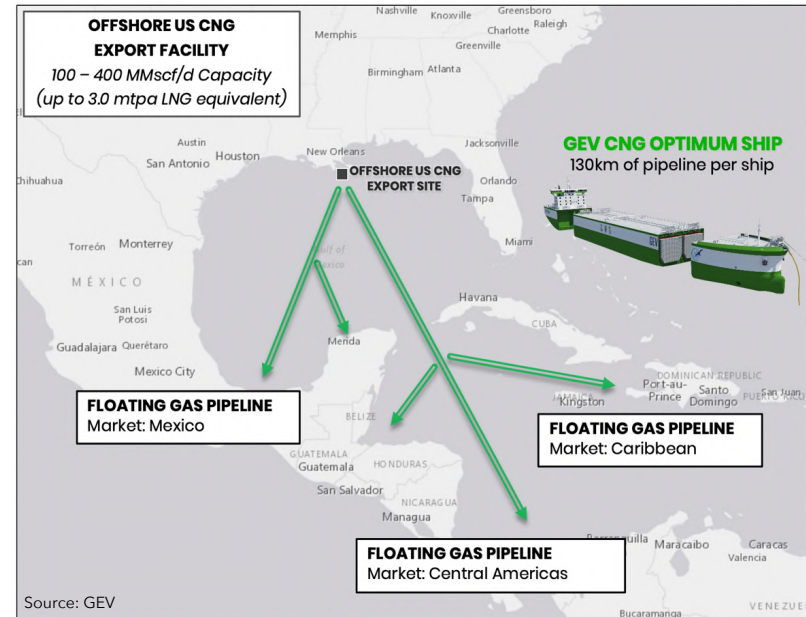
Multiple markets unable to secure gas on commercially viable terms

Multiple markets within economic range for CNG Optimum

Floating regional pipeline solution that scales to match growth in markets

Marine CNG provides small to medium regional gas markets with a commercial options – limited to pipeline or LNG supply

- > Regional markets identified for marine CNG transport need to displace high cost liquid fuels.
- > Compliance with environmental carbon emission targets.
- > CNG export supply chain developed over multiple stages of 100 MMscf/d.
- > Aligns with gas market growth expectations in Mexico, Central America and Caribbean.
- > Multiple markets without pipelines in place or no LNG import facilities.
- > Stage 1 (100 MMscf/d) to be commercially viable as a stand alone development. Avoids large scale volumes required to support LNG development.
- > Discussions underway with multiple locations and parties to secure gas offtake customers for gas volumes between 100 and 400 MMscf/d, for up to a 15 year term.



Hydrogen is now a global mega-trend

Set to become the pillar for decarbonising the world's heavy CO₂ emitters

- › Hydrogen has zero carbon emissions.
- › COVID has delivered significant scale in global stimulus to implement 'zero carbon' road maps removing dependencies on fossil fuels.
- › Governments, corporations and investors committed to 'net-zero targets' and mobilising investment.
- › Falling costs of renewables and hydrogen technologies opening up new hydrogen industries.
- › Hydrogen industry embracing new storage and transport solutions to facilitate export markets.
- › Significant sustainable investment now focussing on early adopters of hydrogen solutions.
- › Huge industry support towards GEV's entrance into sector.
- › GEV well positioned to rapidly deliver a transport solution the market requires.



Why Hydrogen ?

A clean burning fuel that can be produced, stored and utilised in multiple ways



Most common substance in the universe



Produced from many energy sources



No greenhouse gas emissions in use



Can be made cleanly using water



Higher energy density than batteries when compressed



Can be stored as a liquid or gas



Can be stored, transported & exported



No more or less safe than petrol or diesel fuels



Can provide energy to all parts of the economy



Why Now ?

Governments and major corporates agree hydrogen is the key to decarbonisation

September 16, 2020

EC wants EU to cut CO2 emissions 'at least 55%' by 2030, use more hydrogen

October 15, 2020

Japan taps Australia and Brunei for hydrogen import goal

Partnership will help realize Tokyo's annual 300,000-ton target by 2030

September 20, 2020

Hydrogen to follow gas expansion as Morrison bids for net zero emissions

October 5, 2020

Accelerating Transition to Hydrogen Economy

EU, US, China and Japan Scrambling to Secure Supremacy in Hydrogen Economy

April 20, 2020

Asia may draw lessons from Singapore's swift move on hydrogen

September 27, 2020

Germany names hydrogen the hero of its post-coal future

August 25, 2020 | Wood Mackenzie

"On average, green hydrogen production costs will equal fossil fuel-based hydrogen by 2040. In some countries, such as Germany, that arrives by 2030. Given the scale up we've seen so far, the 2020s is likely to be the decade of hydrogen."

September 29, 2020

Shell backs hydrogen and fuel cells to cut shipping's carbon footprint

Energy major lays out its emissions reduction strategy, raising questions over ammonia and parking methanol, batteries and nuclear

October 6, 2020

Road Map to a US Hydrogen Economy formally launched

May 16, 2020

BP Australia study looks to scale up renewable hydrogen for export

November, 28, 2019

Fortescue CEO Gains declares hydrogen export ambitions

"I think we've got absolutely the right credentials to be a major exporter of green hydrogen" - CEO Elizabeth Gains.

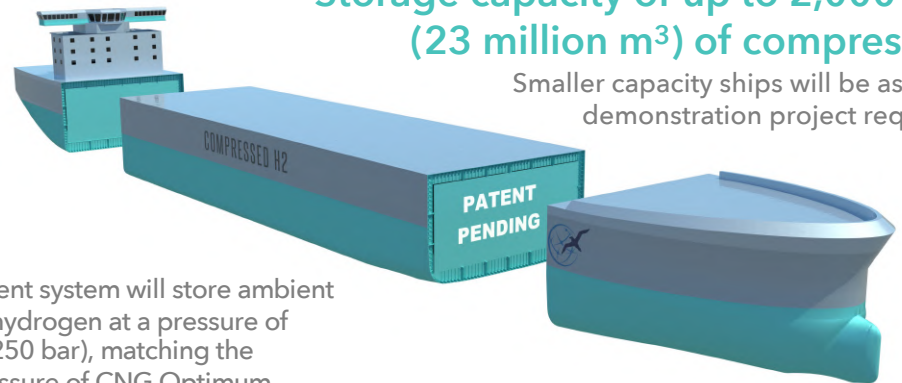
" The shipping industry needs to develop new technologies, fuels and infrastructure for net zero emissions at a pace never previously seen." Shell, Global Head of Shipping & Maritime, 2020.

GEV's first mover hydrogen advantage

World first development utilising compression for large-scale marine transport of hydrogen

- > Leverage in-house technical expertise in the design and approval of marine pressure vessels to accelerate development program.
- > R&D and project funding programs specifically targeting development of Australian technologies to enable export markets are available.
- > With the rapid advancements in both marinized fuel cells and hydrogen internal combustion engines, GEV intends to fuel the vessel with hydrogen, providing a 'zero-carbon' shipping solution.
- > **American Bureau of Shipping and Capilano Maritime engaged to deliver 'Approval in Principle' (AIP) in 1H 2021.**
 - > *Ship outline specification including the cargo containment and midship section*
 - > *Process analysis to load and unload the H2 Ship*
 - > *Preliminary HAZID analysis*
 - > *US Patent application and filing*

Successful delivery of AIP to demonstrate there are no identified showstoppers that would prevent the ultimate classification of the vessel



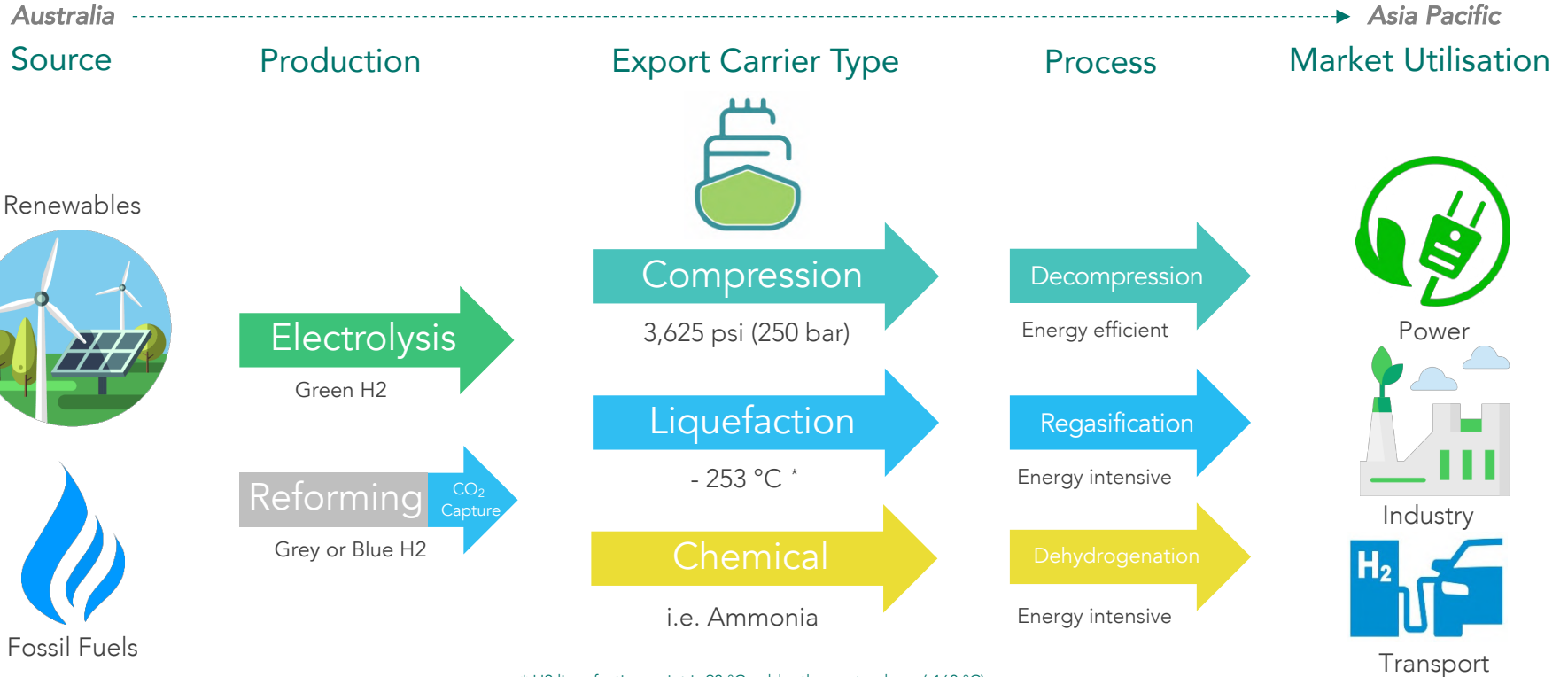
Storage capacity of up to 2,000 tonnes
(23 million m³) of compressed H₂

Smaller capacity ships will be assessed for demonstration project requirements

The containment system will store ambient temperature hydrogen at a pressure of 3,600 psi (or 250 bar), matching the operating pressure of CNG Optimum.

Why Compressed Hydrogen ?

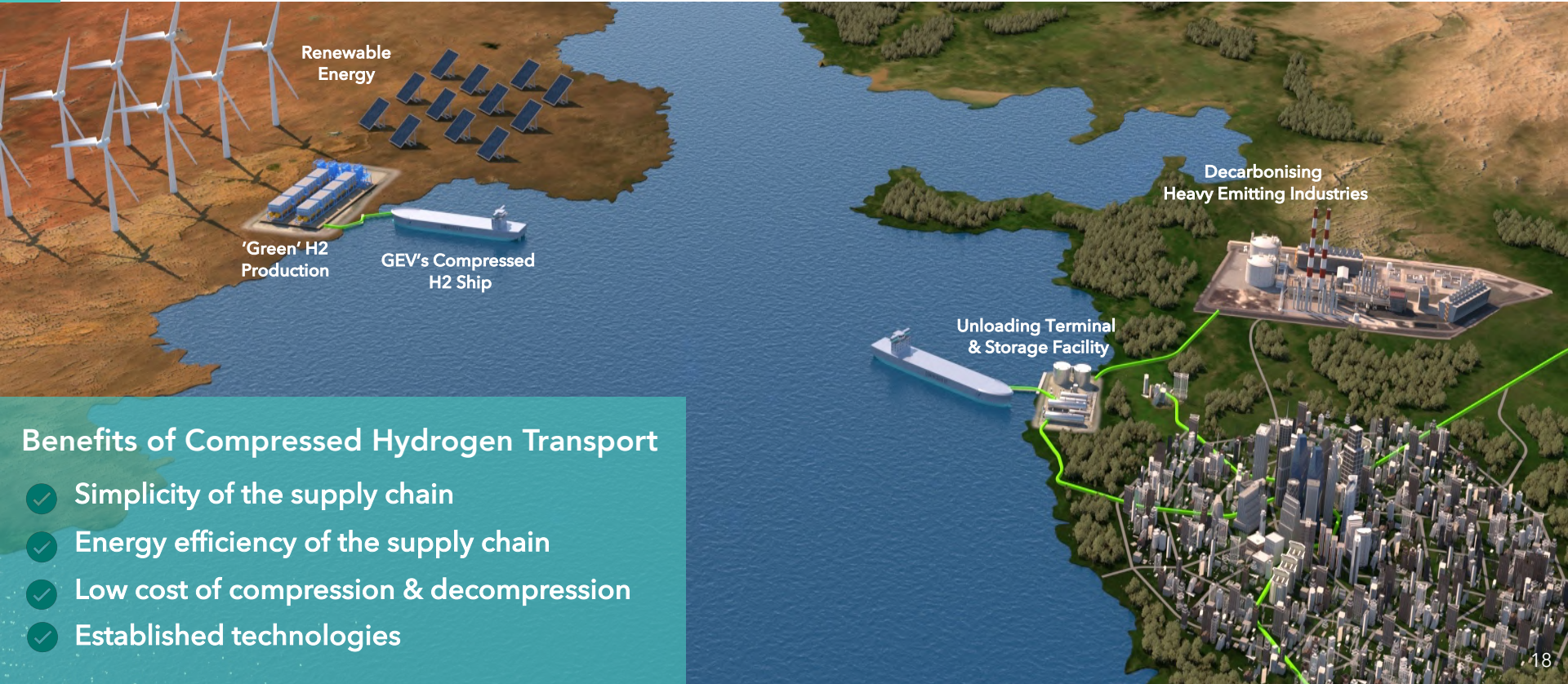
A simple and energy efficient supply chain - ideally suited for regional transportation



* H2 liquefaction point is 93 °C colder than natural gas (-160 °C)

Compressed Hydrogen Supply Chain

Transporting Green H2 from Australia to Asia Pacific region



Benefits of Compressed Hydrogen Transport

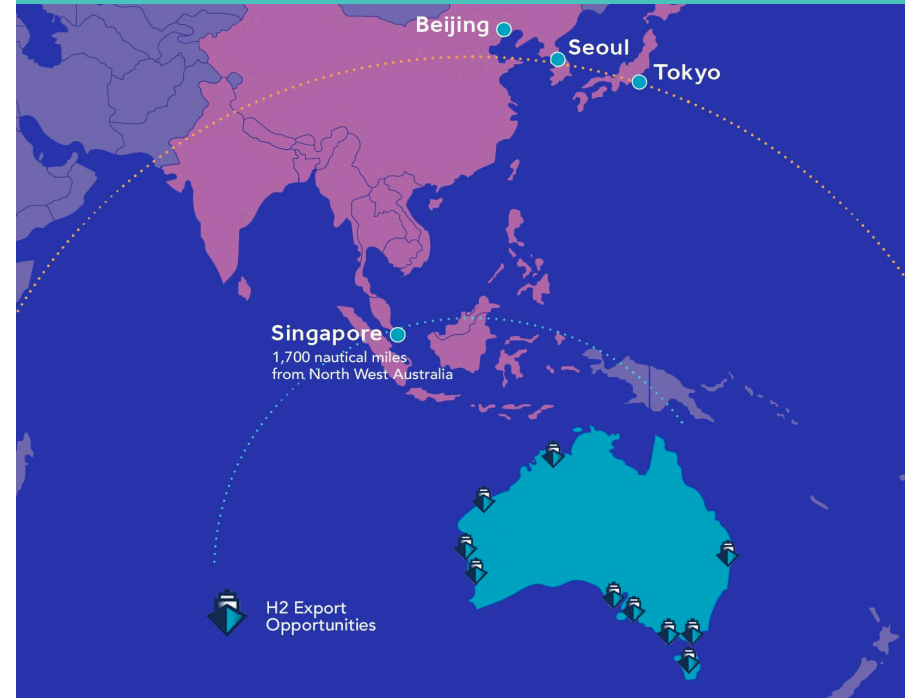
- ✓ Simplicity of the supply chain
- ✓ Energy efficiency of the supply chain
- ✓ Low cost of compression & decompression
- ✓ Established technologies

Why Australia ?

Australia leads the world with a national hydrogen strategy focussed on building hydrogen supply chains, large-scale export infrastructure and future export projects under development

- National Hydrogen Strategy (2019, supported by \$500M funding).
- Track record for developing major energy infrastructure projects.
- Abundance of cheap renewable energy.
- Resources and skills in place to build an economically sustainable domestic and export industry.
- 2019: National strategy to create a H2 industry to ship hydrogen to Asia Pacific customers who are already building a new hydrogen industry to replace natural gas.
- 2020: Long-term funding and policy commitment in place with recently announced \$1.9 billion expenditure for renewable R&D over 10 years.

Multiple hydrogen projects in development within proximity to export markets



Why Hydrogen for GEV ?

First mover advantage in the future of transporting zero-carbon energy



GEV already supports the energy transition with CNG Optimum



Hydrogen extends proprietary marine compression IP



Compression delivers simple and energy efficient solution



Provides zero-carbon transport solution



Initial focus on Australian export projects



Major funding options for R&D



Export markets looking for transport solutions to create scale



Profitable & sustainable business model



Corporate Overview

Capital Structure

Ordinary Shares on Issue (GEV.ASX)	386.7m (75%)
Market Capitalisation at \$0.093/share <small>(6 Nov 2020)</small>	\$36m
Cash Balance (30 Sept 2020)	\$2.5m
Listed Options on Issue (GEVOA.ASX) ¹	96.7m (19%)
Performance Shares ³	14.0m (3%)
Performance Rights ²	16.5m (3%)
Fully Diluted Shares	513.9m (100%)

Shareholder Summary (Undiluted)

Board and Management	17.5%
Institutional & HNW ⁴	~30%
Top 20 shareholders ⁵	41%
Top 50 shareholders ⁵	60%

Notes:

- Listed Options GEVOA, expiry 26 May 2023, exercise \$0.12
- Performance Rights issued to Maurice Brand, Garry Triglavcanin, Paul Garner, Martin Carolan and consultants
- Refer to the 30 June 2020 Annual Report for full details of the Milestone Conditions
- Excludes share held by the Board & Management
- Including shares held by the Board & Management

Board & Management Team



Maurice Brand
Executive Chairman &
Chief Executive Officer
Ownership: 22.3M shares



Garry Triglavcanin
Executive Director &
Chief Development Officer
Ownership: 11.9M shares



Martin Carolan
Executive Director,
Corporate & Finance
Ownership: 10.9M shares



Thomas Soderberg
Non-Executive Director
Ownership: 2M shares



Paul Garner
Non-Executive Director
Ownership: 10.5M shares



John Fitzpatrick
Chief Technical Officer
GEV Canada
Ownership: 0.9M shares



David Stenning
Chief Operating Officer
GEV Canada
Ownership: 0.8M shares



Experienced team in value creation and material ownership of equity aligned with shareholders



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