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Director of Oil Trading – North America
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ADVANCING
TRADE

TRAFIGURA GROUP AT A GLANCE

Physical trading and logistics lie at the heart of Trafigura's business, moving physical commodities from places they are plentiful to where they are most needed – reliably, efficiently and responsibly. Our U.S. business is managed from Houston, with offices in Midland, Calgary and Stamford.



\$136.4bn

Group revenue

\$48.6bn

Total assets

3,935

Average number of employees over year

5.3 MMbpd

Oil and Petroleum Products total volume traded

62

Offices Worldwide

6

North American Offices

230

North American employees

4,151

Shipping and chartering fixtures



BTH Terminal and Dock, Corpus Christi



BTP Condensate Splitter, Corpus Christi



Burnside, Louisiana Coal Storage and Loading Terminal

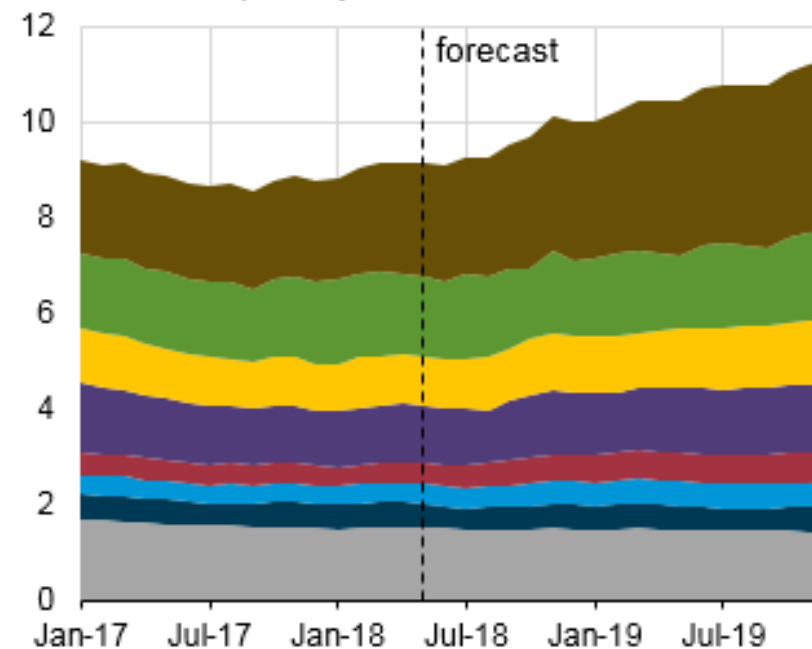


All figures in this presentation refer to Trafigura's financial year ended 30 September 2017, unless otherwise stated.

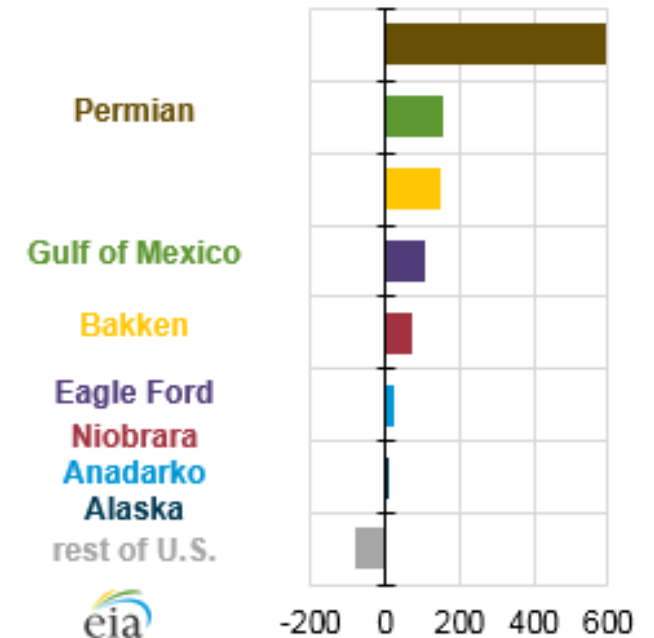
PERMIAN GROWTH MIRACLE

- Permian Basin has added almost 1.8 million bpd of crude production over the past 24 months
- Massive Permian production growth being driven by:
 - Superior legacy resource base
 - Impressive well productivity
 - Producer efficiency gains
 - Rising price environment
- The EIA has projected another banner year for the Permian in 2019

Monthly U.S. crude oil production (Jan 2017-Dec 2019)
million barrels per day



Projected change 2018-2019
thousand barrels per day



Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, August 2018

Result is attractive well economics: we estimate average breakeven of \$35-40/bbl
With WTI at \$75/bbl, these resources can and will continue to see investment

TODAY: BOTTLENECKS IN THE BASIN

- Flip side to this incredible growth story has been emergence of temporary bottlenecks and growing pains
- Crude production has outrun pipeline capacity, resulting in wide discounts, need to clear barrels via truck and rail
- Production will continue to exceed pipeline capacity through late-2019, with the result that West Texas producers should be debottlenecked for delivery to the Gulf Coast

Cactus II

670 kbpd

Partial, late-2019, full April 2020

Destination: Corpus Christi

EPIC NGL Conversion

400 kbpd

Late-2019

Destination: Corpus Christi

Gray Oak Pipeline

700 kbpd

Late-2019

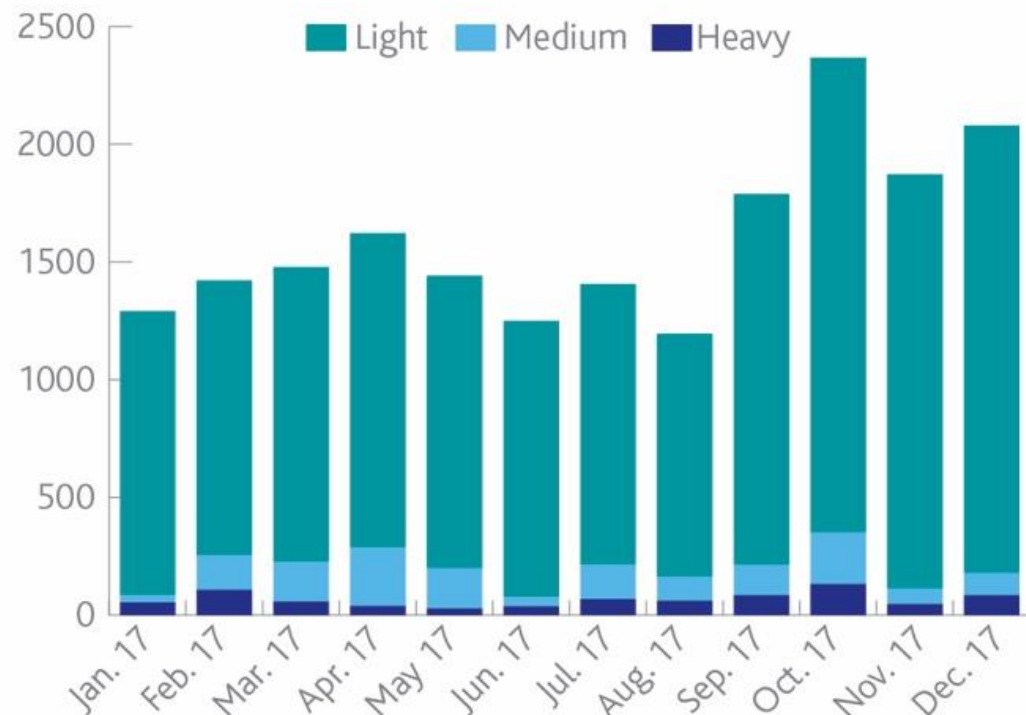
Destination: Corpus Christi

These projects represent 1,770 kbpd of crude delivery into Corpus Christi starting 12-18 months from now

TODAY: DOMESTIC REFINERIES ARE MAXED OUT FOR LIGHT CRUDE

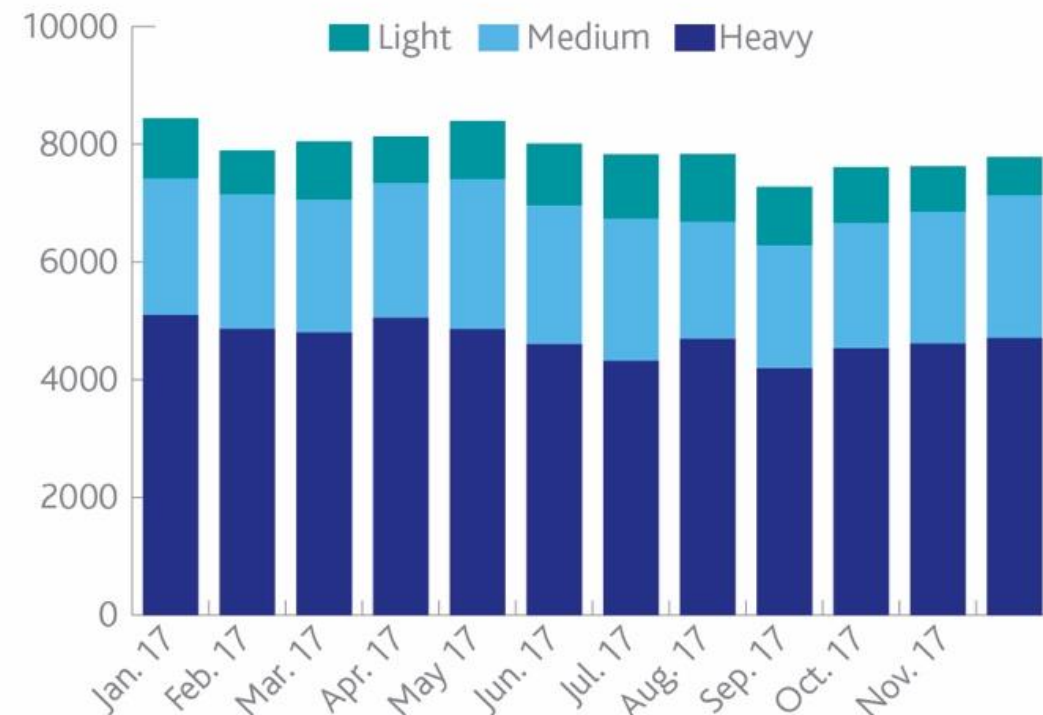
US Crude export
By grade

In Million barrels per day



US Crude imports
By grade

In Million barrels per day

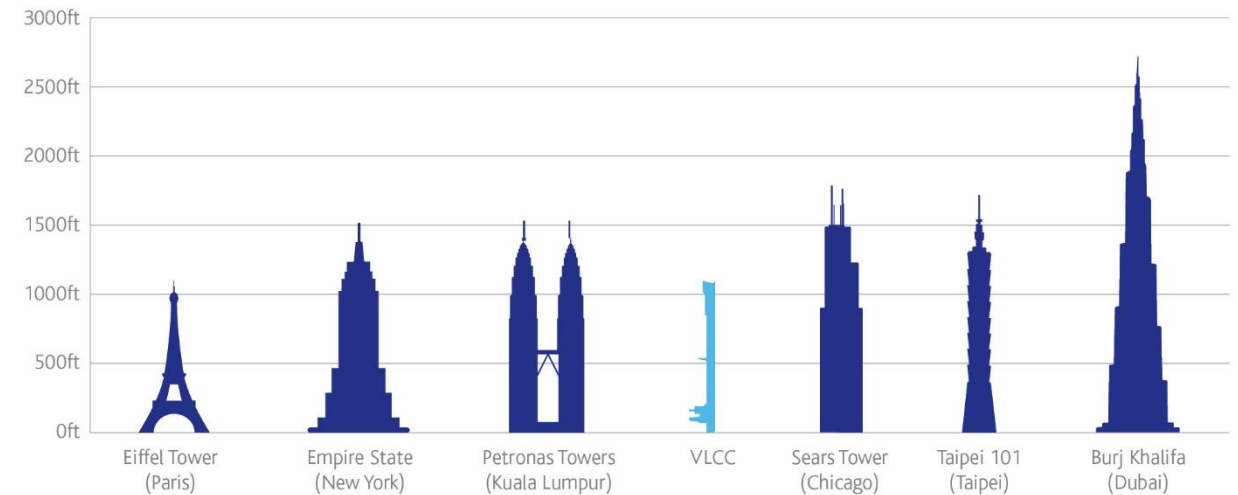


Source: Turner, Mason & Company, US Energy Information Administration

- US refineries are either designed to run heavy crudes or are at maximum light crude processing capacity.
- Billions of dollars of investments in US refineries would be required to process additional light crude.

TODAY: LOGISTIC LIMITATIONS

- VLCCs (Very Large Crude Carrier) are the most economical and efficient way of transporting crude around the world
 - Carry approximately 2 million barrels per voyage
 - Up to 320,000 Deadweight tonnage
 - 1,100 feet in length and 196 feet wide
- No US inland ports are capable of fully loading a VLCC
 - Draft Restrictions: VLCCs require ~71 feet draft compared to majority of US inland ports ~45 feet draft
 - Berthing Restrictions: VLCC dimensions mean that no US inland ports can fully load a VLCC and ability to even physically berth VLCCs is very limited
- **The Result: To fully load a VLCC multiple Ship To Ship Transfers (STTs) are required in offshore Lightering zones**



TOMORROW: BOTTLENECKS AT THE COAST?

- Debottlenecking of the Permian risks shifting the bottleneck 400 miles East to the Gulf Coast
- US crude oil production is projected to increase by 3.7 million barrels per day over the next 5 years.
- Over 75% of the increased production projected is coming from the Permian and Eagle Ford shale formations and will reach the Gulf Coast through new pipelines
- This will require the equivalent of an **additional 675 Very Large Crude Carriers (VLCCs)** per year for transport.

Growth in U.S. Crude Production, MMBPD			
Region	2017	2022	Change
Bakken	1.1	1.5	+0.4
Eagle Ford	1.2	1.6	+0.4
Permian	2.4	4.9	+2.5
Other	4.7	5.2	+0.5
Total	9.3	13.2	+3.8

Projected U.S. Crude Exports, MMBPD	
2017	1.1
2018	2.4
2019	3.2
2020	3.9
2021	4.4
2022	4.8

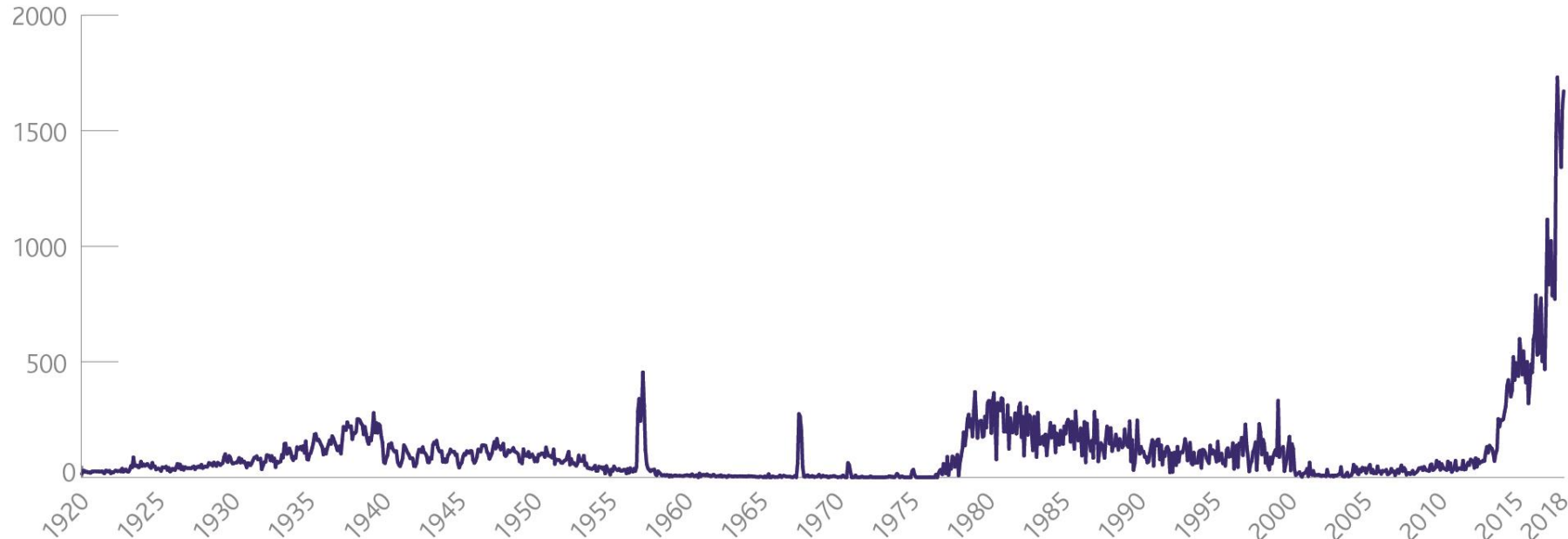
Source: Turner, Mason & Company, US Energy Information Administration

Additional production must be exported to grow the US economy and support US goals of energy independence and balanced trade.

WHAT IS AT RISK?

- The natural gas and oil industry is a critical part of the U.S. economy. In 2015 these energy resources supported 10.3 million jobs and contributed more than \$1.3 trillion to the U.S economy (API).
- The advancement of “fracking” technology in the US has turned the US from an importer to an exporter of crude oil. In recent months, exports of domestic crude have grown to exceed all but a handful of countries.
- The inability of US infrastructure to export crude oil will restrict oil production and slow US economic growth.

US Crude Oil Export
Monthly 1920-2018





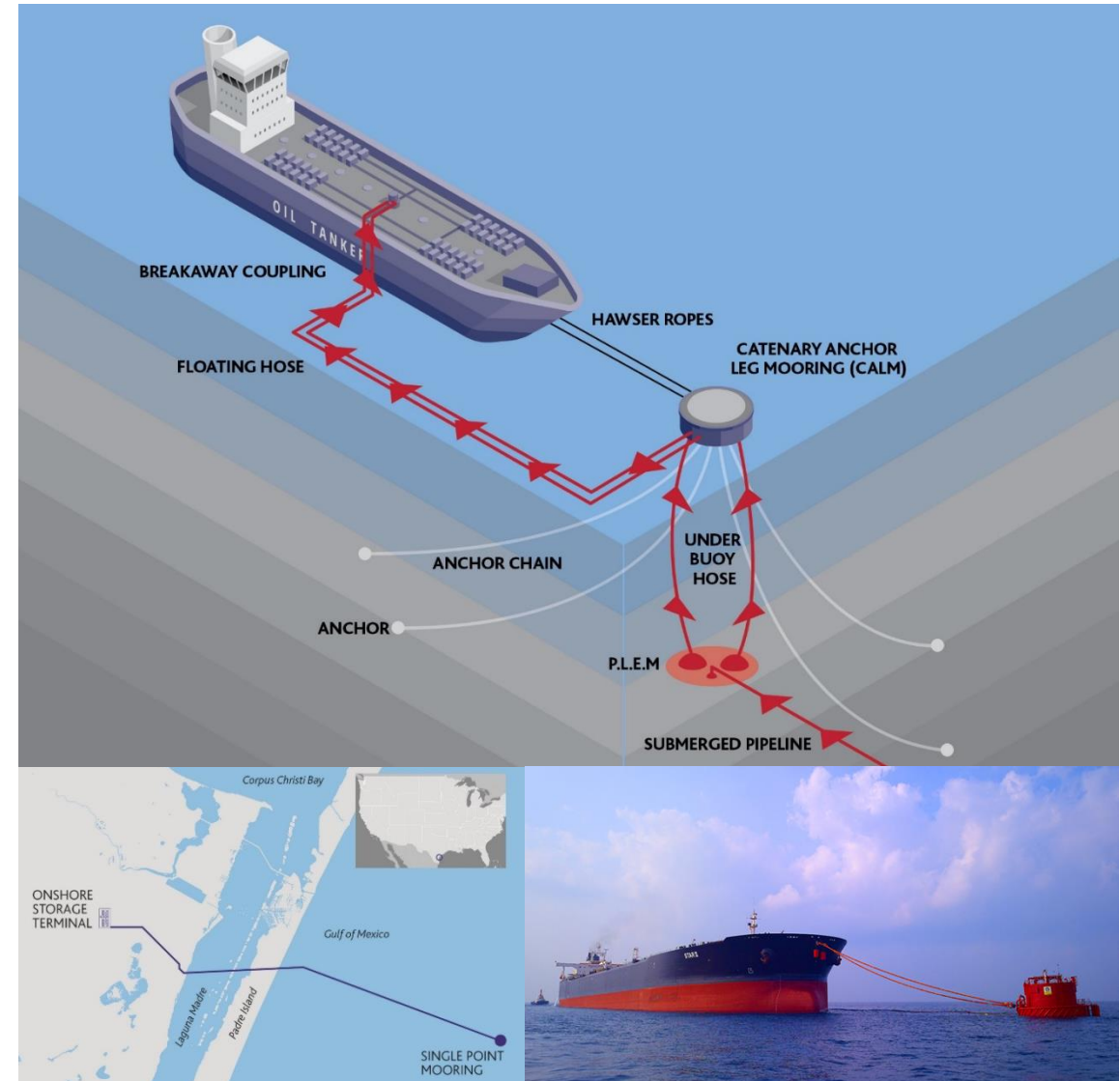
**TEXAS GULF
TERMINALS**

Project Overview



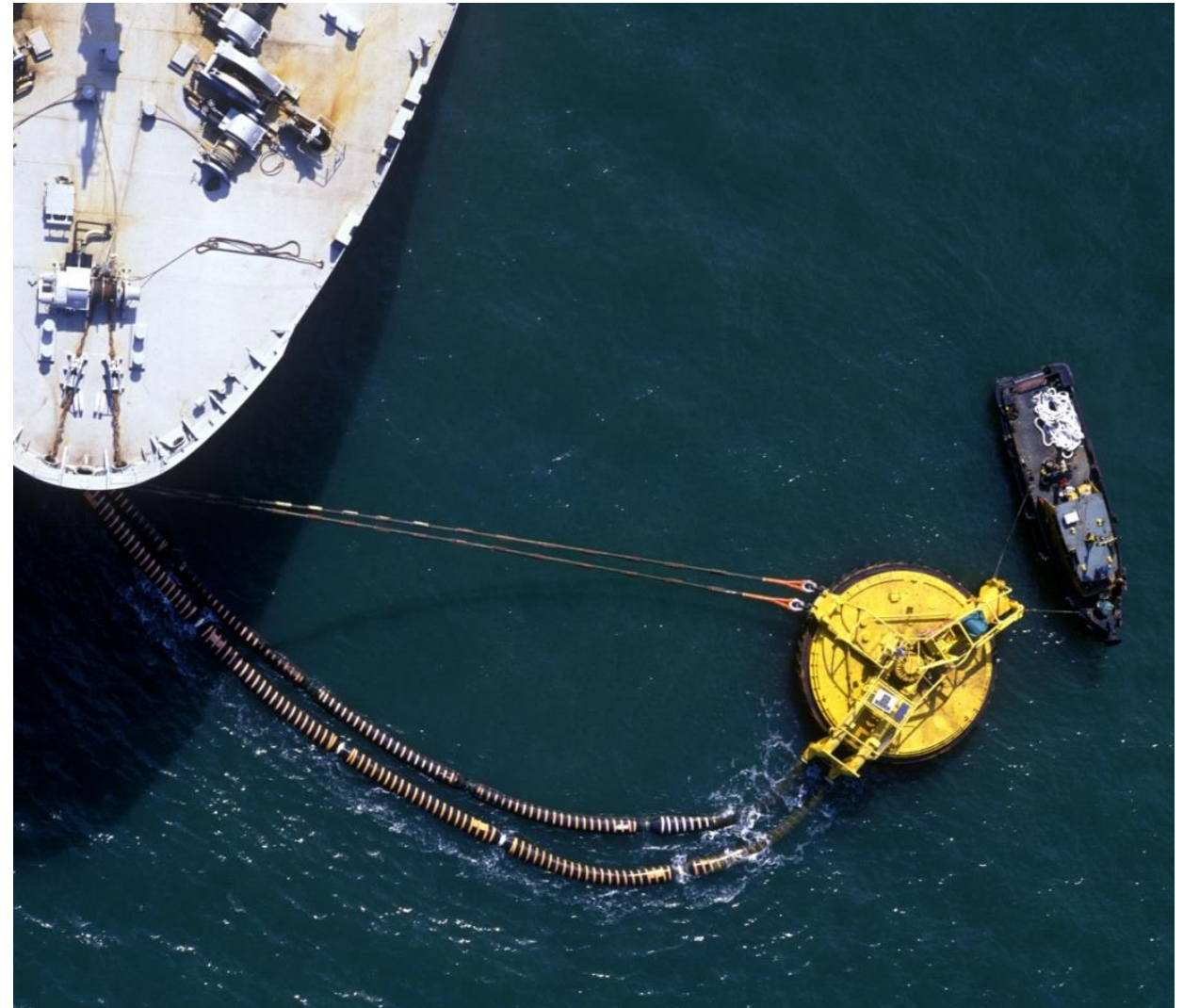
TEXAS GULF TERMINALS INC. PROJECT OVERVIEW

- Texas Gulf Terminals Inc. is a Delaware Corporation, part of the Trafigura Group, that will construct, own, and operate a Single Point Mooring buoy system (SPM), associated pipeline infrastructure, and an onshore storage terminal facility, collectively known as the Texas Gulf Terminals Project.
- TGTI's Deepwater Port will load a VLCC safely, directly and fully.
- The SPM will load at approximately 60,000 bph and throughput capacities of approximately 8 VLCCs per month.
- The SPM will be located ~14 miles off shore of the outer bank of Padre Island in US federal waters off the coast of Corpus Christi Texas; the SPM will be anchored in ~93 feet of water.
- Over 560 SPMs have been put into service across the world in over 100 countries since the 1950s.
- SPMs:
 - Are a globally proven technology, allowing safe and efficient loadings of crude oil.
 - Eliminate unnecessary ship traffic in inland ports.
 - Eliminate the “double handling” of the same crude oil, reducing the opportunity for spills and the emissions created each time the crude oil is transferred.
 - Are unmanned, remote operation facilities. This minimizes human exposure to potentially hazardous situations.



SUMMARY

- Trafigura is a global commodity trader with long term commitments in Texas and North America.
- Continued growth in US crude oil production will require additional crude export capability.
- SPM's are a globally proven, safe and reliable export technology, with over 500 put into service around the globe.
- The proposed project will support US and Texas goals of:
 - Economic growth
 - Increased jobs
 - Increased tax revenue



THANK YOU

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