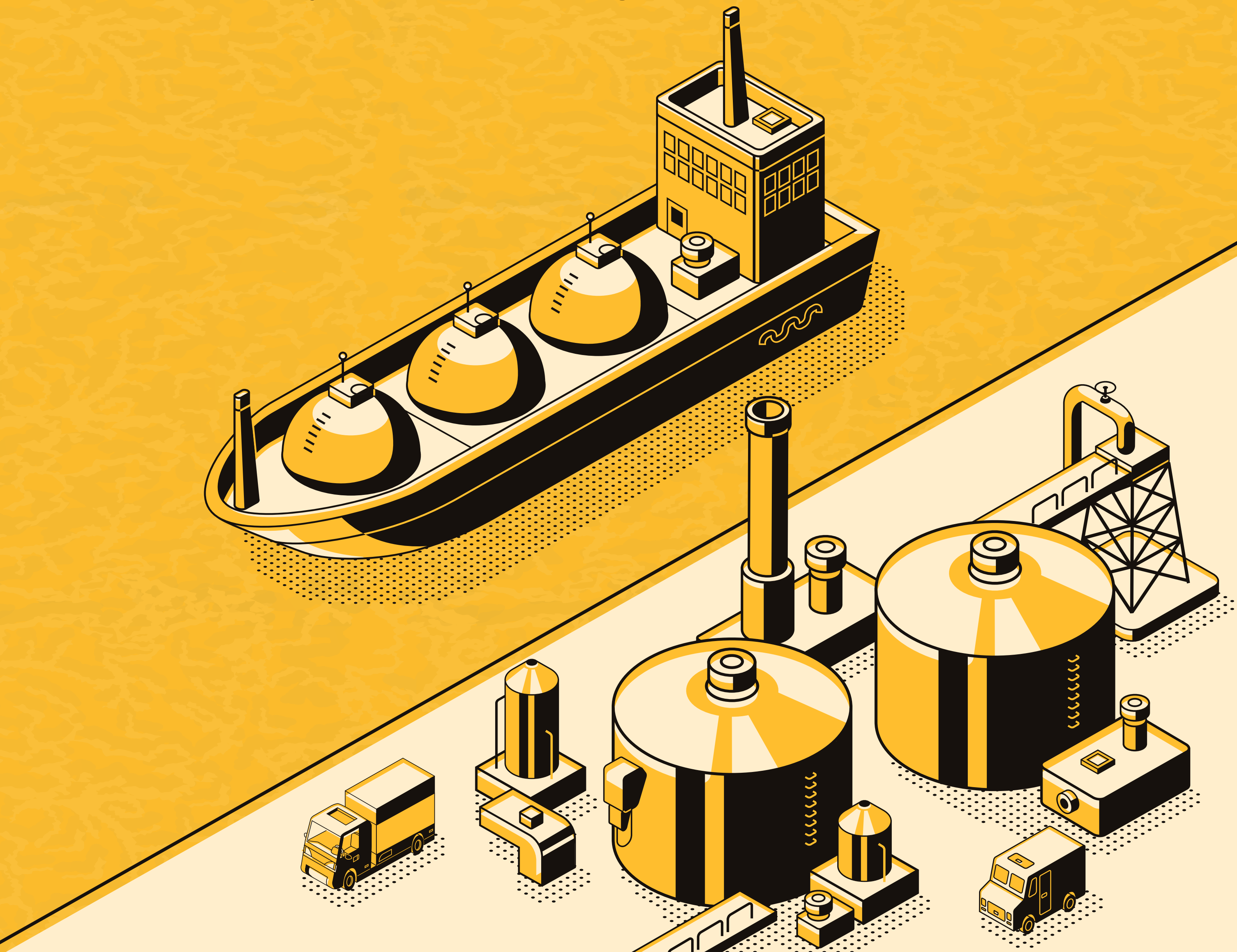
2019

The Middle East LNG Institute

LNG Whitepaper III

Navigate Rise in LNG Spot Trading During Era of Glut?

The One-Eyed Man is King in the Land of the Blind



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SUPPORTED BY:

Executive Summary

Navigate Rise in LNG Spot Trading During Era of Glut?

The One-Eyed Man is King in the Land of the Blind

Bid farewell to expectations; the world's fastest growing commodity market will keep throwing up surprises. So many trends of the LNG market have changed in the last five years that it's turning into an entirely new game. All LNG traders and entities alike need to be on the same page for the market to thrive; liquidity begets liquidity. But competitive spirit still reigns and those in the know will lead the charge in this emerging and dynamic sphere of trading.

AREAS OF INTEREST

All explored within Stream 1 and Stream 2

Pricing: What's Next?

The gradual shift (outside the US) from using crude oil as the price benchmark for LNG contracts towards using a gas index is expected by 2024. Volatility in oil prices is strengthening this transition, as the exponential growth of LNG production from 249bcm to 450bcm in the past decade – an 80% rise. How likely is it that we will see a new and dominant index pricing scheme materialize and how will this impact spot activity and traders' ability to manage it?

Plenty of LNG, a Shortage of Tankers: The Solution?

LNG trading contracts are becoming more flexible and spurring appetite. But this growth trend could be dented by insufficient transportation infrastructure i.e. the ships to move the product from A to B. Wood Mackenzie estimates that 65 million tons per annum of new LNG supply will be required by 2025 and many pre-FID (final investment decision) projects are awaiting approval over the next two years in North America, East Africa, Qatar, Russia and Papua New Guinea. The question is: how to fund the construction of new vessels and the better utilization of existing vessels? When it comes to storage options, price signals indicate that storing LNG in tankers later this year will be an attractive route. With this contango market building for spot LNG prices, are we likely to see a repeat of the floating storage spree witnessed in 2008, when sheltered anchorages in the North Sea, Persian Gulf, the Singapore Strait and off South Africa each hosted dozens of super tankers?

"With a contango market building for spot LNG prices, are we likely to see a repeat of the floating storage spree witnessed in 2008? Or have the goalposts shifted too much?"

Competing for Brain Power: I win, You Win

All participants need to keep a step ahead to attract, secure and maintain the best LNG trading talent if they want to thrive on the trading circuit. What role are traders, such as Mercuria, having in developing LNG's spot market?

Term vs Spot: What's Next for the Paper Market?

Cargoes delivered through contracts of four years or less – commonly termed as spot and short-term LNG trades – made up 32% of overall import volumes in 2018. This is a 27% rise on 2017, according to the International Group of LNG Importers (GIIGNL). The GIIGNL outlined that flexibility, long-term partnerships, destination and the ability to optimize for arbitrage between Asian and European markets remains key for LNG importers. But appetite for shorter contracts is also clear – the proof is in the numbers. So, with many long-term contracts set to expire this year and as new supply comes onstream (estimated at 40mn tons), is this an opportunity to spur a new chapter of innovative and efficient LNG trading? ■

The Middle East LNG Institute

Established in 2017, the Middle East LNG Institute examines the evolution of LNG in the Middle East and North Africa (MENA) as the region transitions from a net-exporter to a net-importer. The Institute's mission is to facilitate the region's community of LNG stakeholders and share knowledge and best practices. The Institute also provides the insights needed to successfully navigate through what are still uncharted waters for many Middle Eastern energy stakeholders.

The Institute provides a single, independent and trusted platform for knowledge exchange, data gathering and intelligence sharing. These are crucial tools as the region explores comprehensive solutions to rebalancing one of the starkest juxtapositions in the global energy market. The region is home to more than 40% of global gas reserves, yet the volume of its LNG imports is climbing as domestic demand outpaces pipeline supply. The status quo is being rewritten – new demand, new supply, new hubs – and an ability to flex to these dynamic conditions will create the winners of a market that is nearing the top of the global energy hierarchy.

Rules & Format

The Chatham House Rule will be invoked at the meeting to encourage openness and the sharing of information: When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

OPEN MIC: Following the Welcome Note and Problem Statement by the Moderator and Featured Speakers, the Breakout Session Discussion structure will follow an Open Floor format whereby all participants will be encouraged to Pro-Actively engage in the free flowing conversation and not wait to be called upon to speak.

COME PREPARED WITH RECOMMENDATIONS: All Participants will be encouraged to come to the table with "Recommended Strategies" in answer to the Session's Critical Question.

In SESSION A:
Shortlist 5 Recommendations

SHORTLISTING 5 RECOMMENDATIONS
The 1 Hour Session will be broken into 3 parts:
- Commentary from Facilitators
- Open Mic with Recommendations Put Forward
- Voting on Recorded Recommendations with final shortlist of 5

In SESSION B:
Reduce Shortlist from 5 to 3 Recommendations

SHORTLISTING 5 RECOMMENDATIONS
The 1 Hour Sessions will be broken into 3 parts:
- Commentary from Facilitators on shortlist of 5
- Author of each of the 5 shortlisted recommendations will get 5 minutes to promote & defend their recommendation – Voting on Recommendations to reduce Shortlist to 3

WORKING LUNCH:
The Shortlist of 3 in each stream will be voted on to secure a ranking in order of importance 1-2-3.

Structure:

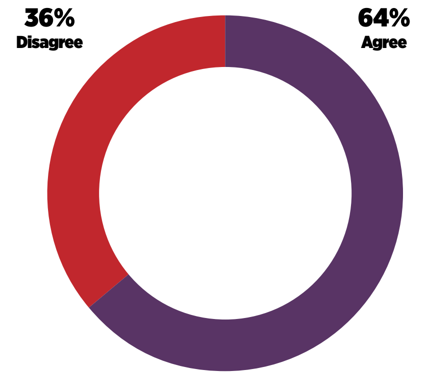
June 19th, 2019, 8:00am – 2:00pm

NETWORKING BREAKFAST	
PLENARY SESSION	
STREAM 1 HOW TO MANAGE RISK THROUGH LNG DERIVATIVES, MARKET-BASED PRICING?	STREAM 2 HOW TO TRADE AROUND LNG GLUT AMIDST TANKER SHORTAGE?
SESSION A SHORTLIST TOP 5 RECOMMENDATIONS	SESSION A SHORTLIST TOP 5 RECOMMENDATIONS
COFFEE BREAK	
SESSION B TOP 5 RECOMMENDATIONS SHORTLISTED TO 3	SESSION B TOP 5 RECOMMENDATIONS SHORTLISTED TO 3
WORKING LUNCH POLL SURVEY ON TOP 3 RECOMMENDATIONS IN EACH STREAM	
Final Declaration of Recommendations & Closing Comments	

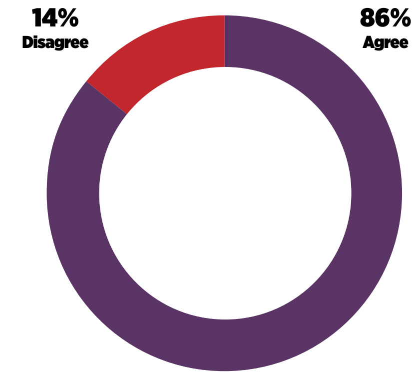
The Middle East LNG Institute SURVEY

Market Insights Harvested from High-Level Workshop Participants

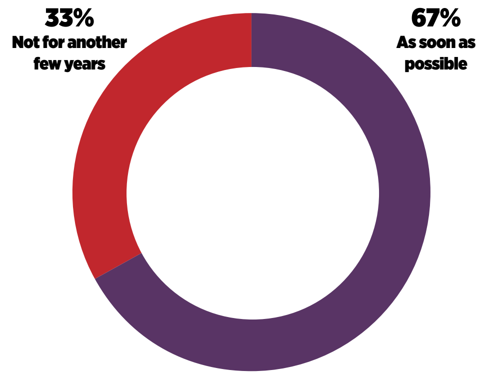
The global LNG market now appears to be favoring shorter length contracts with greater flexibility. This development will be more beneficial to the Middle East than the former long-term model as the region becomes a major importer as well as a continued exporter.



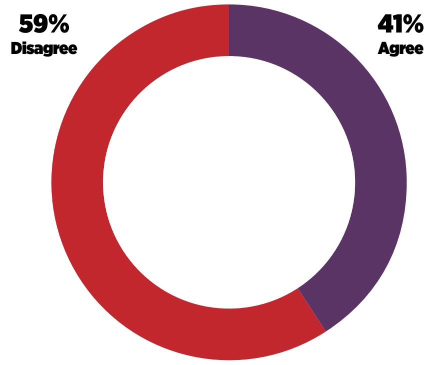
Supported by rapid LNG supply growth from Australia and the US, as well as the deregulation of downstream gas and power markets in Asia, LNG market participants today are dealing with a new paradigm of liquidity and transparency. This will trigger demand for LNG derivatives hedging, as well as indexation based on physical LNG prices.



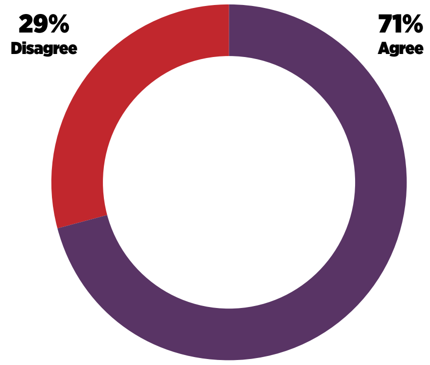
Platts JKM volumes are multiplying around three times per year and it is estimated that within five years, futures volumes will be around ten times the size of physical trade. When is the need for a reliable price benchmark and liquid futures market for LNG hedging justified?



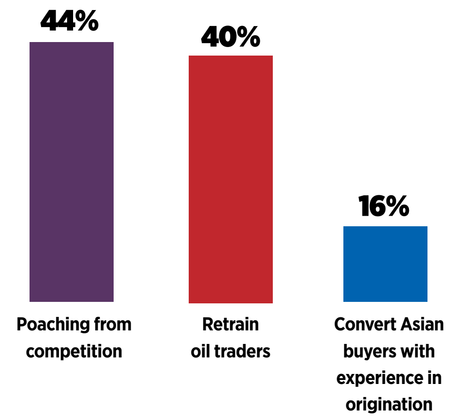
The gradual shift (outside the US) from using crude oil as the price benchmark for LNG contracts towards using a gas index will be completed within the coming five years.



Today, up to 600 LNG ships are in use worldwide with 50 more expected to come into service this year. The reason spot prices are elevated is because only a limited number of the vessels are available for use in the spot market. The majority are chartered exclusively for new projects under long-term contracts.



As margins narrow in the oil business, many of the world's biggest commodity trading houses have been increasing their exposure to trading LNG. What is the best strategy for securing the required talent for this great transition to LNG spot trading?



What is the most important next step to embed a liquid, flexible and transparent Middle East LNG market by 2025?

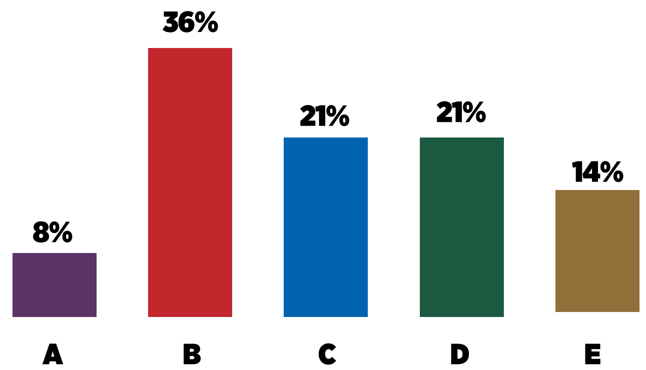
A. Attract international firms to open LNG trading desks in region

B. Establish a Middle East LNG benchmark price contract

C. Establish regional cross-border pipeline network with multiple entry/exit points

D. Remove all subsidies that fix natural gas prices at low levels

E. Establish LNG as bunker fuel for tankers



Source: ME LNG Institute Research; Q2 2019

STREAM 1

How to Manage Risk Through LNG Derivatives and Market-Based Pricing?

A new paradigm is unfolding. A rapid rise in supply from Australia, Qatar and the US (the world's three largest exporters, respectively) and others, plus the deregulation of downstream gas and power markets in Asia, are powering change. This has sparked burgeoning demand for LNG derivatives hedging, as well as indexation based on physical LNG prices.

But LNG trading needs to catch up; it is around 20 years behind oil in terms of liquidity and volume. With several derivative contracts for LNG, ranging from US Gulf Coast futures on ICE to Dubai-Kuwait-India on Singapore Exchange Ltd, what are the right steps to best mitigate risk, build confidence and spur liquidity?

LNG derivatives represented around 2% of global LNG production in early 2017, but volumes now represent some 30%. This has largely been driven by ever-increasing trading volumes on the Intercontinental Exchange and Chicago Mercantile Exchange contracts based on S&P Global Platts' Japan-Korea Market (JKM) spot price assessments.

In addition, the decoupling of Brent crude term contract prices and JKM LNG spot prices highlights a significant disconnect between the market fundamentals of these two commodities. For example, the ratio of spot LNG prices relative to crude oil slope for May 2019 delivery cargoes at the end of March 2019 was at 6.71% – the lowest in nearly nine years. Ten years on from the launch of the JKM, the Market on Close (MOC) process to enhance price transparency has gained traction with bids, offers and trades since June last year – more than 700 so far. Amid this fast-moving evolution, what's next? ■

+15%

LNG sold under spot term deals in 2017 stood at 27%, up from 12% in 2005, according to the International Group of LNG Importers.

10x

Platts JKM volumes are multiplying at three times per year and it is estimated that within five years, futures volumes will be around ten times the size of physical trade. Is the need for a reliable price benchmark and liquid futures market for LNG hedging justified? The answer is a resounding yes from workshop participants this year. This echoes sentiment at the LNG Workshop II in 2018, where 39% of GIQ Survey respondents said this is viable by 2025.

1/3

Despite the current LNG glut, buyers face difficulty finding LNG, with most supplies locked up in long-term contracts. Less than a third of total supply is available on the spot market; a pressure point to watch as buyers seek more diversified portfolios.

75%

Despite the move into a period of overcapacity, LNG prices have been on the rise. S&P Global Platts Analytics said up to 75% of the world's LNG demand growth up to 2040 will originate from Asia, thanks to its booming population and industry. No wonder the world's leading exporters – Australia, Qatar and the US – have their sights firmly locked eastwards.

2024

The gradual shift (outside the US) from using crude oil as the price benchmark for LNG contracts towards using a gas index is expected within five years. Volatility in oil prices is strengthening the argument for this as well as the exponential growth of global LNG production from 249bcm to 450bcm in the past decade – an 80% climb.

1st

Tokyo Gas and Shell recently signed an LNG contract based on a coal-linked pricing formula – a first for a Japanese buyer. This is especially significant as Japan is the world's largest LNG buyer. This move reflects how this historically one-colour market (oil-indexed, long term contracts) is becoming increasingly vibrant (spot, short and long-term contracts with prices linked to oil, coal and gas).

STREAM 1

Top Three Recommendations

1. Greater Understanding of Underlying Exposure

The horse must come before the cart; understanding underlying exposure is critical when hedging risk. Traders must be adept at navigating the increasingly cross-hedging world of LNG. Many aspiring trading companies, including those already active in the market, still lack appropriate understanding. This is in part because many try to apply the same model used in oil trading. The markets are similar but not identical; simply replicating black gold strategies in LNG will not always work. The usual core question should be at the heart of trading companies' day-to-day: can you justify the risk sitting on your books? A good understanding of underlying exposure should translate into one answer: yes. This is how a reliable, robust and profitable trading market will flourish.

2. More Players to Hedge LNG Volume

Diversity matters. A healthy traded market must have strong liquidity from a diversified pool of participants from different origins. Creating this ecosystem means encouraging producers with significant volumes that can offer large opportunities to consumers and financial institutions (FIs) that can unite the supply-demand needs of producers and consumers. That is not currently the case. Why? In part, because the LNG traded market is still growing and in part, because of a lack of understanding in the Middle East. But there is good news; the next steps are not complex. Market participants will face a busy learning curve, but not a steep one. This will make a significant difference in the speed of progress. Positive disruption to traditional mindsets is already well underway. A recent shift at a CEO level (largely triggered by the sustained lower oil prices since 2014) means national oil companies (NOCs) are engaging more directly with international oil companies (IOCs) that have long had active trading desks. What has been an impressive rate of change, said workshop participants, sets an ambitious tone for the 2020s. Such collaboration is also key to realizing a top recommendation from the LNG Workshop II in 2018 and a recommendation this year *(see Other Top 9 Recommendations below)*: greater coordination across the GCC. The land mass of the Arabian Peninsula may as well constitute islands for the level of connectivity in play. Having more players from as many countries in the region – and worldwide – as possible will start reversing this narrative. Greater unity on the trading front is essential to meet rising demand and reinforce the Middle East's position as a major LNG player.

3. Develop In-House Capabilities Before Migrating to Full Hedge Exposure

Without brains, the deck of aces that the LNG market can play on the global energy stage will collapse. Some companies have been able to adopt and adapt from oil trading to the LNG desk; not seamlessly, but effectively overall. But this is not a silver bullet. The nuances of LNG must be fully understood for trading to thrive, especially when it comes to managing risk through LNG derivatives and market-based pricing. There is not a large pool of LNG trading skills for companies to raid. So, talent and education must be leveraged to build in-house capabilities and those in the know must share their knowledge if they want a larger, more active and sustainable trading market. It's a win-win. ■

STREAM 1

Other Recommendations*

- ✓ Establish A Middle East LNG Price Benchmark
- ✓ Standardize Contracts
- ✓ Increase Pipeline & LNG Connectivity across Middle East
- ✓ LNG Derivatives to be Traded on A More Reliable Platform
- ✓ More Optimization Between Majors and Producers
- ✓ Migrate Hedging Away From Brent and into JKM Benchmark
- ✓ Examine Economic Reliance on LNG Stability
- ✓ Pursue Integration: Consortium to Lead Non-Core Business Workstreams and Value Chain

*Not in order of priority

STREAM 2

How to Trade Around the LNG Glut Amidst Tanker Shortages?

Plug the gap! Without addressing the shortage of tankers and storage, LNG trading ambitions will dwindle. The supply of spot charters is not keeping pace with the growing global demand for LNG, particularly from Asia. As China looks to switch to natural gas from coal for power generation – just one of the major drivers of demand worldwide – energy companies and LNG trading houses are trying to secure LNG vessels. Their success is pivotal to ensuring stable supply-demand dynamics in the 2020s. It is mid-2019 and the call for more vessels remains largely unanswered.

The majority of vessels, limited in itself, are chartered exclusively for new projects under long-term contracts. Red flags by the International Energy Agency (IEA) regarding the lack of timely investment in LNG carriers could see limited market development, price volatility and dented energy security over the next decade. The clock is ticking to find affordable and quick solutions.

A potential springboard for market growth is the narrowing margins in the oil market, as it means many of the world's biggest commodity trading houses are increasingly keen to trade LNG. This requires robust logistics i.e. an ability to get traded products from A to B or sufficient storage. Therefore, the spotlight on the need for increased financing for tankers and storage, as well as better utilizing existing ones, is brightening. With LNG likely to overtake pipelines as the primary delivery of natural gas by around 2025, all in the value chain have a stake in answering this question. As we near the 2020s, how best to trade around the glut – with or without tankers? ■

$1.61bn

The global LNG bunkering market will grow by $1.61 billion during 2019-2023, according to Technavio. Up to 67% of this growth will come from Europe, the Middle East and Africa (EMEA). Considering its position at the geographic crux of this demand, the Middle East has a golden window of opportunity to expand its storage, transport and trading offering.

STREAM 2

Top Three Recommendations

1. Finance: Better Access to Capital Markets for Shipowners

Why aren't more ships being built? In short: insufficient risk-reward appetite among capital providers. Some do not want to enter a high-risk business, some want short-term exposure and others do not understand LNG deeply enough to commit big checks. The market needs an ecosystem of reliable, and often hefty, finance at a time when many FIs are stepping back from funding the shipping industry in general. Raising $150 million to construct an LNG vessel without evidence of a long-term supply contract is difficult and is increasingly the case as appetite for a mix of long, short and spot contracts gains traction.

Matching borrowers' needs to the right funding channel is key. For example, private equity (PE) firms tend to want to liquidate at will; they come and go. PE firms may shy away from a seven-year contract that leasing companies and public-private partnerships (PPPs) would not.

One of the deterrents in the LNG market for capital providers is that storage options, widely available in most traditional commodity markets, are tricky for LNG. Floating storage and regasification units (FSRUs) are relatively limited in number and are expensive options versus the vast infrastructure of onshore oil storage, thus reducing flexibility amid price fluctuations. Plus, the cost of protecting LNG cargoes is high – and rising. Even financings that can stretch into decades tend to include a balloon payment.

But there are bright spots to investing in LNG; borrowers need to do a better job of highlighting them by educating financiers. For one, there is no chance of a tanker shortage over the next decade. This means the ship an FI may invest in today will very likely be in full use in the 2020s. And two, spot trading typically attracts a premium.

Shipowners need help. They have the smallest balance sheet of all the players in the game, yet they face the greatest pressure. A more liquid and profitable LNG trading market cannot be achieved without providing a more accessible stream of financings. As an industry, shipping tends to be more fragmented. Without the economies of scale seen in aviation, for example, securing large loans at competitive prices can be arduous.

The LNG spot market is much smaller than the spot market in other commodities, and therefore banks must be clued up in order to ease the hesitation that is synonymous with emerging markets. Narrowing the divide between their knowledge and appetite will also help counter the oft off-putting higher equity costs associated with LNG. Financial attitudes are changing worldwide. In 2017, only two banks in China participated in ship finance, including refinancing. Today, it is eight – a relative leap in two years. The more compelling the financial narrative, the better.

2. More Storage/Flexibility

Gaps in tanker and storage infrastructure must be addressed now to avoid black holes – costly and geopolitically risky – in the 2020s. Today, there are approximately 600 vessels, with an estimated 450 in use and up to 50 more joining the seas this year. Up to 40% of the existing vessels are more than 20 years old, with 25 years generally being the cut-off point. This translates into significant tonnage replacement in addition to the extra tonnage required to facilitate rising supply from emerging exporters. The old rule was that one ship equated to 1mn tons of LNG. As the ships have gotten bigger, it should be one ship for 3mn tons. Yet, it is the opposite; ships are not even achieving 1.5mn tons. This equation needs fixing, but it will not be easy. For one, a gas storage project can take a decade to complete, while a new LNG ship can set sail in two years. For investors, every month on the financial calendar tips the balance towards new ships, not storage facilities. There is no denying the high value of gas storage. It gives more flexibility; a coveted asset in itself. It allows traders to buy the low-price gas/LNG at the wrong season and sell the high price gas/LNG at the right season. But getting into that position takes significant effort; sweat that only the most confident can afford.

3. Artifical Intelligence – Shipping Route Optimization

Optimize, optimize, optimize. Variables in the LNG supply chain abound; from upstream, storage, trading through to the last seaborne mile. But amid today's 4th Industrial Revolution (4IR), data aplenty can standardize and spur efficiencies in the value chain – and quickly. Machines must start talking to machines more frequently and seamlessly; they think in microseconds whereas traders think in days. Still, human talent and communication must remain in the lead role. Humans notice nuances in operations – such as quickly adapting to unpredictable events – that machines are not guaranteed to imitate. For example, if a ship arrives early at port, the captain can call on a favor to dock early, potentially saving thousands of US dollars in fuel. Efficiencies via artificial intelligence and other digital tools under the umbrella of the 4IR that can be introduced abound. From improving the shipping route, identifying available vessels, those with the best delivery track record, weather forecasts and the level of maritime traffic anticipated in the area are just a smattering of the vital facts that could be shared instantaneously. All this information can already be accessed, but not at the flick of a switch. Speed, accuracy and ease in the form of a live data feed for the LNG port, trading and shipping markets will remove some logistical headaches. Some majors that are already succeeding in this field are largely keeping it under wraps to protect their competitive edge and their intellectual property (IP). Entrepreneurs and small and medium-sized enterprises (SMEs) are also making progress but tapping significant financings can be challenging. The greater the digital progress made by the market, the greater financiers' confidence becomes – and the looser the purse strings. ■

STREAM 2

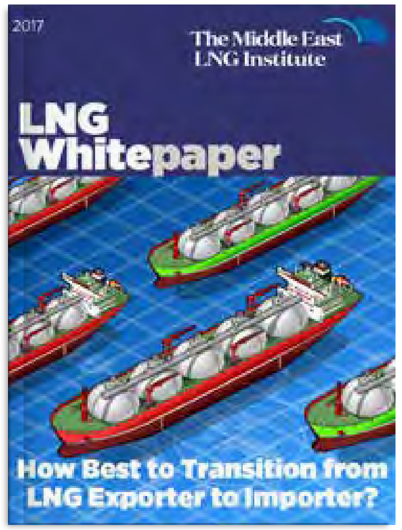
Other Recommendations*

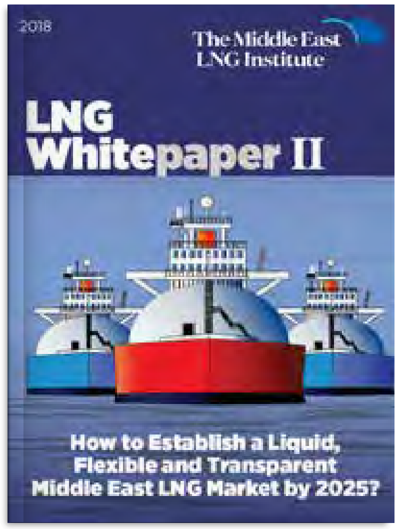
✓ Direct LNG Tonnage To Suit Trading Pattern/Supply/Demand
✓ Prudent Mix Of Long, Short-Term Contracts In The Long Run
✓ Leverage Rising Transparency On Physical Market/LNG Exchange
✓ Delivery (E.g. Ship Short Selling)
✓ Shipyard/Shipowner Long-Term View
✓ Manage Demand For LNG In Immediate Term: Improve Energy Efficiency On Demand Side & Increase Renewables Investment And Energy Storage

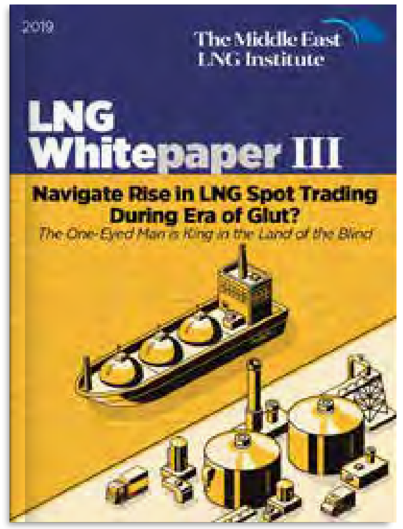
**Not in order of priority*

THE LNG WHITEPAPER SERIES: ESTABLISHED 2017

Exclusive and forward-looking insights are harvested from the esteemed Annual Workshop to form the Middle East LNG Workshop Whitepaper. The Middle East LNG Institute, in partnership with Gulf Intelligence, shares the high-level content with stakeholders worldwide.







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