



# Delfin Midstream

North American LNG export using FLNG

Corporate Presentation – March 2023

**DELFIN**  
Midstream



# Contents

1. Introduction to Delfin Midstream
2. Business Model & Expansion Opportunities
3. Delfin LNG Project
4. FLNG Technology & Operations
5. Outlook

# Delfin Midstream - In brief

## Leading developer of LNG export projects in North America using FLNG

### Leading developer of North America LNG export projects using FLNG technology

- Lower costs & FID thresholds than other US LNG export opportunities
- Experienced management with proven FLNG, FSRU and LNGC track record
- Significantly more commercial and operational flexibility vs land-based projects
- Binding offtake agreements signed for a combined capacity of 2.5 MTPA
- Completed low carbon e-FLNG preFEED and developing other ESG solutions

### Fully permitted and required pipelines and infrastructure in place

- Owner of the 42" UTOS pipeline and access agreement for 42" HIOS pipeline
- Large number of existing underutilized pipeline connections to liquid gas pools in the area
- Non-FTA export licensed from DOE for 13.3 MTPA
- Completed all permitting work with MARAD & USCG
- Newbuild FLNG – FEED completed with Samsung & Black & Veatch and LSTK EPC contract under final negotiations

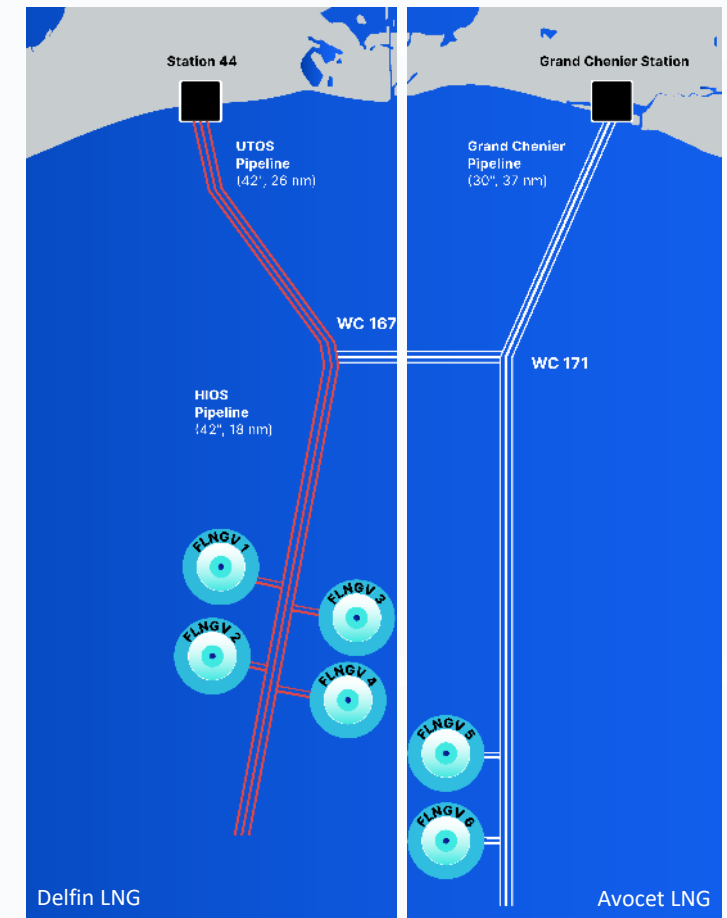
### Low cost, flexible asset allows significantly more commercial flexibility

- Each FLNG vessel can be executed as an independent project
- HH indexed FOB SPAs, tolling, integrated upstream structures (indexed to LNG prices with a cap and floor) and other bankable structures are possible
- Shorter terms possible of 10, 12, 15 years

### Offshore floating project at a dedicated port

- 2-3 times more berth space per unit of production compared to land-based projects
- Allows wider loading windows, flexibility to include small-scale and LNG bunkering, easy port access with low Port fees
- Minimal environmental footprint

## Delfin Midstream - US Gulf LNG export projects



Fully permitted deepwater port with **13.3 MTPA**  
Non-FTA export license capacity (4 FLNG Vessels)

Competitive FID threshold of **2.0 – 2.5 MTPA**  
per FLNG Vessel with full commercial flexibility

Low cost US LNG of **abt. \$720 /tpa**  
reflecting attractive cost advantage compared to most US projects

## Highly experienced team with unique track record

### Bringing the most experienced FLNG players together for a low-cost FLNG



**OSCAR SPIELER – CHAIRMAN**

- Previous CEO of Golar LNG, Frontline and Sea Production
- Board experience from multiple companies within the shipping, drilling, renewables and finance sectors, incl. OMP, Energy Drilling, Jasper Investments, Archer, Avenir LNG, North Atlantic Drilling and Sealift
- M.Sc. in Naval Architecture and Engineering from the Norwegian University of Science and Technology



**DUDLEY POSTON, CEO**

- EVP at Golar LNG from 2010-2018, focusing on the commercial development of Floating Storage and Regasification Units, Floating Liquefaction, and small-scale LNG
- Prior to joining Golar, 16 years of experience in the U.S. natural gas industry as a financial and physical trader for Koch Industries, The Williams Companies, and Citigroup
- B.A. in Government from the University of Texas, M.A. in Economics from The State University of New York, and M.S. in Finance from Texas A&M University



**BRIAN TIENZO, CFO**

- Chief Executive Officer and Group Financing Advisor of Golar LNG Partners and Golar LNG, respectively, from 2017 to 2020
- Chief Financial Officer of Golar LNG Limited from 2011 to 2017
- Led the financing of the world's first converted FLNG (Hilli) and FSRU (Golar Spirit)
- A member of the Association of Certified Chartered Accountants, B.A. in Accounting and Finance from Kingston University, U.K.



**WOUTER PASTOOR, COO**

- Head of Commercial and Director of FLNG Development at Golar from 2014 to 2018, focusing on the Hilli, Fortuna and Tortue projects and leading new FLNG design & business developments
- Prior to joining Golar, 13 years of experience in the LNG industry, primarily focused on technical and commercial development of Floating LNG projects at FLEX LNG, Höegh LNG, BWO and DNV
- Ph.D. and M.Sc. in Naval Architecture and Ship Hydromechanics from the Delft University of Technology in the Netherlands

# Capitalizing on two major industry revolutions

## Delfin is in the front seat of the floating LNG revolution

### Floating LNG revolution



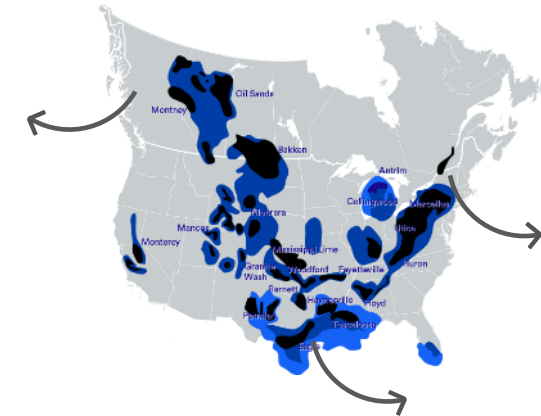
>45 FSRUs have opened up new markets and many new import countries, importing 10-15% of global LNG supply

7 FLNGs in operation or under construction (supplying ~5% of global LNG)

### The combination



### Shale revolution



*The LNG market is stuck with traditional models that do not address the world's demand for **low cost, flexible LNG** to become a preferred fuel-of-choice over coal and liquids*

The **traditional model** is pursuing “economies-of-scale” with major projects of 10+ MTPA requiring many long-term offtake contracts to underpin the financing

The world markets need **low-cost, flexible LNG supply** and has limited capacity to underpin major conventional projects

**The solution:** Standardized floating LNG allows the costs to be 20-40% cheaper with FID thresholds of just 2.0 - 2.5 MTPA

## Commercial momentum drives our path to FID

### Strong partners with extensive experience and track records along the full LNG value chain

July 13, 2022 – Delfin Midstream Signs LNG Sale and Purchase Agreement with Vitol Inc



*Delfin Midstream Inc (“Delfin”) has finalized a binding liquified natural gas (“LNG”) sale and purchase agreement (“SPA”) with Vitol Inc. (“VIC”), the Americas-based affiliate of Vitol, which is the world’s largest independent trader of energy. In addition to the SPA, Vitol has finalized a strategic investment in the company.*

*Under the SPA, Delfin will supply 0.5 million tonnes per annum (“mtpa”) on a free on-board (“FOB”) basis at the Delfin Deepwater Port 40 nautical miles off the coast of Louisiana to VIC for a 15-year period. The SPA is indexed to Henry Hub benchmark. The agreement is valued at approximately \$3 billion in revenue over 15 years.*

Aug 9, 2022 – Centrica signs LNG Heads of Agreement with Delfin



*Centrica plc (“Centrica”) (LSE:CNA) and Delfin Midstream Inc. (“Delfin”) today (Tuesday) announced the signing of a Heads of Agreement to purchase 1.0 million tonnes per annum (MTPA) of Liquefied Natural Gas (“LNG”) for 15-years on a Free on Board (“FOB”) basis at the Delfin Deepwater Port, located 40 nautical miles off the coast of Louisiana.*

*Dudley Poston, CEO of Delfin, stated, “We are very pleased to enter into this agreement with Centrica and continue to rapidly advance Delfin’s position as a leading source of reliable low-cost energy from the safety of the US at compelling prices...As a modular project that can make FID in 3.5 MTPA increments, this agreement materially advances our first vessel’s path towards FID later this year”*

Sept 5, 2022 – Delfin Midstream and Devon Energy Enter into LNG Export Partnership



*Parties agree to strategic Pre-FID Investment by Devon in Delfin and Heads of Agreement representing at least 1.0, and up to 2.0, million tonnes per annum of liquefaction capacity*

*Houston, September 5, 2022 – Delfin Midstream Inc (“Delfin”) and Devon Energy Corporation (NYSE: DVN) (together with certain of its operating subsidiaries, collectively, “Devon”) today announced that they have entered into a liquefied natural gas (LNG) export partnership that includes an executed Heads of Agreement (“HOA”) for long-term liquefaction capacity and a pre-Financial Investment Decision (FID) strategic investment by Devon in Delfin.*

*The HOA provides the framework for finalizing a definitive long-term tolling agreement representing 1.0 million tons per annum (MTPA) of liquefaction capacity in Delfin’s first Floating LNG vessel, with the ability to add an additional 1.0 MTPA in Delfin’s first or a future Floating LNG vessel. In addition to providing Devon up to 2.0 MTPA of total liquefaction capacity on a long-term basis, the HOA also provides opportunity for additional future equity investments in Delfin by Devon. Devon’s 2022 guidance will remain unchanged.*

With fully termed agreements signed and others under negotiation, Delfin is well on its way to **FLNG #1 FID** and has laid the foundation for **FLNG #2 FID**

# Delfin LNG highlights

## Technical, Commercial and Financing workstreams on track for an FID in Q2 2023 on FLNG #1

Leading developer of FLNG vessels with key elements in place as the best option for near-term FID



- Critical infrastructure within the LNG value chain supported by barriers to entry
- Best-in-class management team with proven execution and operational experience

Low cost, floating asset allows significantly more commercial flexibility



- Flexible asset, which can be re-deployed (facilitate shorter contracts, asset intrinsic value)
- Each FLNG Vessel can make FID independently, with its own financing and commercial contracts
- Deepwater port complex created by multiple FLNG assets enhances commercial flexibility

Long-term offtake contracts and HOAs signed and in place



- 10-20 year commercial arrangements
- First offtake contracts announced with Vitol, 2 HOAs executed, and further detailed offtake discussions with multiple buyers (IOC, portfolio, Traders, Utilities, Producers)
- Attractive profile of fixed revenue with upside sharing mechanisms to enhance equity return

Delfin owns required pipelines and access to additional infrastructure



- Owner of the UTOS offshore pipeline and access agreement for HIOS pipeline with capacity to accommodate feedgas for all 4 FLNG vessels
- Large number of existing underutilized pipeline connections to liquid gas pools in the area
- Precedent agreements and commercial terms negotiated for gas transport capacity to Station 44

Fully permitted by relevant industry and government bodies



- Export licensed from DOE for 13.3 MTPA output capacity supporting up to 4 FLNG vessels
- Permits in place with MARAD and U.S. Coast Guard to operate as a deepwater port
- FEED completed for newbuild FLNG with Samsung Heavy Industries and Black & Veatch with LSTK EPC under final negotiations

Well-positioned to capture industry tailwinds with increased emphasis on energy transition and independence



- LNG is set to play a critical role in the energy transition, reducing carbon intensity & improving air quality
- Recent geopolitical developments have prompted a shift towards energy independence and have strengthened medium term market economics for U.S. LNG exports



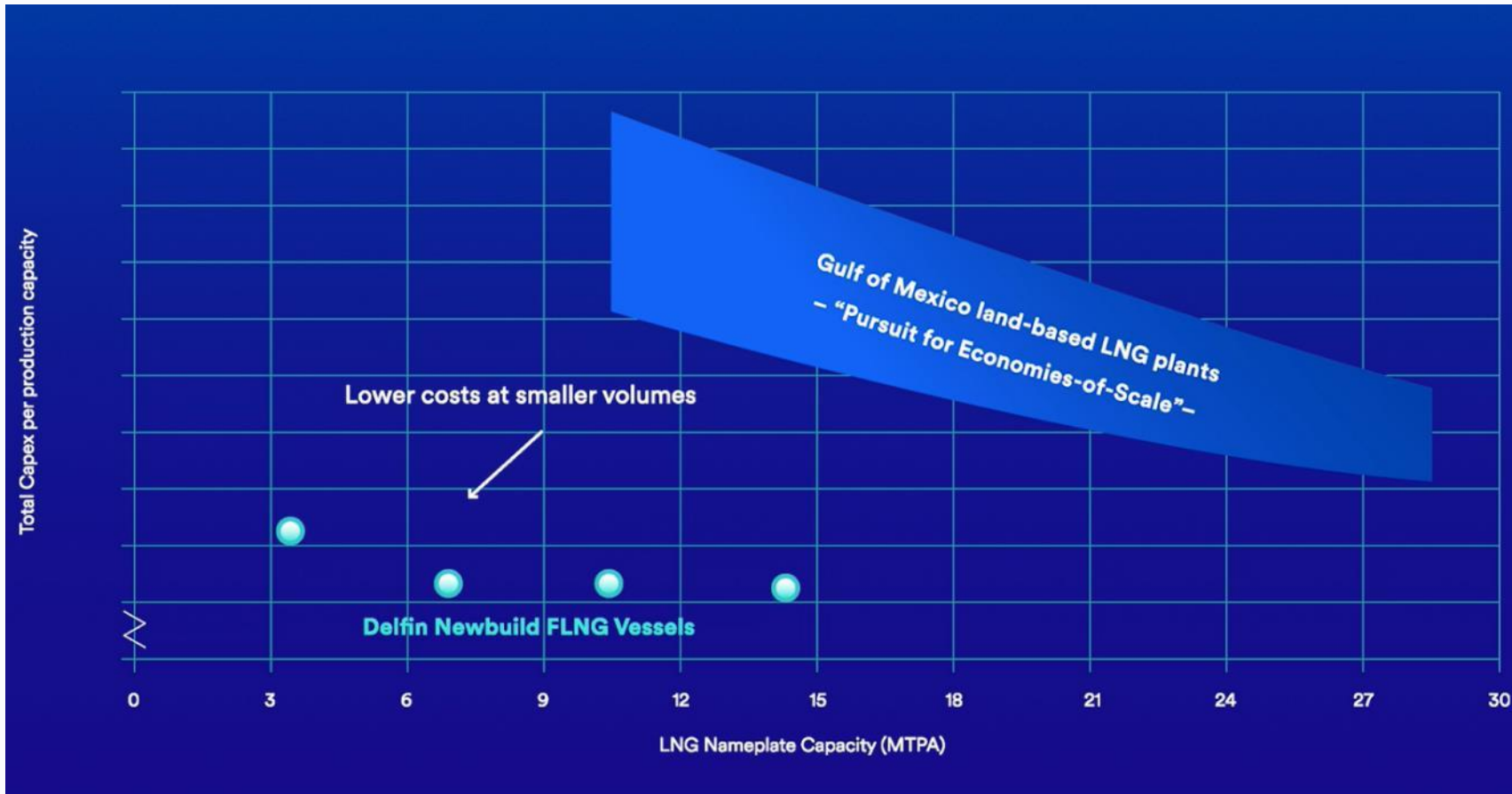
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# The most competitive North American LNG

Lower cost at smaller FID threshold enhances commercial viability

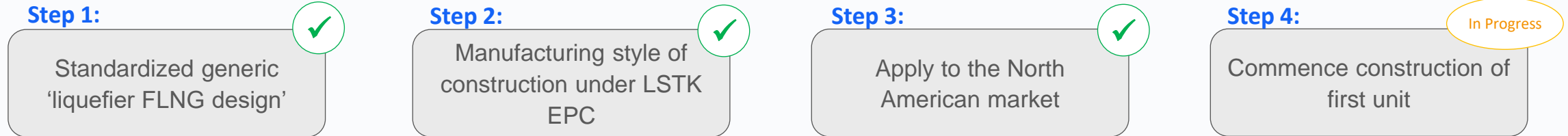


## Material cost saving factors

- Utilizing existing pipelines
- No need for new onshore pipelines
- Low-cost Asian labor
- Standardization of generic liquefier FLNG technology
- Manufacturing-like construction process in shipyard
- Construction at existing yard which eliminates investments on sites and utilities to enable plant fabrication
- LNG offloading is done in a side-by-side configuration, which eliminates the need for long cryogenic pipelines and marine infrastructure (the LNGC berth is an integral part of the FLNG)

## Liquefier FLNG + North America = “Win – Win”

North American application of Liquefiers enables the construction of multiple FLNGs based on the same design

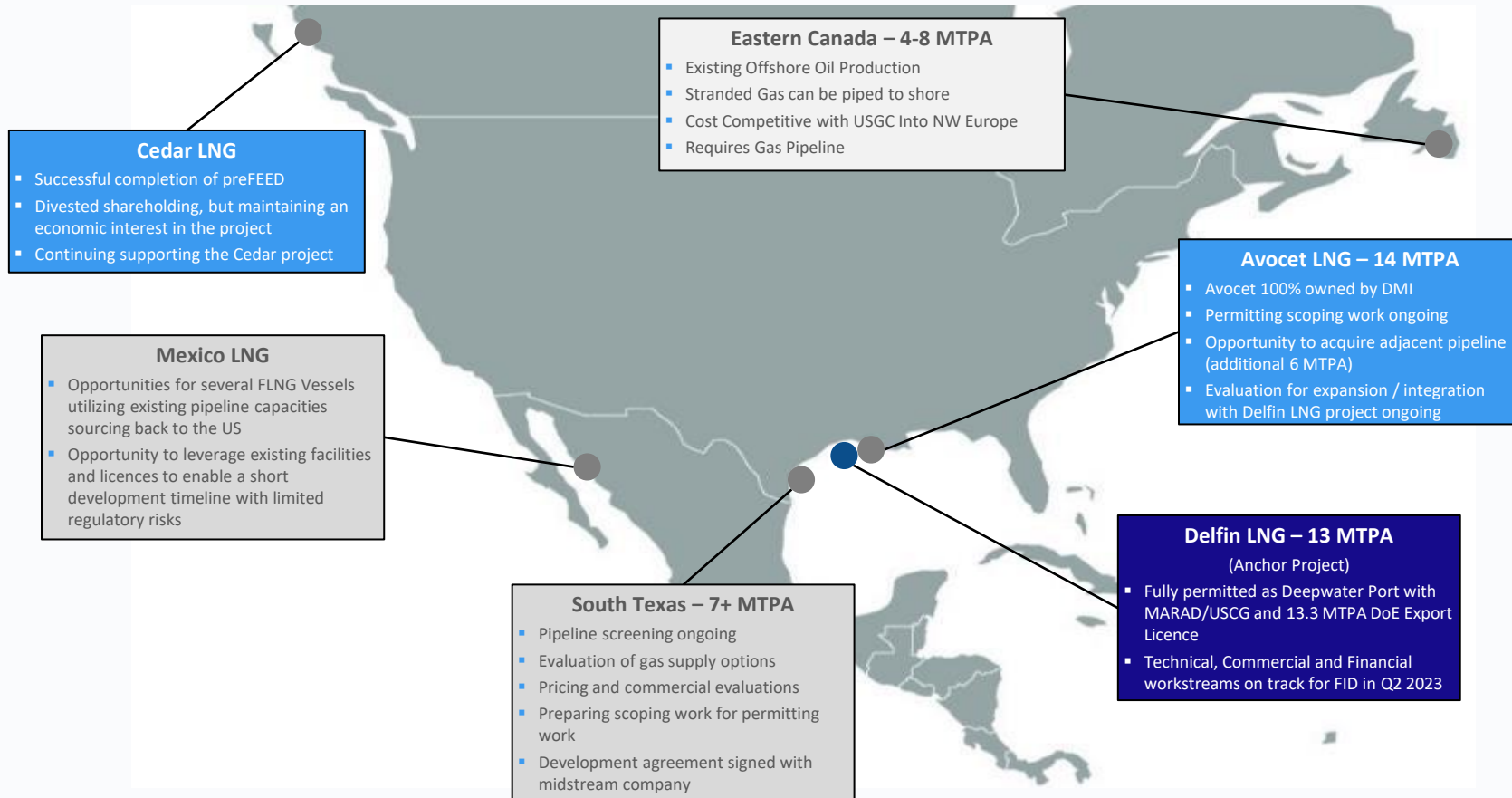


### Key benefits to Delfin's FLNG strategy:

- A. Lower cost & low complexity FLNG design**
  - Standardised FLNG solutions allows costs to be 20-40% below traditional production units, with FID rates of 2.0-2.5 MTPA
  - Each FLNG Vessel can make FID independently, with its own financing and commercial contracts
- B. Lower financing costs (infrastructure not upstream/country risk)**
  - Off-take agreements will be structured to sufficiently cover debt servicing obligations
  - Standardized unit, not bespoke to individual gas fields giving additional flexibility
- C. No upstream risks**
  - Vessel is a processing facility for known gas deposits, no exploration risk involved
- D. Limited country / political risks**
  - Flexible asset, which can be redeployed across geographies
  - The FLNGs can move through their own propulsion if needed
- E. Abundant, low-cost gas with standardized pipeline quality specs**
  - Owner of the offshore pipelines and access agreements to additional pipelines
  - Large number of existing underutilized pipeline connections to liquid gas pools in the area

# Attractive expansion opportunities

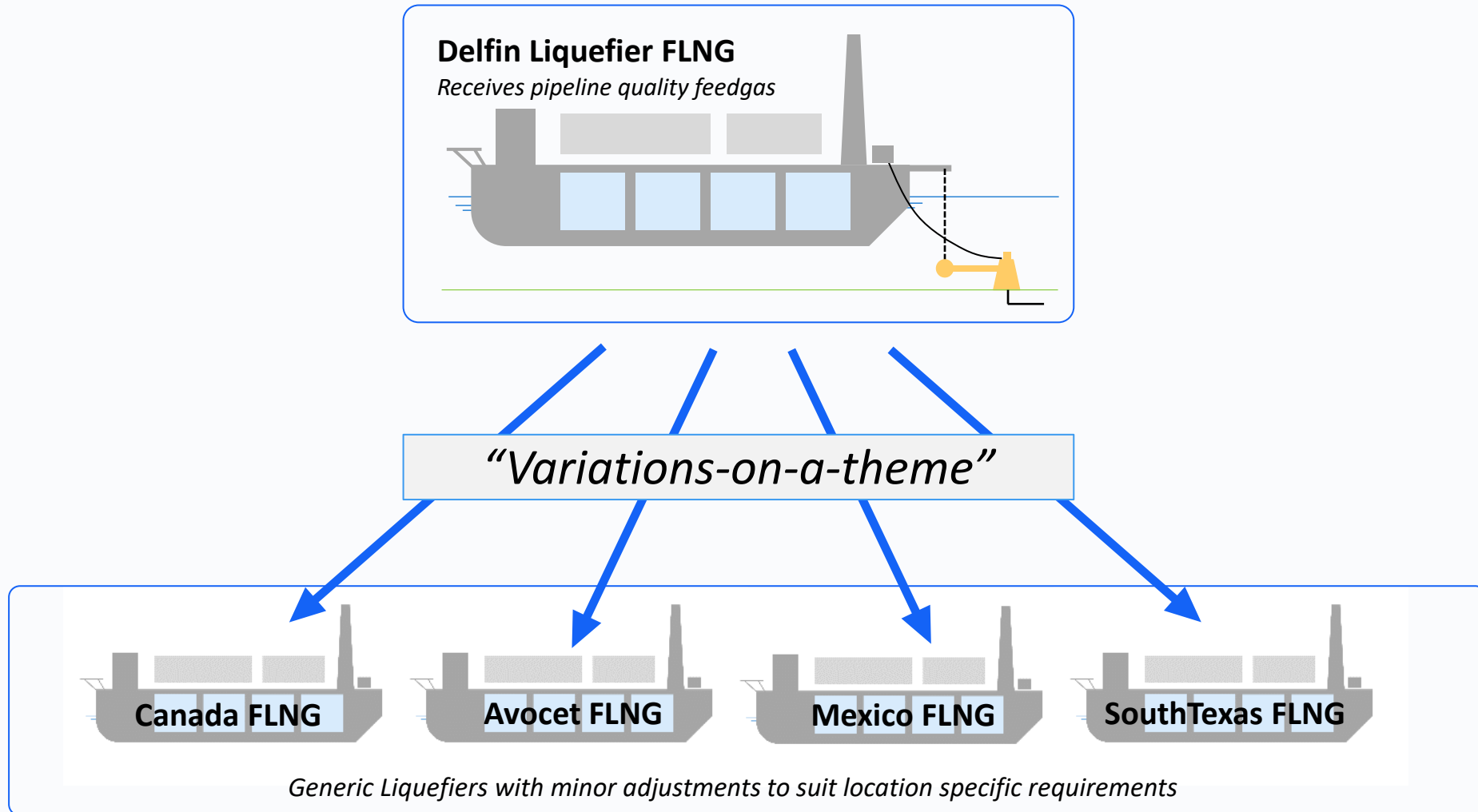
## Multiple options for liquefaction expansion beyond the Delfin FLNG Vessels



**Delfin Midstream has identified over 40 MTPA of liquefaction opportunities that have access to operating or post-FID pipelines. All locations can use Delfin’s FLNG technology**

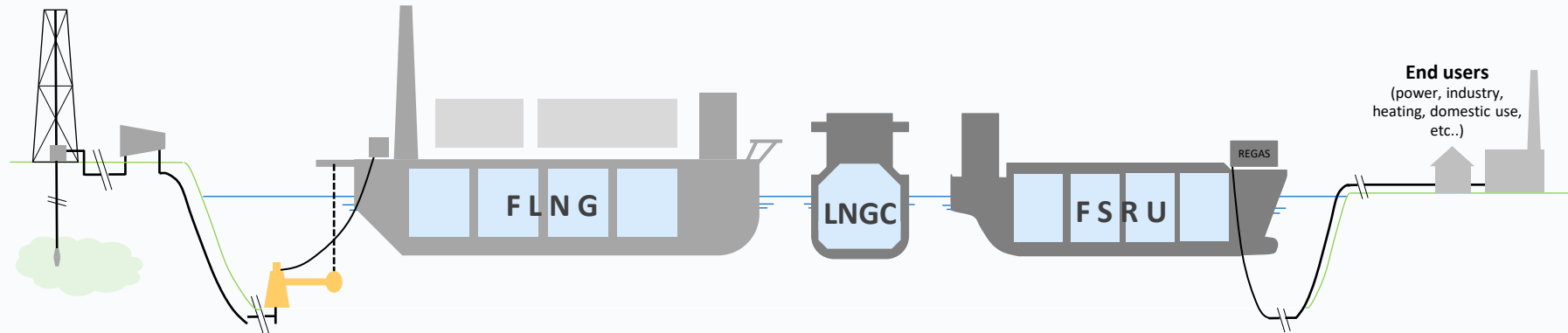
## Leveraging standardized FLNG technology

The Delfin FLNG Technology is a generic Liquefier for use across North America



# A differentiated business model

## Opportunities for co-ownership, participation and local contents



Upstream supply & transportation	Pipeline	Liquefaction – Construction, Ownership, O&M	Offtake	(Floating) regasification / end users
<ul style="list-style-type: none"> <li>Option to produce/procure North American shale gas as feed gas supply for liquefaction onboard the FLNGV (=integrated project)</li> </ul>	<ul style="list-style-type: none"> <li>Option to produce/procure North American shale gas as feed gas supply for liquefaction onboard the FLNGV (=integrated project)</li> </ul>	<ul style="list-style-type: none"> <li>Co-ownership in FLNG Vessel</li> <li>O&amp;M development and participation</li> <li>Local fabrication and construction of parts of the FLNG scope as subcontractor to main EPC contractor</li> </ul>	<ul style="list-style-type: none"> <li>LNG Offtake (DES / FOB / Tolling)</li> <li>Shipping</li> <li>Commercial /logistics optimisation</li> </ul>	<ul style="list-style-type: none"> <li>Refurbishment and conversion of LNGC into FSRU</li> <li>Fabrication of mooring components</li> <li>Co-ownership and operations</li> </ul>

Participation options throughout the value chain for LNG Buyers, Strategic Investors or other Key Stakeholders (yards, financiers) in an LNG value chain development



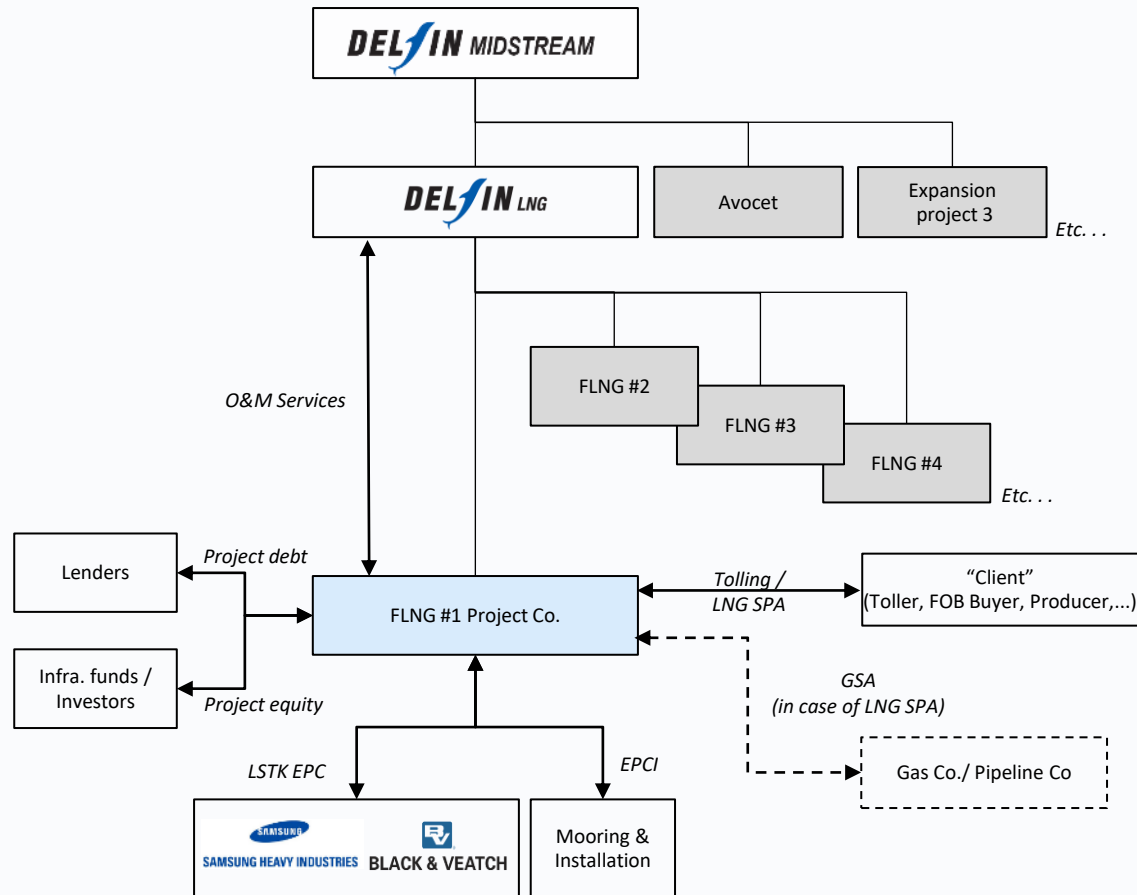
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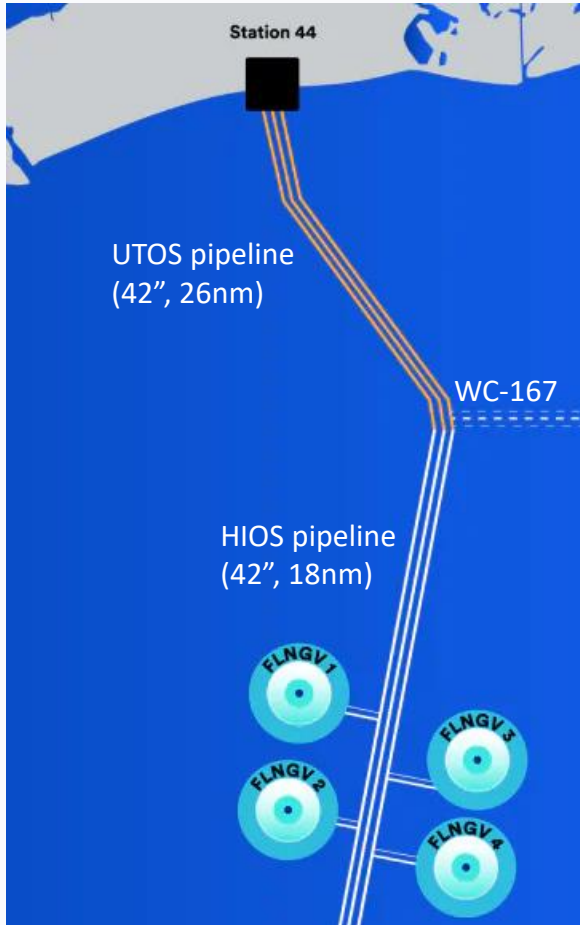
# Delfin LNG project overview

Each vessel will have its own commercial & financial structure and its own FID

## Indicative Project and Contracting Structure



## Project Infrastructure

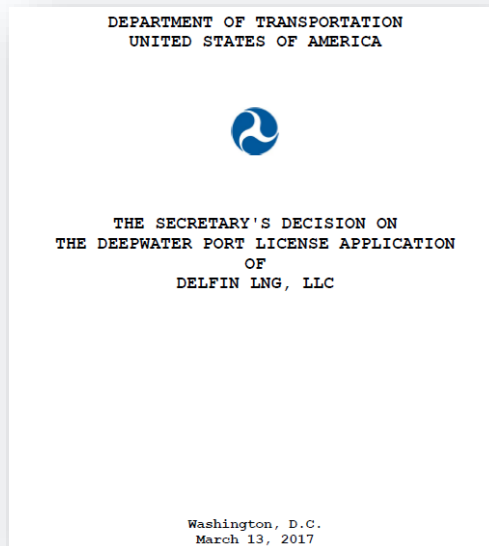


# Delfin LNG is regulated by the Deepwater Port Act

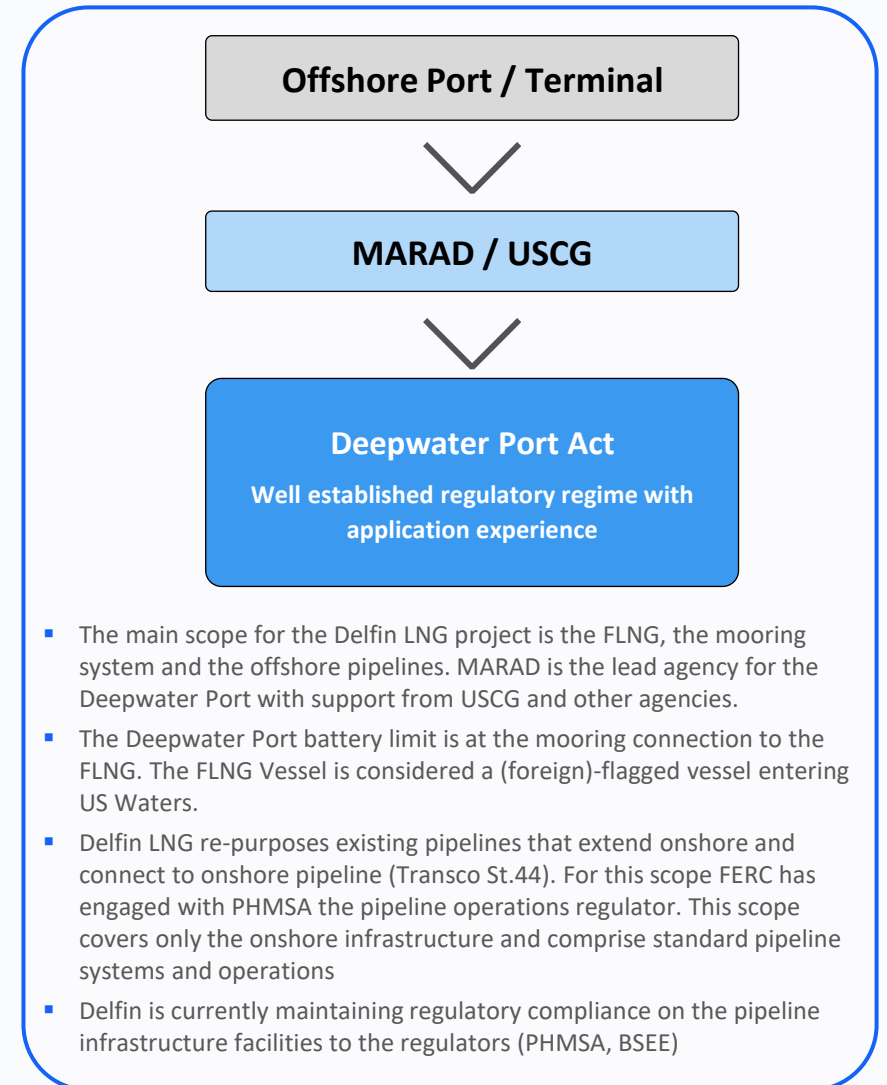
## Delfin successfully permitted the first FLNG project in North America

### Key Milestones achieved

- Receipt of Record of Decision (“ROD”) from MARAD
  - The ROD authorizes the issuance of a Deepwater Port License subject to Delfin demonstrating the financial capacity to construct and operate the port and maintain compliance with the basis and conditions for the permitting (as listed in the ROD)
  - Delfin is diligently working towards (A) the receipt of the Deepwater License, (B) maintain general regulatory compliance and (C) prepare for the necessary supplemental construction and operating permits in the ordinary course
- DOE approval to export gas to Non-Free Trade Agreement (“FTA”) countries for up to 13.3 MTPA until 2050
- FERC Certificate received for land-based infrastructure
- The ROD was issued after completion of permitting work (incl. receipt of final FEIS) and in cooperation with numerous agents, a.o. MARAD, USCG, LDNR, LDEQ, USACE, EPA, etc.



*The Record Of Decision is the main approval for Delfin LNG to construct and operate the Delfin LNG project and is publicly available*

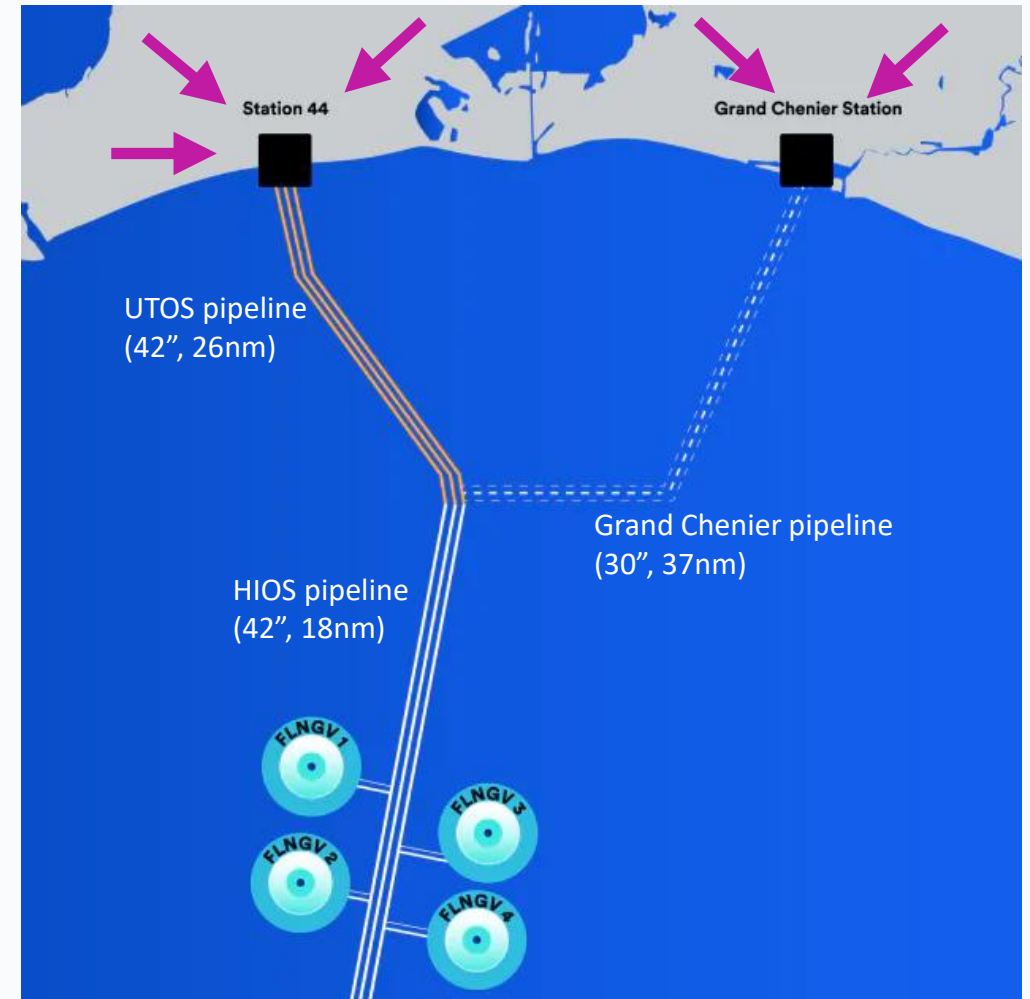




## No need to build new onshore pipelines

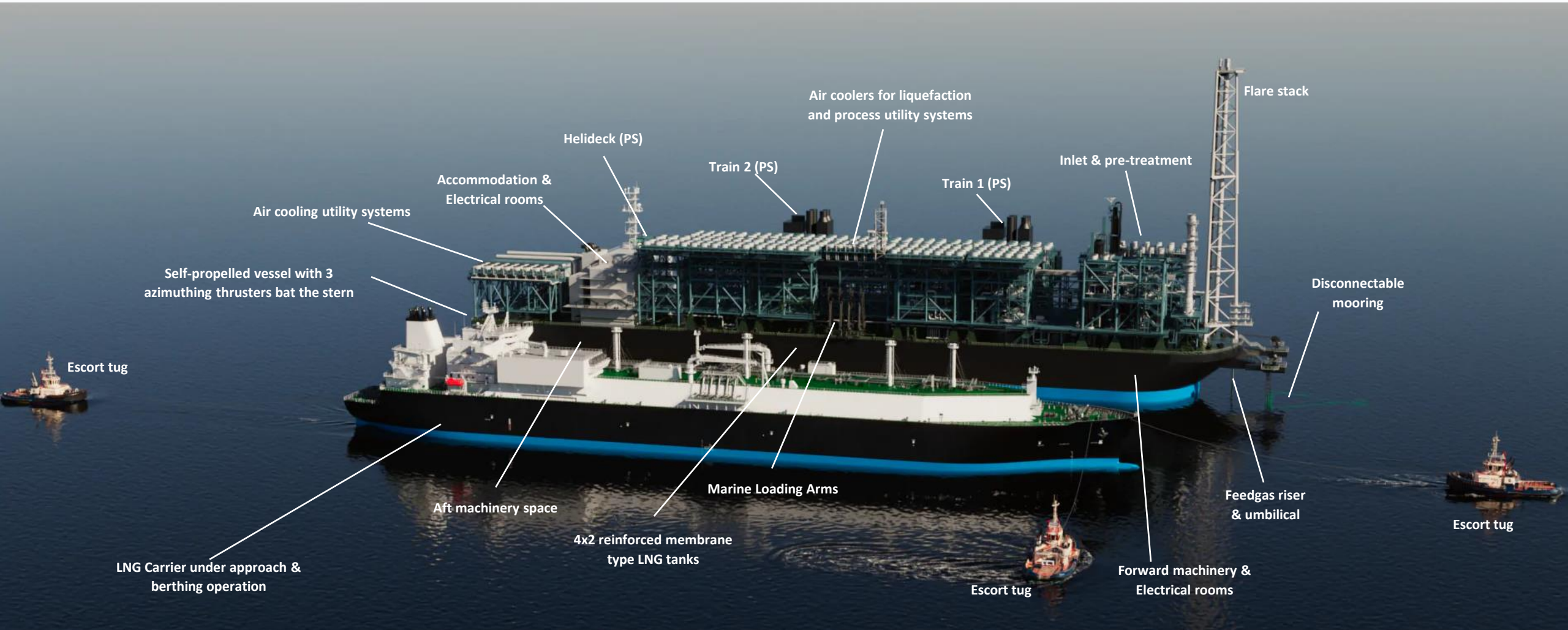
### Detailed negotiations with several major midstream companies to service the first FLNG Vessels

- Multiple options have been identified allowing Delfin to secure pipeline capacity for the Delfin FLNG vessels
- Pipeline capacities can be increased by adding compression and/or reversals. No new onshore pipelines are required for the first FLNG Vessels
- Detailed discussions with several pipeline companies to access volumes from multiple basins – Haynesville, Marcellus, Barnett and Permian
- Given the smaller capacity needed per FLNG vessel FID there is ample opportunity to utilize existing underutilized pipelines
- Additional expansions can be created by looping additional pipe
- Off-takers may prefer accessing their own gas or gas can be provided by Delfin or a 3<sup>rd</sup> party trader
- As a future option the Grand Chenier pipeline may be included in the Delfin Deepwater port subject to regulatory approvals



# Delfin FLNG vessel – General design and arrangement

Lowest cost LNG - Smallest FID threshold - Maximum commercial flexibility



# Unique environmental characteristics

## A compact, efficient solution lowers the environmental footprint

### Leveraging Existing Infrastructure

- Re-purposing of existing offshore and onshore pipelines, facilities & infrastructure
- No need for new onshore pipelines for the first FLNG Vessels as existing offshore pipelines tie into multiple onshore pipeline systems
- FLNG vessel may be a conversion of an existing LNG carrier (re-purposing of vintage LNGC)

### Minimal Environmental Impact

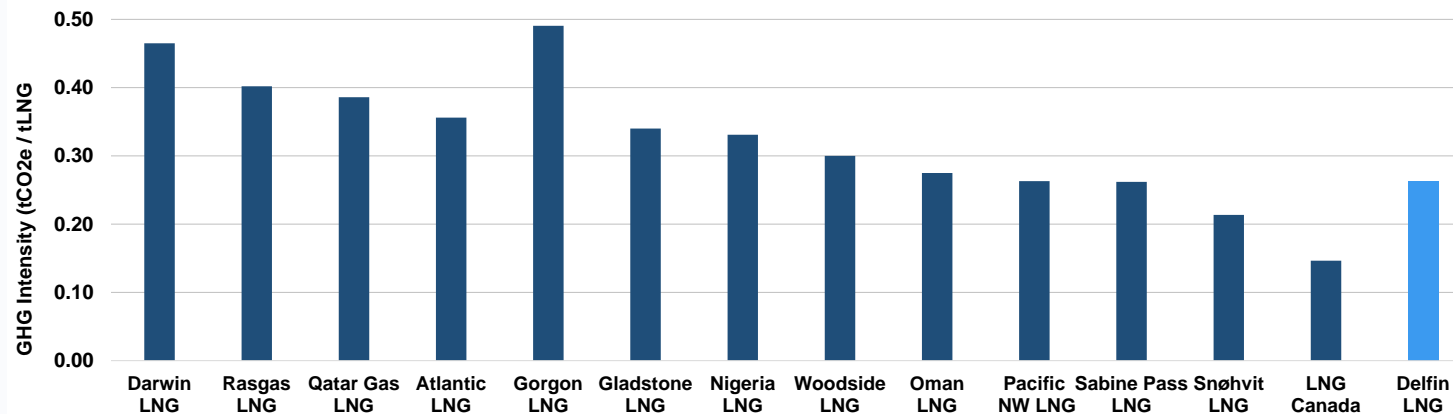
- No seawater usage for cooling - Air cooling of liquefaction, process and utility services onboard
- Maximum efficiency of process and power generation systems to limit emissions
- Minimal intrusion in landscape and seabed, efficient decommissioning and abandonment at end-of-life

### Compact Design

- Integrated berth for LNG carriers – no need for long cryogenic pipelines and dedicated marine berth infrastructure
- Minimal use of structures, piping, goods and materials
- Minimal piping, flanging etc. to minimize methane leaks

### Offshore

- No impact on congested ports, inland waterways and ship channels and no risk to the public - Not visible from shore
- Efficient marine operations for visiting LNG carriers to save fuel, maximize uptime and eliminate risks to the public and environment
- Promotion of LNG bunkering & LNG as a marine fuel



### Delfin FLNG - GHG Efficiency

Efficient, optimized PRICO® liquefaction

Direct Air Cooling

Inlet Air Chilling (IAC) for maximum production and efficiency

Waste-heat recovery for process heating and main power generation

Supplemental power by efficient DF generators

No venting and flaring in normal operation

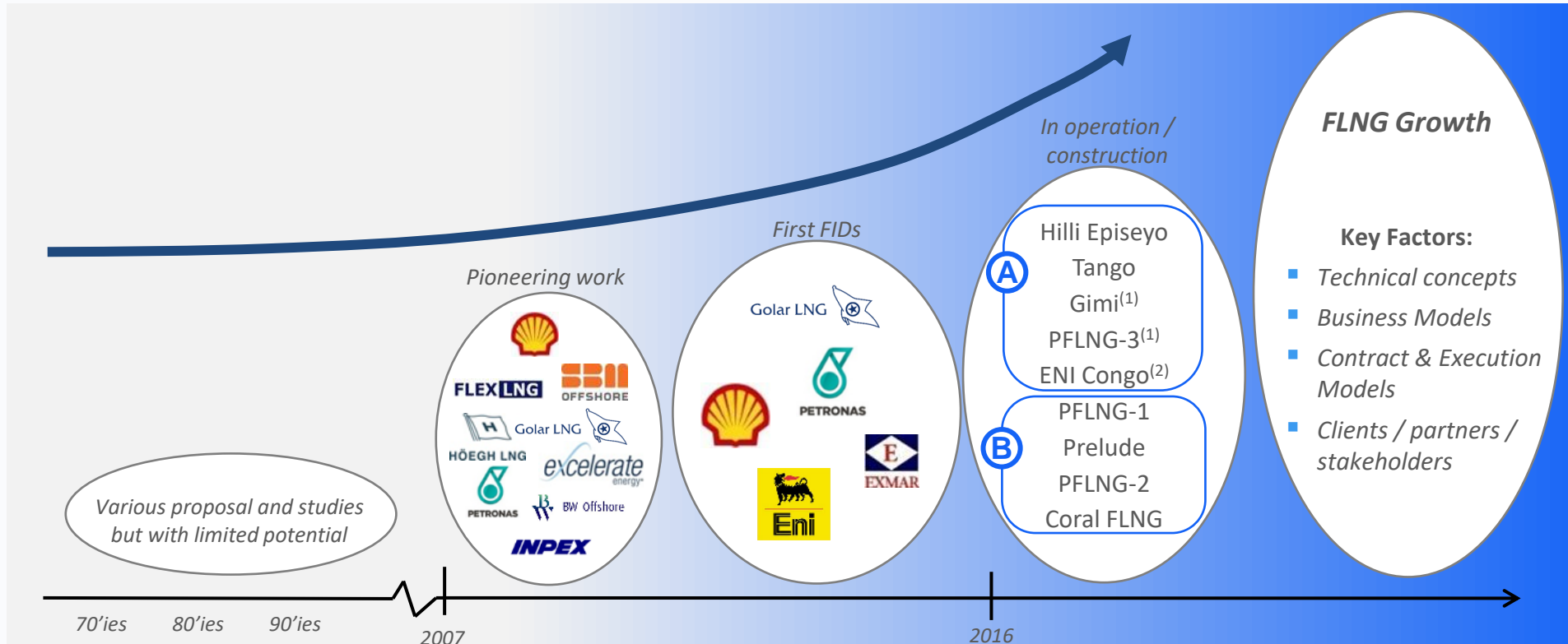


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# FLNG history outlook

The original business model has developed in two main FLNG Concepts



Original business model  
**“Monetization of stranded reserves”**  
 The technology:  
**LNG FPSO**



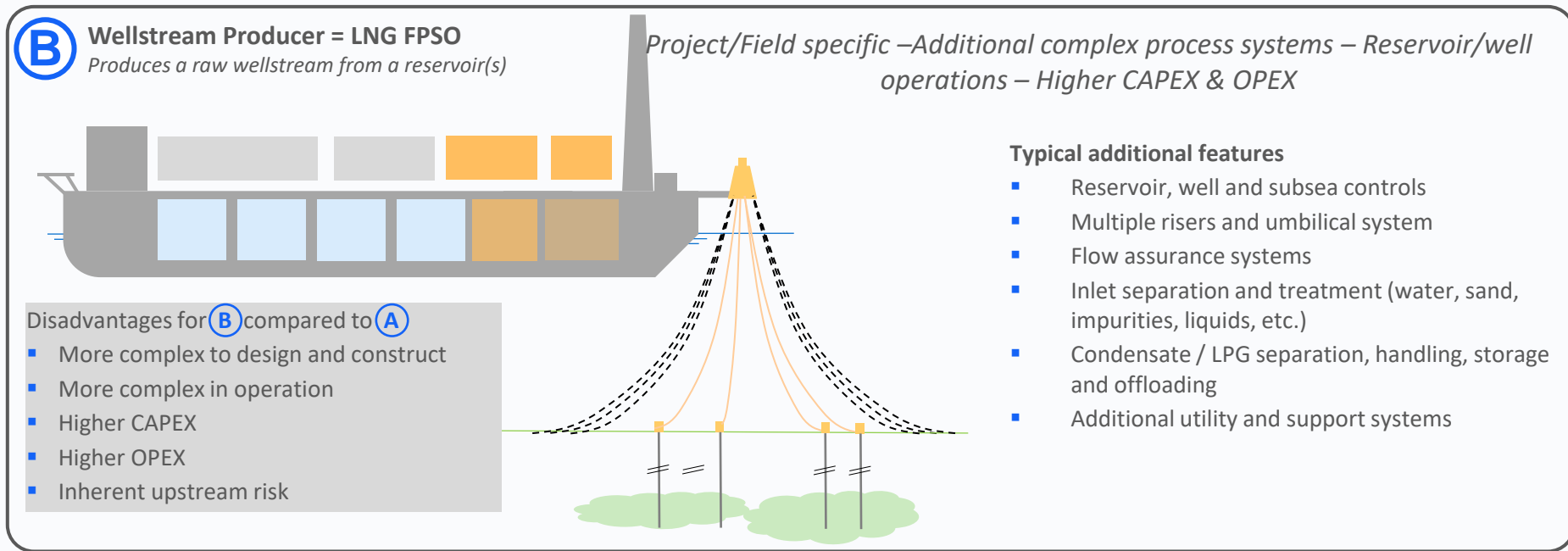
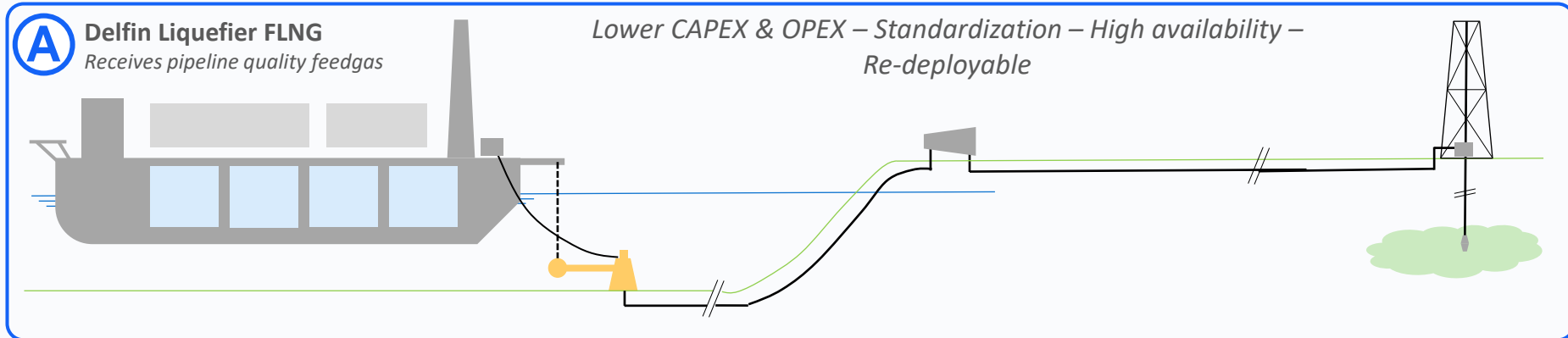
15 years later: 2 types of FLNG

**(A)** Liquefier FLNG

**(B)** LNG FPSO

# “Liquefier” versus “Wellstream Producer”

Reduced technical complexity enhances the commercial viability of Liquefier projects



## Industry leading contractors

Bringing the most experienced FLNG players together for a low-cost FLNG



### SAMSUNG HEAVY INDUSTRIES

- World's first Lump Sum Turn-Key EPCIC for FLNG developed by FLEX LNG with Samsung Heavy Industries in 2008
- Successful construction of newbuild FLNGs (Prelude, PFLNG-2, Coral FLNG)
- Successfully won a 3<sup>rd</sup> FLNG for Petronas (Z-FLNG)

*Prelude*

*PFLNG-2*

*Coral FLNG*

*PFLNG-3*



### BLACK & VEATCH

- World's first conversion FLNG executed and successful in operation (Golar's Hilli) with Black&Veatch topside design and PRICO liquefaction technology
- Process and topside contractor for Exmar FLNG and FLNG Gimi

*Hilli Episeyo*

*Tango*

*Gimi*

**Delfin has cooperated with Samsung Heavy Industries and Black & Veatch to leverage and combine 3 main aspects:**

- The efficient, simplified, low-cost and offshore-proven liquefaction technology from B&V
- Low-cost, highly quality construction and manufacturing skills of SHI
- Standardization of generic liquefier design to enable a low-cost LSTK EPC structure

## Leveraging from the PRICO® FLNG successes

While designed on a floating facility, the process design and equipment is not different from onshore plants

### Why PRICO® Single Mixed Refrigerant (SMR)

- Well proven on onshore and floating applications
- Simple in operation (starting, stopping, re-starting, turn-down)
- Well managed technical risks
- Applied over a broad range of capacities & gas compositions
- Heavies removal integrated in the process
- One train = one module concept
- A compact system allows a ideal layout optimized with hull sizing
- Low topsides weight
- Considers environmental impact with air cooling and eliminating emission issues
- Marinized technology
- Excellent track record for Performance Acceptance Tests demonstrating Guaranteed Production and reliable offshore production

*Tango FLNG barge  
ENI Congo  
(relocating)*

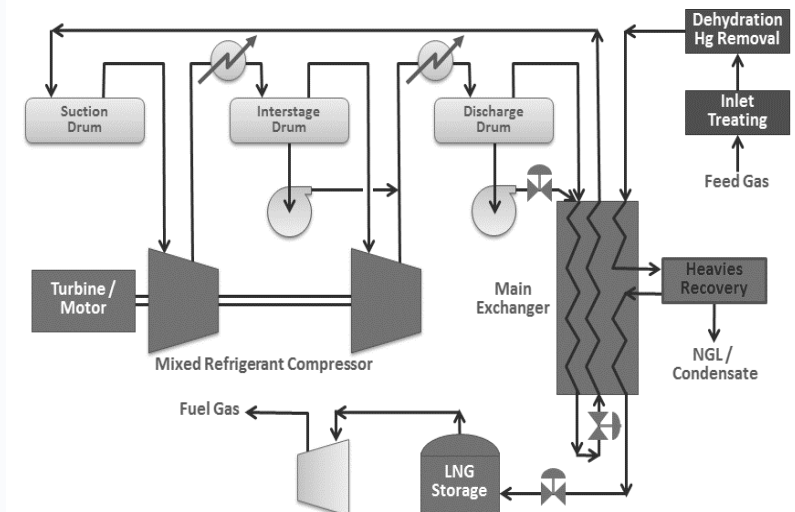
*Golar Hilli Episeyo  
Cameroon  
(in operation)*

*BPK / Golar Gimi  
Mauritania/Senegal  
(under construction)*

### Proven for Offshore FLNG applications

- Proven offshore with low costs
- Proven offshore with very high availability
- Proven offshore with competitive execution schedule
- Proven offshore with highly competitive efficiency
- Proven offshore with short commissioning period
- Proven offshore for small footprint applications

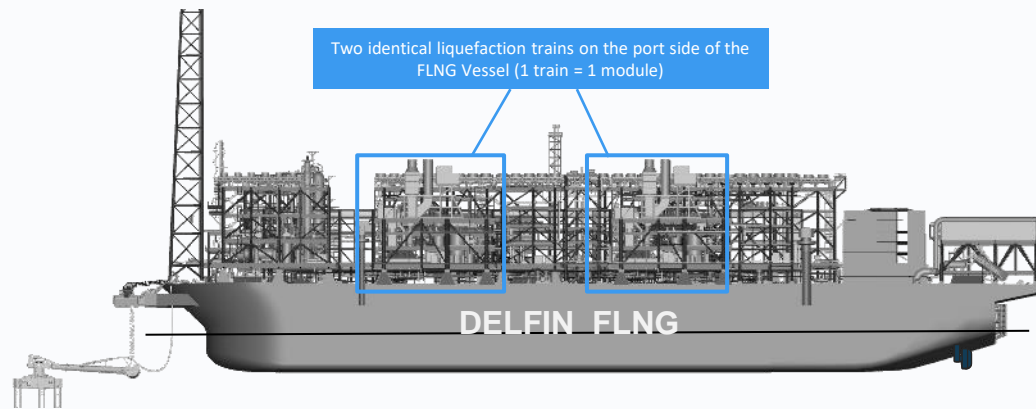
### PRICO® LNG PROCESS





## Maximum production performance & efficiency

### A “combined-cycle” configuration enhances performance and reduces emissions

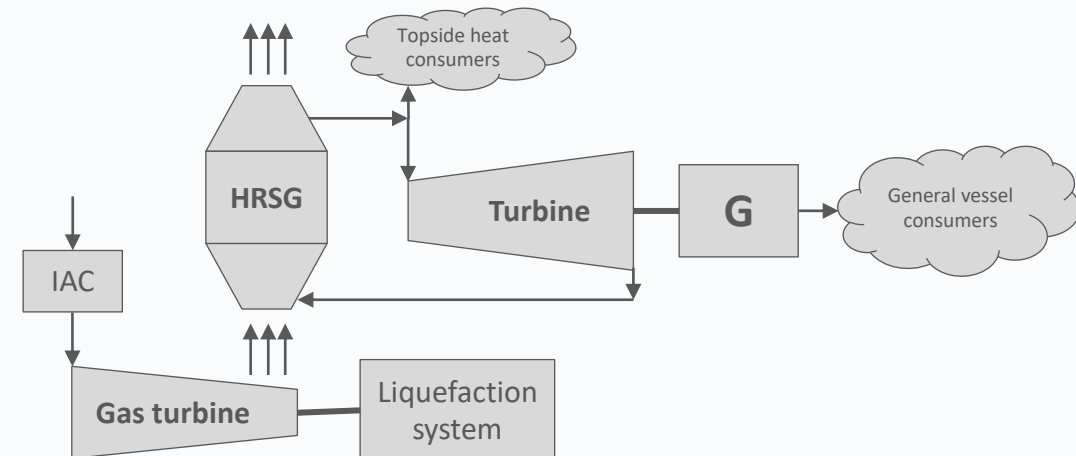


- Guaranteed production of >3.5 MTPA (365 days x 24 hrs, stored in tank)
- High availability and reliability by simplified design, selection of proven equipment and dedicated sparing design
- Selection of latest gas turbine design providing extra power, better efficiency and enhanced waste-heat recovery, further enhanced by Inlet Air Chilling
- Integrated Heavy Hydro Carbon removal and fuel use
- Robust design capable to process a wide feedgas spectrum

#### Best Available Technologies (BAT) selected and integrated to maximize performance and minimize fuel use and emissions

- Offshore proven and efficient PRICO® Single-Mixed Refrigerant liquefaction technology
- Lifecycle cost and efficiency optimized design
- Mechanical drive of the refrigerant compressors by aero-derivative gas turbines
- Inlet air chilling of the gas turbines to maximise the power output
- Waste-heat recovery from the gas turbine exhausts is used to provide process heating and to produce power for topsides and hull consumers
- Direct air cooling of mixed refrigerant increases production efficiency compared to a seawater-fresh-water cooling system
- Efficient 4-stroke DF engines for supplemental power

#### Direct-driven liquefaction and maximum waste-heat recovery

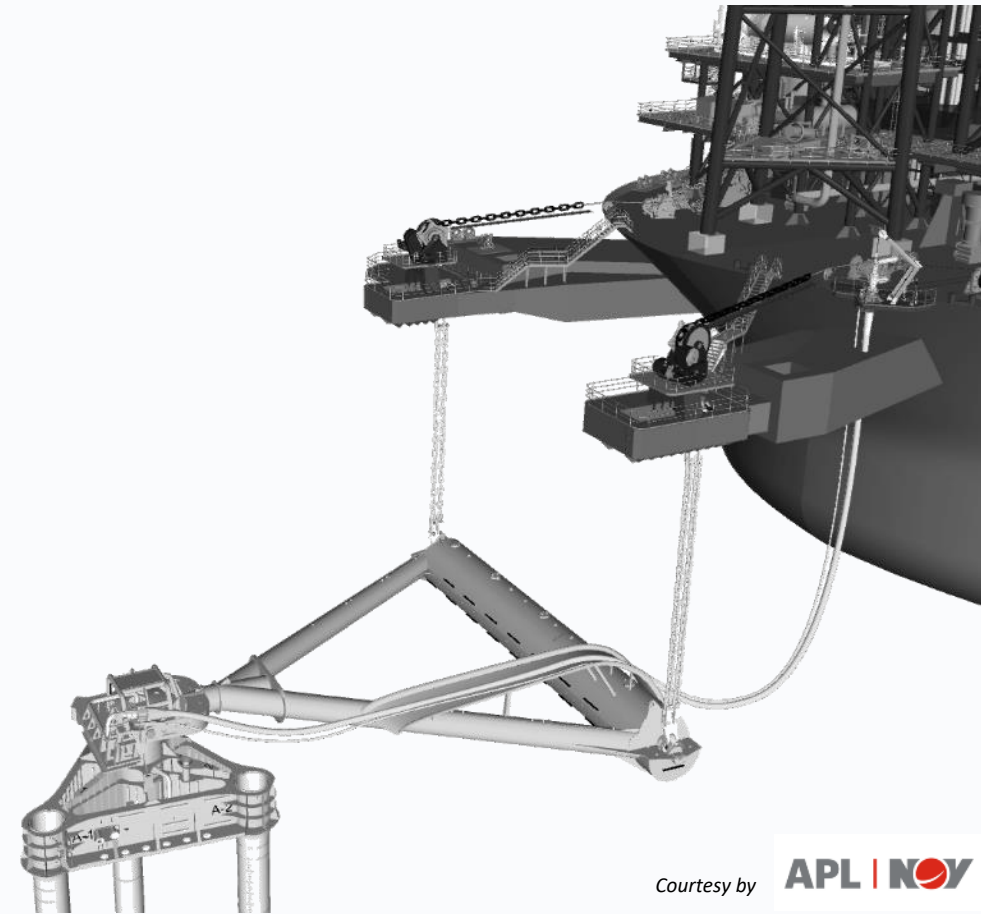


## Weathervaning disconnectable mooring design

With only a single pipeline gas supply a Submerged Soft Yoke system offers a robust and cost-efficient solution

### Key particulars and features of the mooring design

- A Submerged Soft Yoke configuration identified as the preferred concept
- A weathervaning concept improves operations, and combined with heading-control using thrusters enables enhanced operations and availability
- Mooring design developed for disconnectable functionality
- Mooring design in accordance with Class and US regulatory requirements
- Shipboard equipment designed and dimensioned
- Layout and interface design aligned with hull and topsides and upstream pipeline
- Procedures and key criteria developed for disconnection and reconnection to design for hurricane scenarios
- Competitive tender between suppliers with supplier selection concurrent with execution commencement of the FLNG at the shipyard to ensure interface alignments



Courtesy by **APL | NOV**

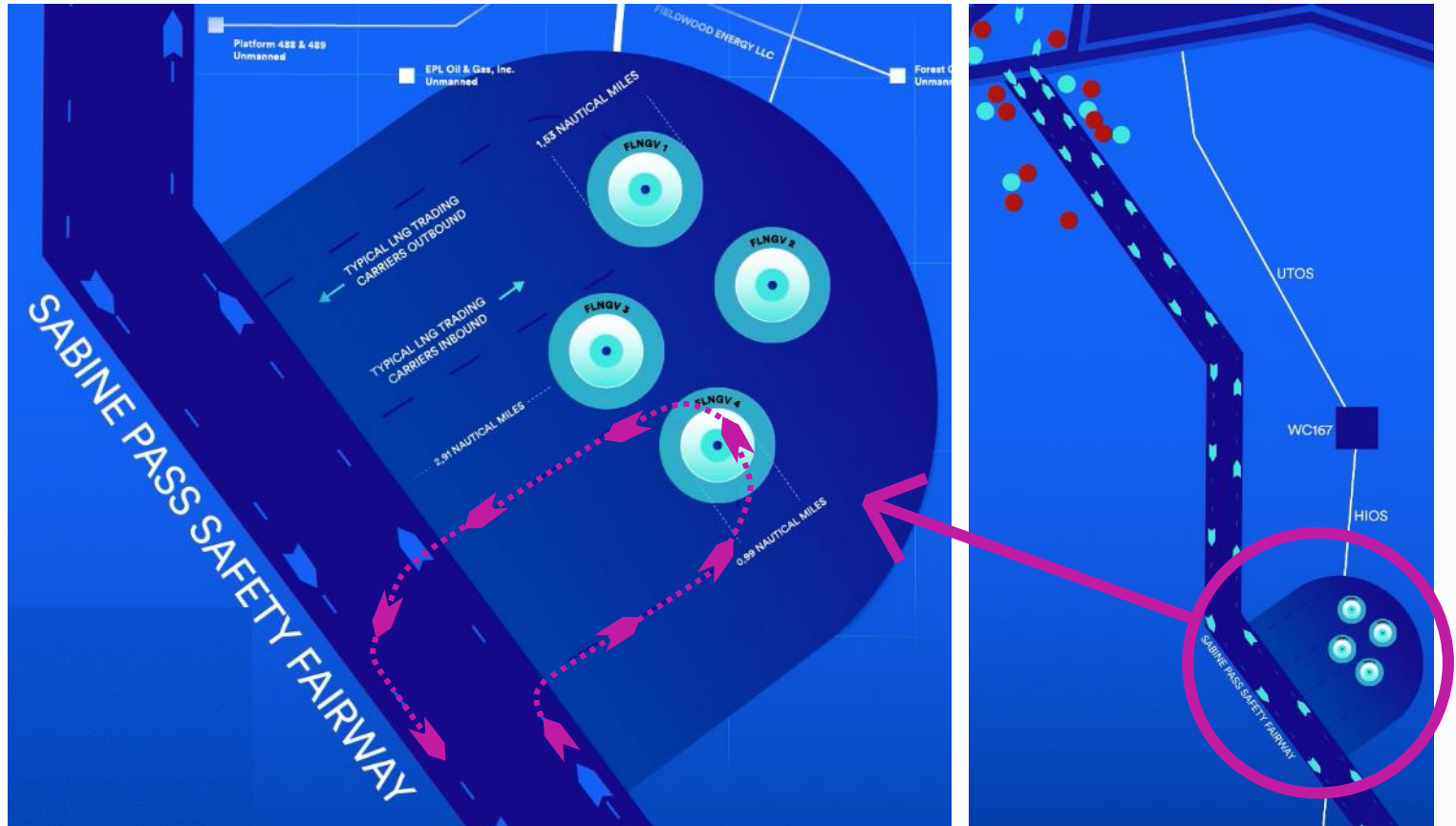
# Delfin Deepwater Port – Offloading operations

A port without congestion and dedicated to Delfin LNG allows most efficient LNG carrier operations

## Marine Operations Characteristics

- The Delfin Deepwater Port will operate as a Port under MARAD and U.S. Coast Guard authority, with Port operation manuals and procedures as any other coastal port
- As part of the DWP permitting a Draft Port Operations Manual has been prepared for review with USCG
- Advantages of the Delfin Deepwater Port versus an onshore LNG terminal:
  - Delfin is 100% owner-operator controlling Port services, fees at-cost
  - High berth availability (1 berth per 3.5 MTPA)
  - No congestion from shipping traffic or “one-way-traffic” rules (Delfin Deepwater port is abt. 40 nm offshore) (compares favorably to congested and busy Ship Channels)
  - Less fog related navigational restrictions compared to onshore LNG plants
  - No restrictions related to traffic delays, shoals or obstructions following a hurricane
  - Benign metocean conditions with concurrent wind and waves and minimal swell allows a high uptime for cargo transfer operations
  - The FLNG can disconnect from the mooring and sail away on its own propulsion to avoid any severe hurricane passing the site

## Layout and operating principles for visiting LNG carriers



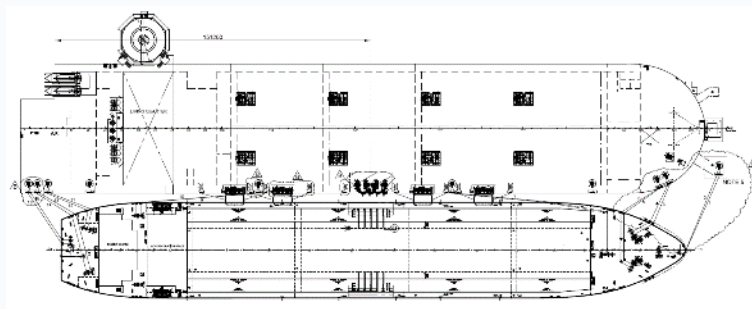
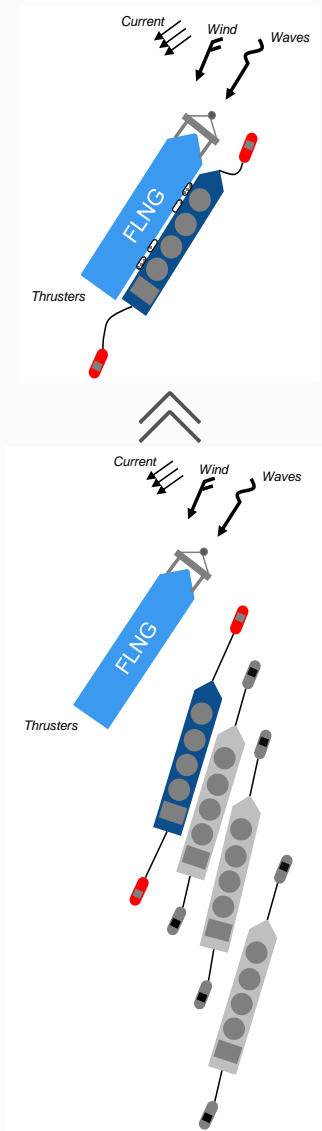
# Ship-To-Ship (STS) loading of standard LNG carriers

The FLNG utilizes standard equipment and practices used for STS around the world and in compliance with intl. standards

- LNG ship-to-ship operations are being done on a continuous basis in the industry for both trading purposes and to supply LNG to Floating Regasification Units
- Several hundreds of ship-to-ship operations are being conducted each year
- LNG carrier berth alongside the FLNG with assistance of tugs
- LNG is transferred from the FLNG cargo tanks to the LNG carrier with ship-to-ship cargo operations using standard equipment (MLAs, Fenders, QRHs)
- In accordance to international standards as per SIGTTO and OCIMF, validated by many years of operational experiences
- Standard LNG carriers can moor and load from the facility with full BOG handling at the FLNG of the vapour return
- Metering and sampling conducted in accordance with GIIGNL custody transfer handbook
- Dedicated full-mission bridge simulations conducted at MARIN I cooperation with Client LNGC Masters to assess criteria, verify procedures and plan for future training
- Long-term SBS simulations have been conducted based on hydrodynamic analysis conducted by MARIN using site-specific long-term time series of metocean data

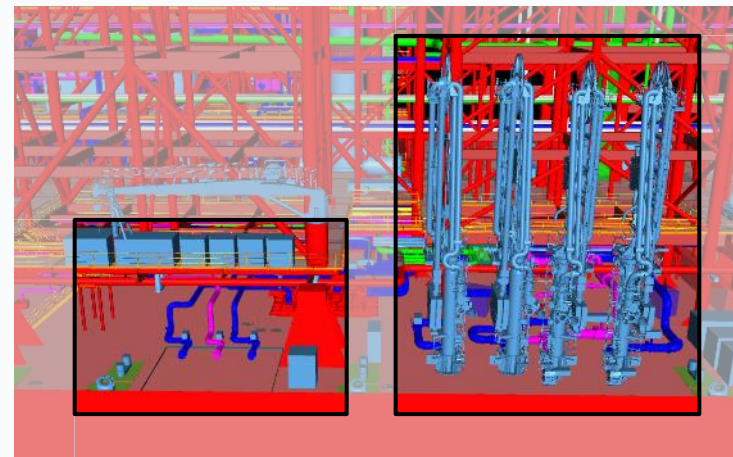


Full-mission bridge simulations at MARIN in The Netherlands



Mooring arrangements for standard LNGCs in compliance with Intl standards

Two offloading manifolds are included with Marine Loading Arms and hoses for loading large oceangoing carriers and bunker/small-scale carriers respectively

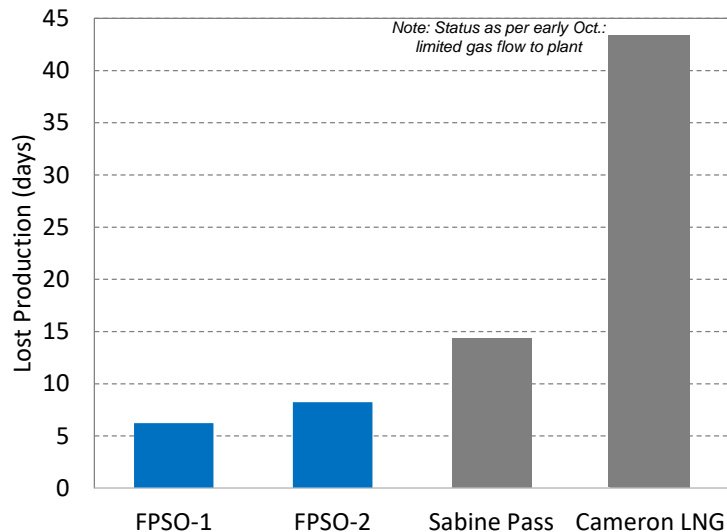


# Floating units outperform during hurricanes

## Leveraging from decades of successful operations and performance of disconnectable FPSOs

### Example Case : Hurricane Laura (Aug 2020)

- Laura passed over the central Gulf of Mexico causing two FPSOs to disconnect and sail away
- Laura continued and severely hit Cameron Parish causing full stop at Sabine Pass and Cameron LNG
- The FPSOs returned quickly to their site in order to commence production
- Sabine Pass lost 2 weeks' production time, whereas Cameron LNG has been off-line for many weeks
- Existing FPSOs disconnected for the first time because of a hurricane since they started operations



Onshore plants mainly suffered from the lack of utility support and waterway access due to obstructions (transmission lines, sunken barges and shoaling). Gas supply was rapidly available again and not a reason for the prolonged outages

### Cameron LNG ships first cargo since Hurricane Laura hit US Gulf Coast: dispatcher

#### HIGHLIGHTS

- Pre-storm LNG from storage may have been used for export
- Tanker filled short of capacity due to draft restrictions

When it entered the channel, it had a draft of about 31 feet, and when it left it had a draft of about 36 feet, the dispatcher said. The draft is the depth of a vessel below the waterline. Draft restrictions that were put in place after the Category 4 hurricane limited vessels to 36 feet as of Oct. 5, though that was expected to rise to 39-40 feet Oct. 6. The tanker appeared to be filled to about 94% of capacity when it departed, S&P Global Platts trade-flow software [cFlow](#) showed.

### Back-to-Back Hurricanes Leave Shoaling on Calcasieu Waterway



Calcasieu River Ship Channel, 2017 (file image courtesy Rep. Clay Higgins)

BY THE MARITIME EXECUTIVE 10.13.2020 09:56:57

When Hurricane Laura arrived in western Louisiana in August, high winds damaged the Port of Lake Charles, and surging currents created shoaling on the Calcasieu Waterway. The busy channel serves both the Port of Lake Charles and the Cameron LNG export terminal, located on the waterway about 19 miles inland from the Gulf of Mexico.



#### Marine Safety Information Bulletin

42-20

October 14, 2020

Hurricane Delta

Port Condition Recovery – Calcasieu Waterway  
Normal Operations – Sabine-Neches Waterway

#### Calcasieu Waterway

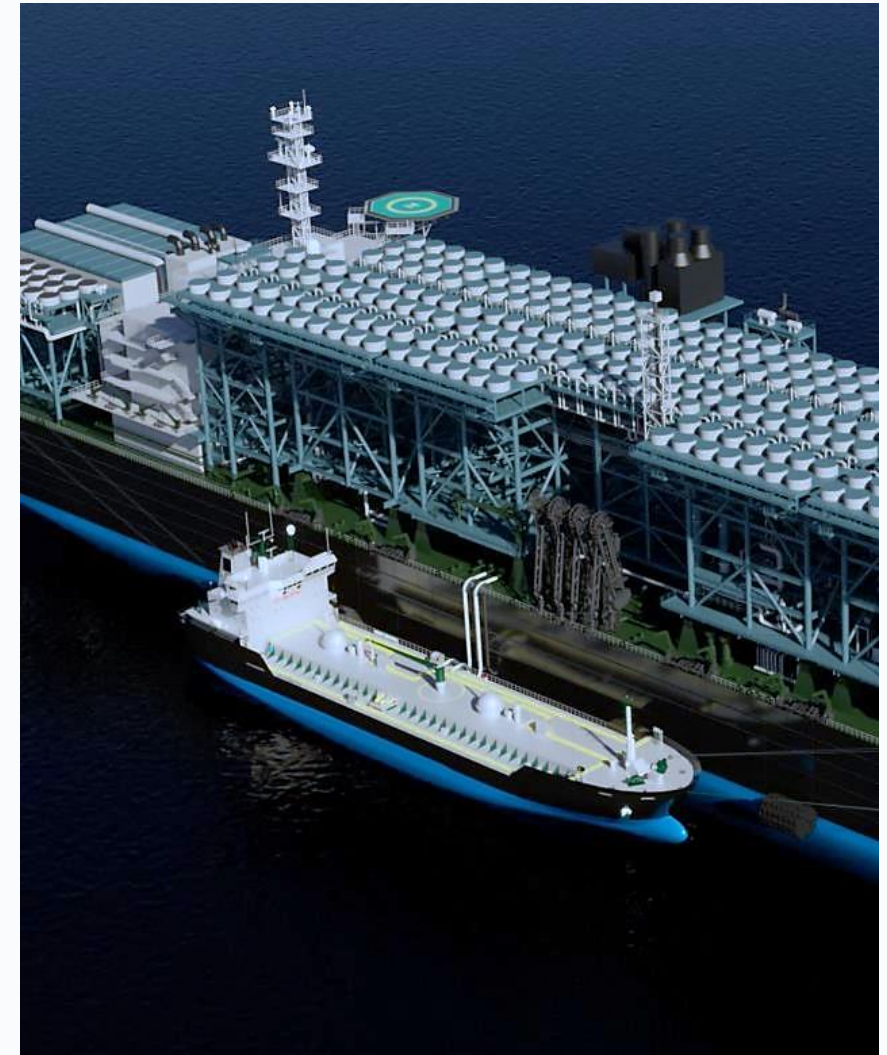
Salvage operations continue on an offshore rig located in Calcasieu Channel near buoy 22. A sunken rock barge remains located in Calcasieu Channel near buoy 37 and is marked by buoy labelled WR 37A. Survey operations continue to look for debris and hazards to navigation. Many offshore aids to navigation are off station. The Calcasieu Lock, Black Bayou Bridge and Grand Lake Bridge are operating normally and the vessel queue has been cleared.

Therefore, as of 2:00 P.M. CDT, October 14, 2020, **Port Condition RECOVERY** remains in effect for the Port of Lake Charles and the Calcasieu Channel.

## Delfin Deepwater Port – Differentiated advantages

### A small-scale LNG hub

- Delfin as the owner and operator of the Delfin Deepwater Port is in full control of the operations, allowing for supplemental small scale distribution of LNG from the FLNG Vessels
- Each FLNG vessel is fully equipped with a berth and offloading facilities (~3.5 MTPA / berth)
- The mooring, offloading, cargo and process systems are designed to suit large and small-scale LNG carriers, with dedicated berth facilities for small-scale compatibility
- Given the high berth availability, benign metocean conditions and heading control capabilities each FLNGV can provide an efficient LNG supply hub for small scale vessels
- A total of 200,000 – 400,000 MTPA of small-scale supply can well be incorporated in the production planning and ADP per FLNG Vessel



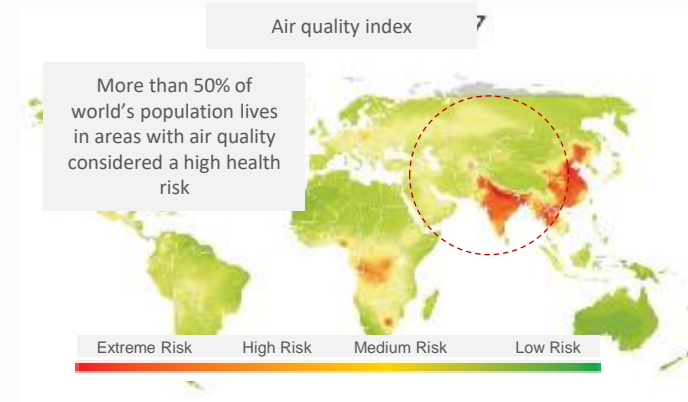
# LNG in the energy transition

US LNG is abundant, affordable, reliable and scalable

## Meeting a growing demand for clean air and affordable energy . . . . .

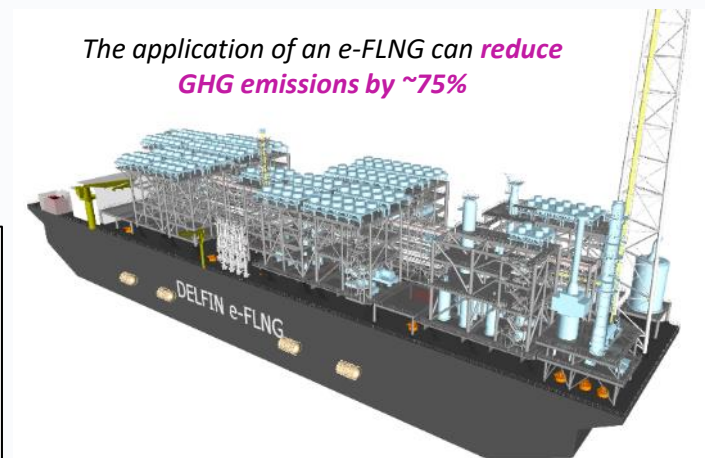
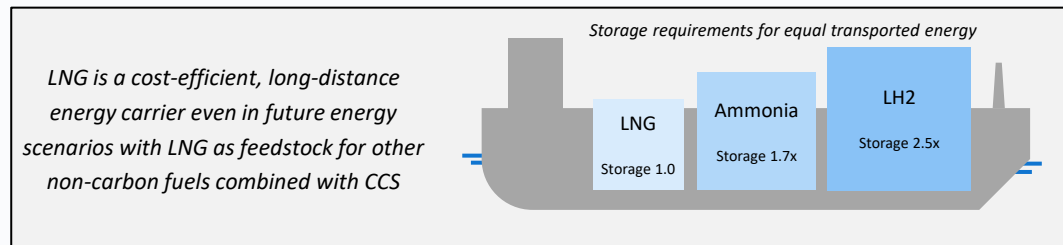
LNG will play a critical role in the energy transition, reducing carbon intensity & improving air quality

- Facilitates coal-to-gas switching, reducing carbon emissions by up to 50%
- Supports growth of renewables such as wind/sun through grid reliability and seasonal storage
- Potential to replace heavy transportation fuel (LNG-powered vessels and trucks)
- The worlds fastest growing, most population dense countries have the worst air quality
- LNG reduces GHGs but also rapidly improves air quality
- Air quality benefits are immediately creating public support for sustaining the Energy Transition
- LNG/gas provides low cost, low carbon, reliable energy to significantly improve air quality



## . . . . . while improving the overall environmental footprint

- Re-purposing of facilities and utilizing existing construction sites
- ESG strategy, implementation and performance criteria
- Development of future low-carbon and carbon neutral technologies
- Supporting the role of LNG as a “long distance energy carrier”



## In conclusion

Strong commercial, financial and technical momentum supports an FID in Q2 2023 and lays the foundation for rapid expansion

Lowest cost US Liquefaction project of **abt. 720 \$/tpa all-in<sup>(1)</sup>**

Lowest FID threshold of **2.0 to 2.5 MTPA**

**Commercial and financial flexibility** for each FLNGV

Expansion capacity of **>20 MTPA**

First **binding agreements for 2.5 MTPA** signed

Targeting **FID in Q2 2023** for the first FLNGV

Developing for **rapid growth** and expansion



**Our Goal:** *Secure FID on FLNG #1 and prepare for rapid expansion*

**Our Vision:** *Commoditizing Liquefier FLNG Vessels for North America*





[delfinmidstream.com](https://delfinmidstream.com)

[info@delfinlng.com](mailto:info@delfinlng.com)

