THE OFFICIAL LNG2026 SHOW DAILY

Published by Petroleum Economist Official Media Partner

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Lower-Carbon World **Cannot Happen without LNG**

- Leading with Certainty
- LNG, a Strategic Safeguard
- Filling a Gap in the Global LNG Market
- US LNG Enters 2026 in Strong Position

Atlas Copco welcomes you to ***LNG 2026***

At Atlas Copco, we bring together decades of LNG experience, a strong global presence, and the flexibility to support projects across every stage of the natural gas value chain. From liquefaction and storage to transport and regasification, our compression and expansion technologies are designed to deliver reliable performance in the most demanding LNG environments.

Booth No. **9110** | 2nd - 5th February

Scan the QR code to know more.

Atlas Copco
Gas and Process

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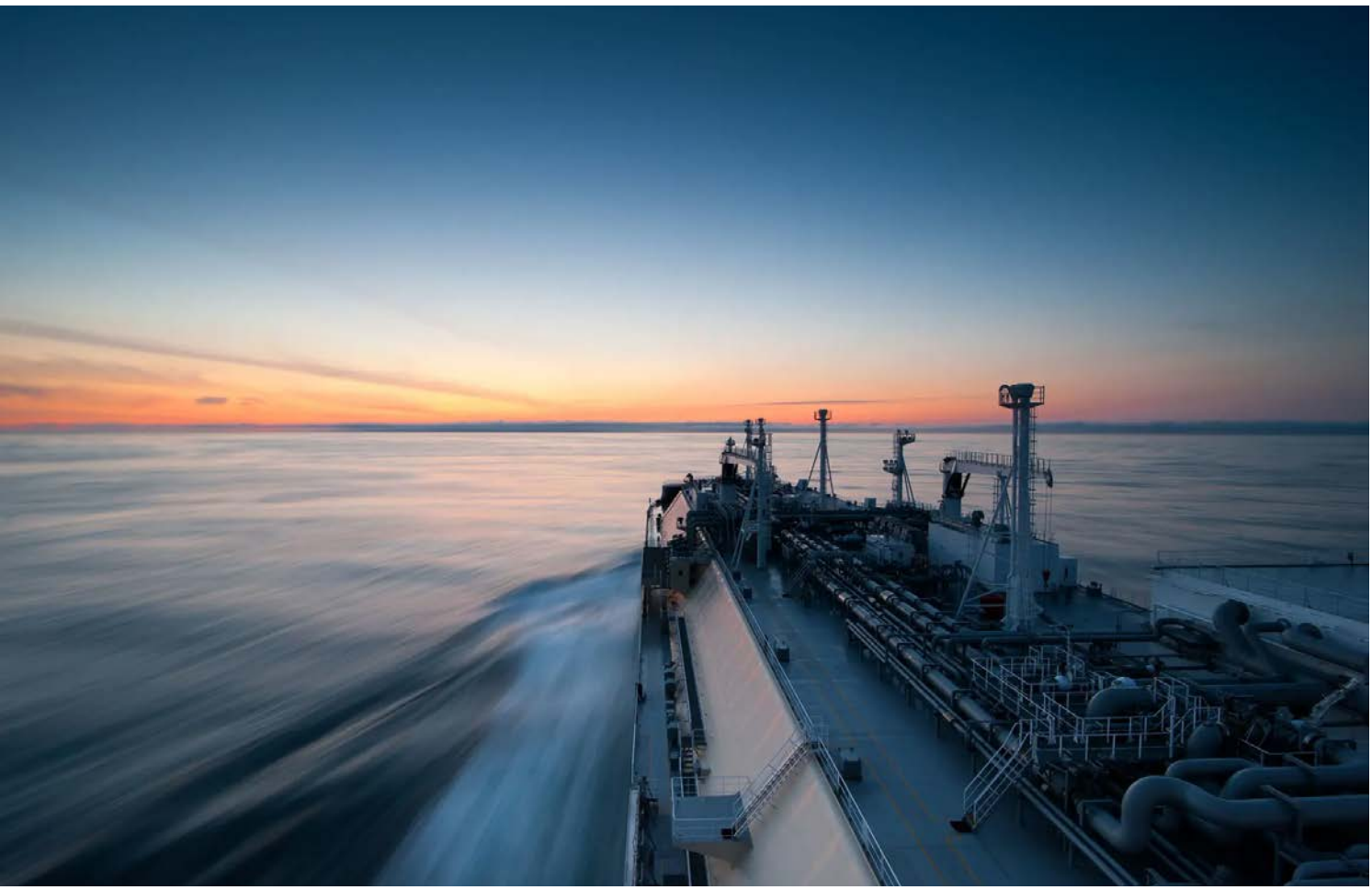


Welcome

The International Institute of Refrigeration (IIR), the intergovernmental organisation for the development of refrigeration technologies, is delighted to be one of the co-owners of LNG2026 in Qatar. As a longstanding partner of the LNG conference series, and with our expert Commission A2 working on the liquefaction and separation of gases, the IIR is particularly looking forward to the Technical Programme on offer at LNG2026. This edition will provide an exceptional platform to highlight the latest technological advances in LNG production, storage and transport, and to foster dialogue on efficiency, safety, and sustainability.

We warmly encourage you to participate in LNG2026, it will also offer a unique opportunity for experts, policymakers and industry leaders to engage on how LNG can support the global transition toward cleaner energy systems, while reinforcing the crucial role of the unbiased and reliable refrigeration sciences in enabling these developments. LNG2026 will be a key meeting point to understand how the global LNG market can respond to changing regulations and climate considerations.•

Yosr Allouche
Director General
International Institute of Refrigeration

Event Overview

Today brings fresh perspectives as industry leaders and innovators come together to explore the latest developments, emerging technologies and evolving market opportunities across the LNG sector. From insightful Plenary and Spotlight Sessions to the Technical Programme across the Conference Halls and the exhibition floor, today offers practical insights and forward-looking discussion. At the Discovery Hub today, delegates can experience one-on-one expert chats that bring the latest technologies to life. There's something for every LNG professional.
With plenty of opportunities to learn, connect and exchange ideas, make the most of your day at the QNCC.

REGISTRATION ONSITE AND BADGE PICK UP

Registration Opening Times:
Location 1: QNCC, Conference Side, Main Car Park Entrance
Location 2: QNCC, Exhibition Side, Hall 6 Registration Desk

3–4 February
Locations 1 and 2 8:00 – 17:00 daily

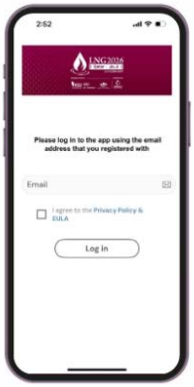
5 February
Locations 1 and 2 8:00 – 15:00

Every time an attendee enters LNG2026 they will be asked to present government issued photo ID. This can be a valid passport or a Qatar ID (QID) for residents.
All attendees are required to wear their badge AT ALL TIMES during LNG2026, and this includes networking functions. Attendees will only be able to access the areas of the event included in their registration.
We look forward to seeing you at the Qatar National Convention Centre (QNCC) today. •

LNG2026 Event App

The LNG2026 Event App, brought to you by Shell, will be an essential tool to help you navigate the event.
The Event App contains the programme for the week, speaker profiles, exhibition layout, exhibiting company profiles, details of networking functions and much more.

How to Download the Event App



Download the LNG2026 App

Download the LNG2026 Event App to your phone from Play Store or App Store, or use the QR code below:

Download on the App Store
GET IT ON Google Play

How to Access the Event App

1. Open the Event App and search for LNG2026
2. Log in using your email address you used to register for the event
3. To verify your account, you will need to enter a code sent to your email (please check your spam folder) or mobile.

Once Logged In

Depending on your registration type you will have access to different features e.g. floor plans, full programme, speaker profiles, exhibitor list as well as creating your own personalised schedule for the event.

Features Available to All Attendees:

- Event information
- LNG2026 Show Daily

Benefits for Conference Delegates:

- View attendee list
- Schedule meetings
- Manage your schedule
- View speaker profiles, papers, and posters

Event App Helpdesk

If you require help or advice with regards to the Event App, please speak to our staff at the Event App Support Desks located in the Spider Area, Level 1 and Exhibition Foyer, Ground Level or email support@allintheloop.com •

Wednesday's Programme

EXECUTIVE PROGRAMME: Plenary Sessions

Exploring Europe's Gas Future

As Europe reshapes its gas supply, LNG has become central to energy security and market stability. This session explores how diversification, contracting strategies and infrastructure readiness are redefining Europe's LNG landscape.

8:30 I Conference Hall

LNG's Role in Meeting Growing Energy Demand and Supporting Economic Development

This session explores how LNG can support industrial development, job creation and improved quality of life in emerging markets, examining the opportunities and challenges of using LNG to meet growing energy demand across power, transport and industry..

13:00 I Conference Hall

EXECUTIVE PROGRAMME: Spotlight Sessions

Fuelling the Future: Navigating the Evolving Landscape of LNG Project Financing

Industry leaders discuss the challenges and opportunities in LNG project financing, innovative strategies and the impact on gas affordability, particularly in emerging markets.

10:45 I Auditorium 1

Powering AI: Meeting the Energy Demand of the AI Data Centre Boom

Experts explore how LNG is powering the AI-driven data centre boom, enabling rapid, flexible and resilient energy solutions for the digital economy.

14:15 I Auditorium 1

TECHNICAL PROGRAMME: Paper Presentations and Panel Discussions on Commercial Topics

Improving Environmental Performance across the LNG Value Chain– New Technologies and Strategies

This session highlights new concepts and technologies advancing LNG decarbonisation, including carbon capture on brownfield projects to 'e-methane' production.

10:30 I Technical Programme Hall A

Improving Environmental Performance across the LNG Value Chain–Focus on Qatar

See how Qatar is leading in lower-carbon LNG, from production to export.

14:00 I Technical Programme Hall B

EXHIBITION HIGHLIGHTS

Explore cutting-edge technologies, live demonstrations and interactive displays.

Exhibition Opening Hours

- **Wednesday 4 February 2026:** 9:00 – 17:00
- **Thursday 5 February 2026:** 9:00 – 15:00

Don't Miss the Networking Reception at 17:00 Today

Join us in the **East Foyer, Level 1, QNCC** for an evening of connections and conversation, brought to you by LNG2029. Enjoy refreshments, traditional delicacies and entertainment, meet fellow delegates and exchange ideas in a relaxed, welcoming setting.

Sponsored by: LNG2029 BRISBANE April 17–20

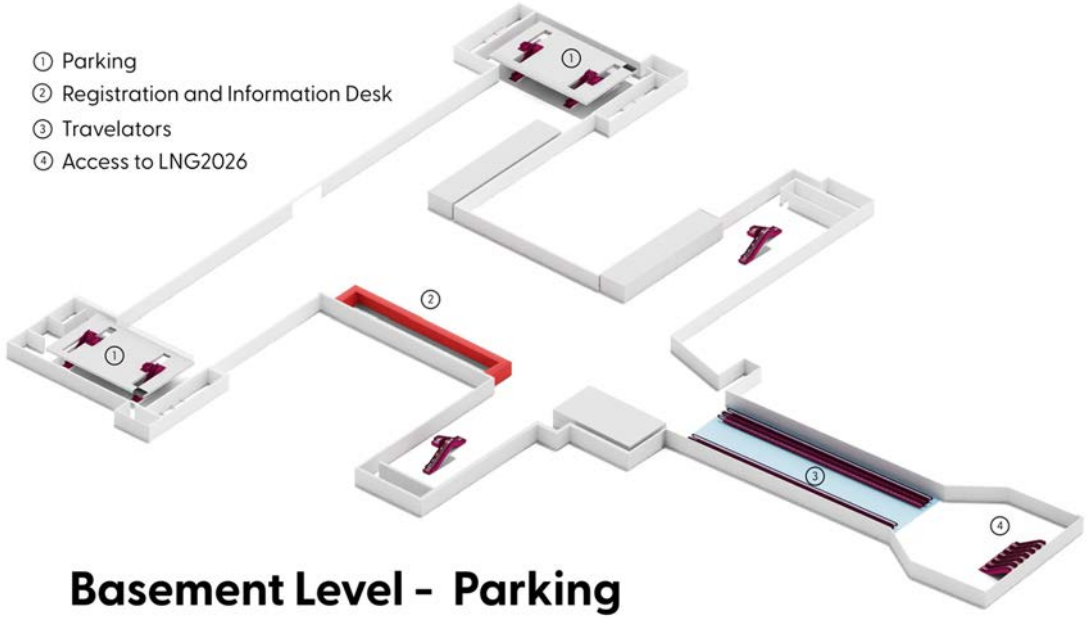
For the full programme, remember to download the LNG2026 Event App and manage your programme schedule through the app. •

Wednesday's Programme at a Glance

For the full up-to-date programme, remember to download the LNG2026 Event App and view the latest programme schedule.

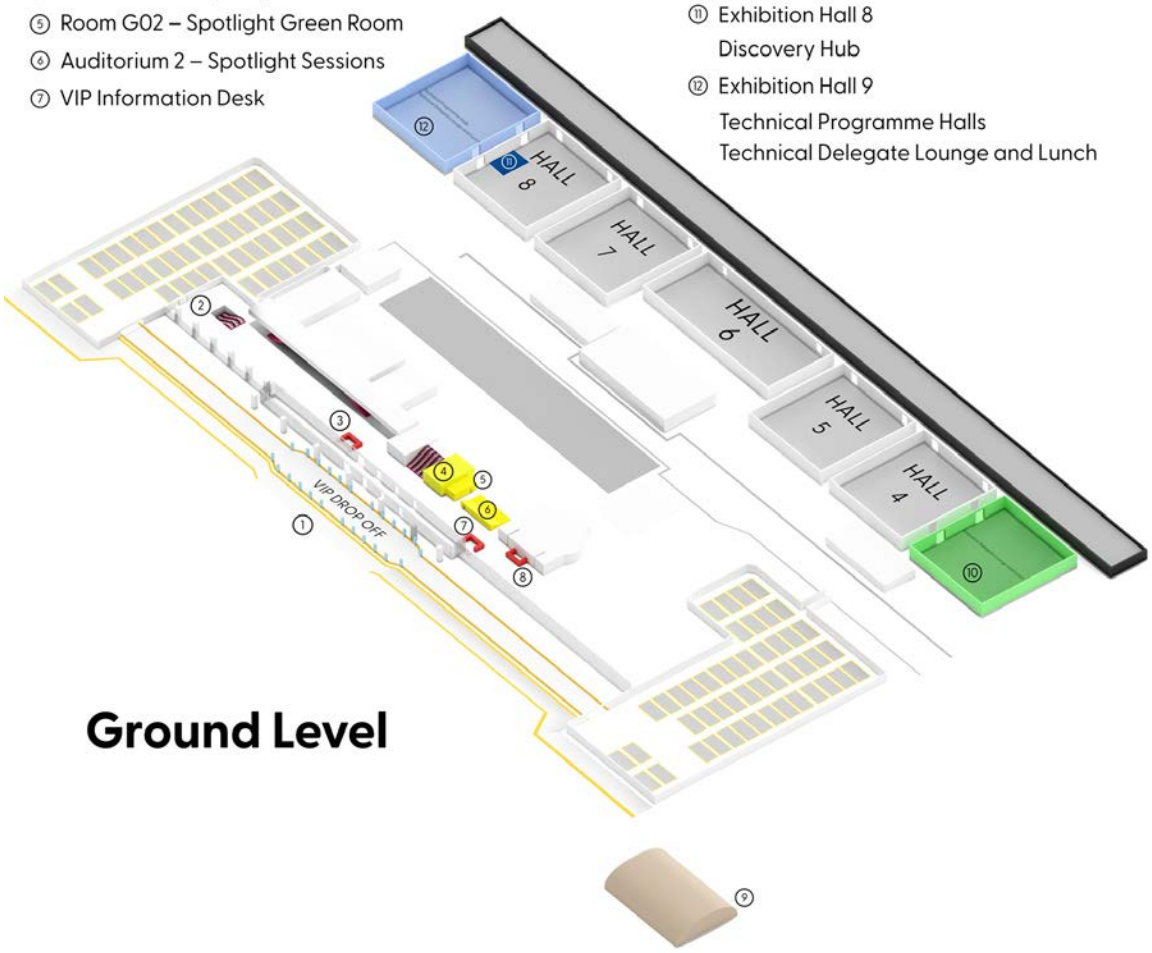
8:30 - 9:30	PL05 - Exploring Europe's Gas Future	Conference Hall
10:30 - 10:45	Break	
10:30 - 12:00	TP10 - Improving Environmental Performance across the LNG Value Chain – New Technologies and Strategies	Technical Programme Hall A
	TP11 - Operations, Best Practices, Process Safety: Sustainability, Life Extension and Asset Integrity	Technical Programme Hall B
	TP12 - Innovative Liquefaction, Gas Processing and Storage Solutions	Technical Programme Hall C
10:45 - 11:45	SP07 - Fuelling the Future: Navigating the Evolving Landscape of LNG Project Financing	Auditorium 1
	SP08 - The Continued Evolution of LNG	Auditorium 2
12:00 - 13:00	Lunch	
13:00 - 14:00	PL06 - LNG's Role in Meeting Growing Energy Demand and Supporting Economic Development	Conference Hall
14:00 - 14:15	Break	
14:00 - 15:30	TP13 - Shipping, Marine and Port Operations: Decarbonisation and Reduction in GHG Emissions in Marine Operations	Technical Programme Hall A
	TP14 - Improving Environmental Performance across the LNG Value Chain – Focus on Qatar	Technical Programme Hall B
	TP15 - Operations, Best Practices, Process Safety: Safety, Maintenance and Reliability	Technical Programme Hall C
14:15 - 15:15	SP09 - Powering AI: Meeting the Energy Demands of the AI Data Centre Boom	Auditorium 1
	SP10 - Exploring Commercial Innovations in LNG Contracting	Auditorium 2
15:15 - 15:30	Break	
15:30 - 17:00	Discovery Hub Live	Hall 8, Exhibition
17:00 - 19:00	Networking Reception for All Delegates	East Foyer, Level 1, QNCC

LNG2026 Floorplan



Basement Level - Parking

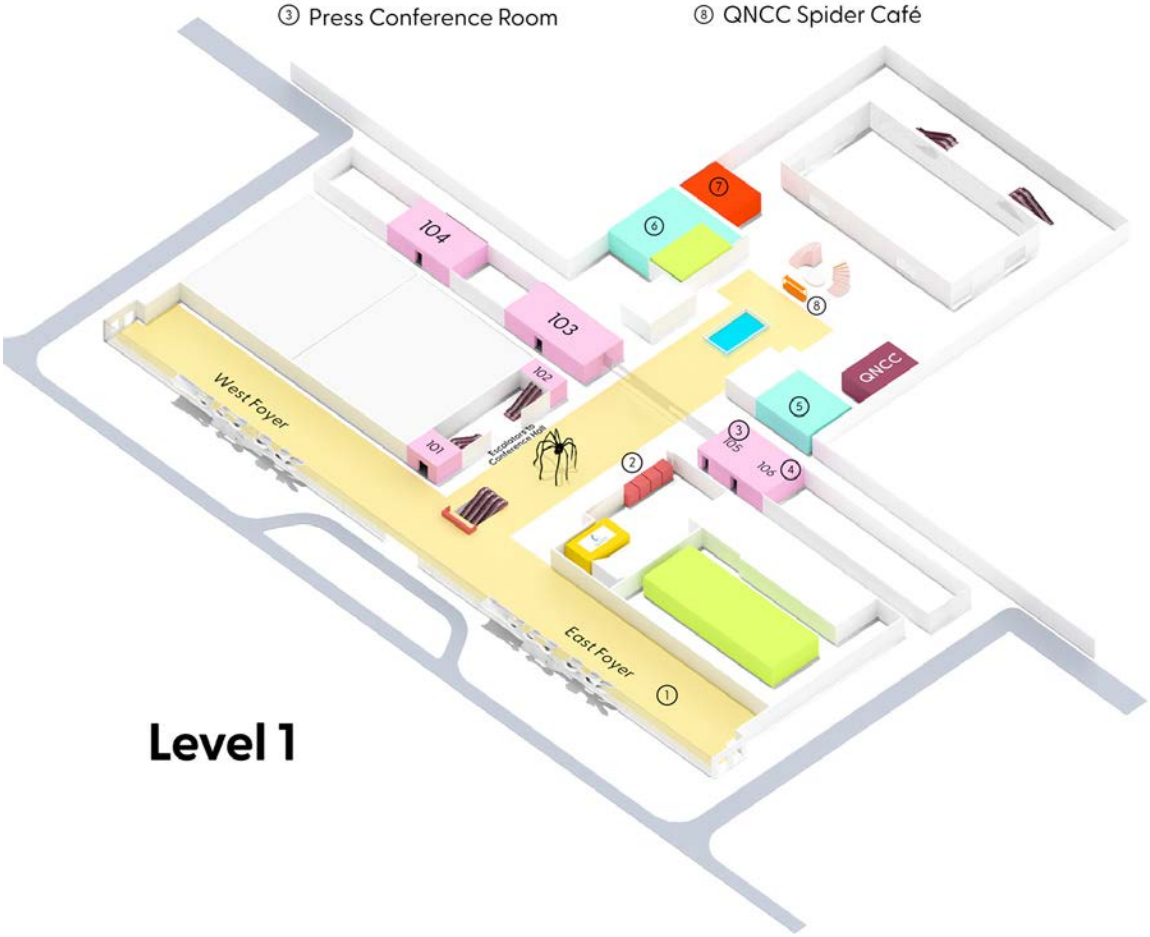
① VIP Entrance
② Access to Parking
③ Cloakroom/Lost and Found
④ Auditorium 1 – Spotlight Sessions
⑤ Room G02 – Spotlight Green Room
⑥ Auditorium 2 – Spotlight Sessions
⑦ VIP Information Desk
⑧ Delegate Bag Collection Desk
⑨ Qatar National Library Station
⑩ Exhibition Hall 3
Executive Delegate Lounge and Lunch
⑪ Exhibition Hall 8
Discovery Hub
⑫ Exhibition Hall 9
Technical Programme Halls
Technical Delegate Lounge and Lunch



Ground Level

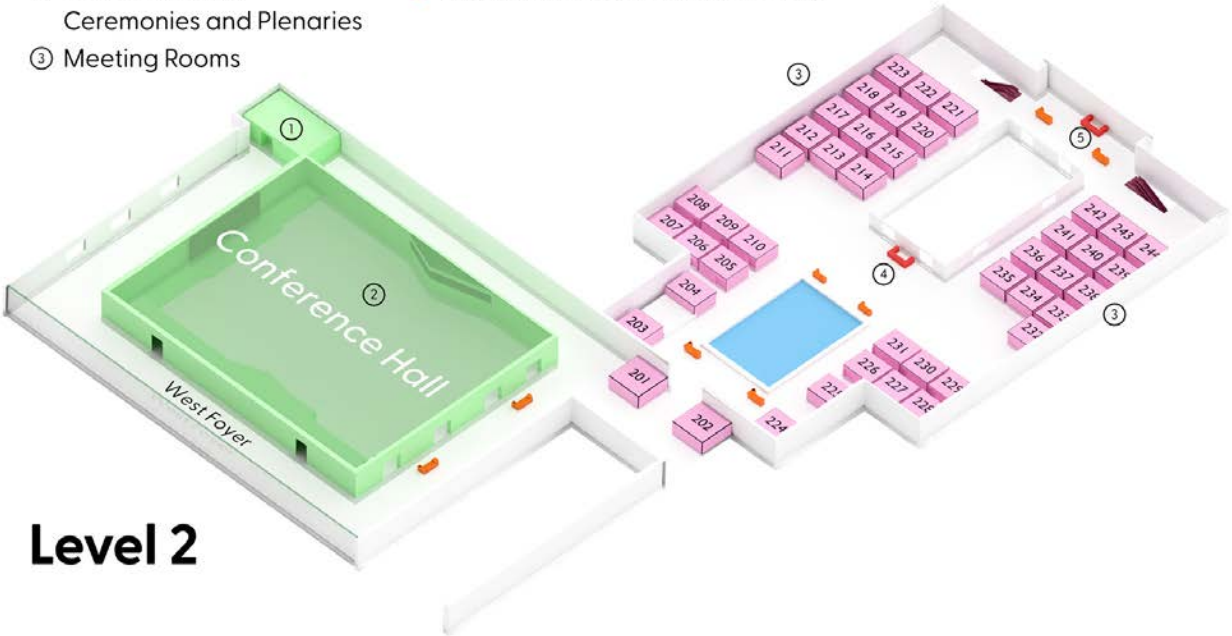
LNG2026 Floorplan

① Networking Reception (Day 3)
② Media Information Desk
Information Desk
Event App Support
③ Press Conference Room
④ Media Centre
⑤ Male Prayer Room
⑥ Female Prayer Room
⑦ Medical Centre
⑧ QNCC Spider Café



Level 1

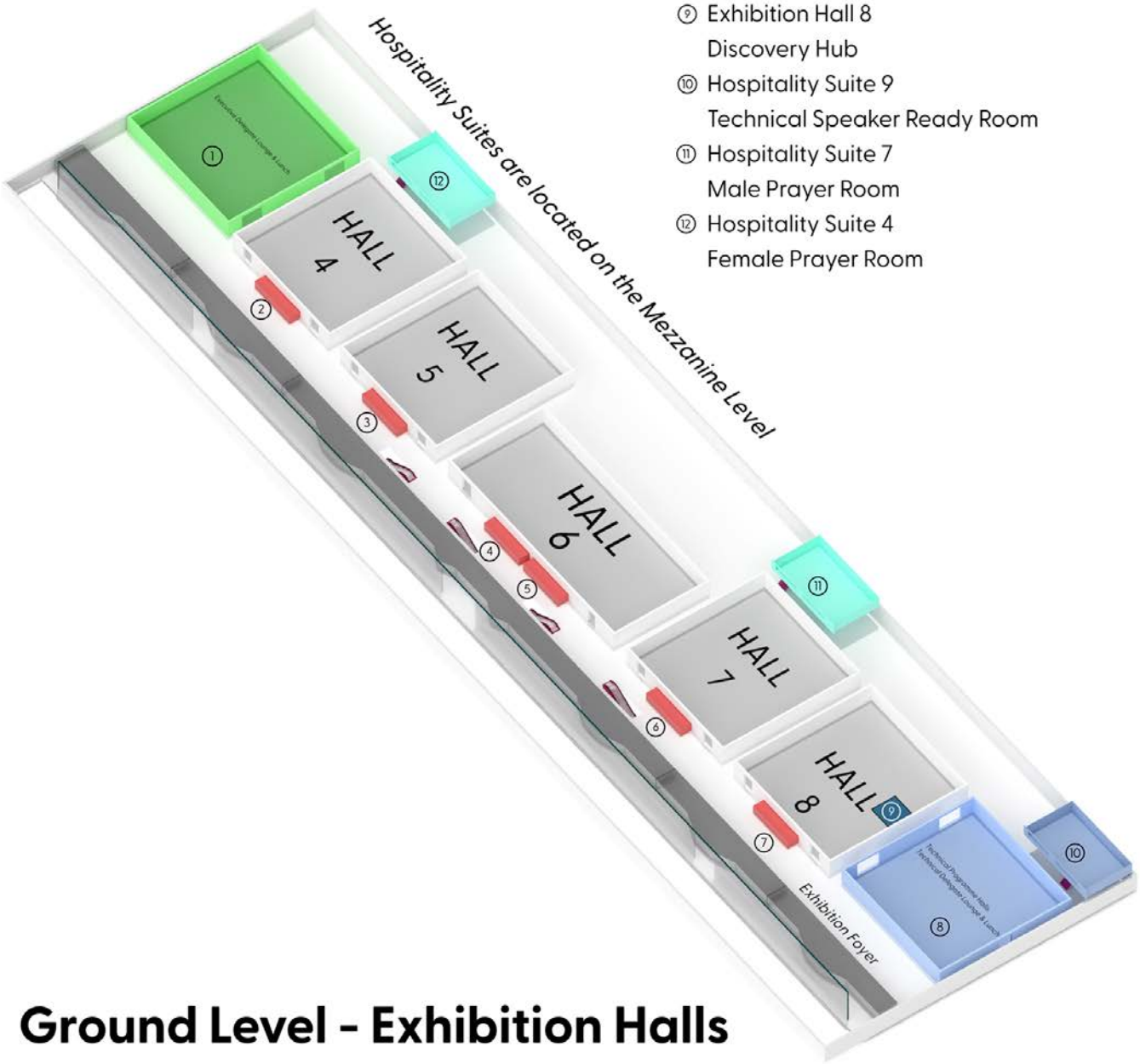
① Plenary Green Room
② Conference Hall - Ceremonies and Plenaries
③ Meeting Rooms
④+⑤ Meeting Rooms Information Desk
Executive Delegate Coffee Break



Level 2

LNG2026 Floorplan

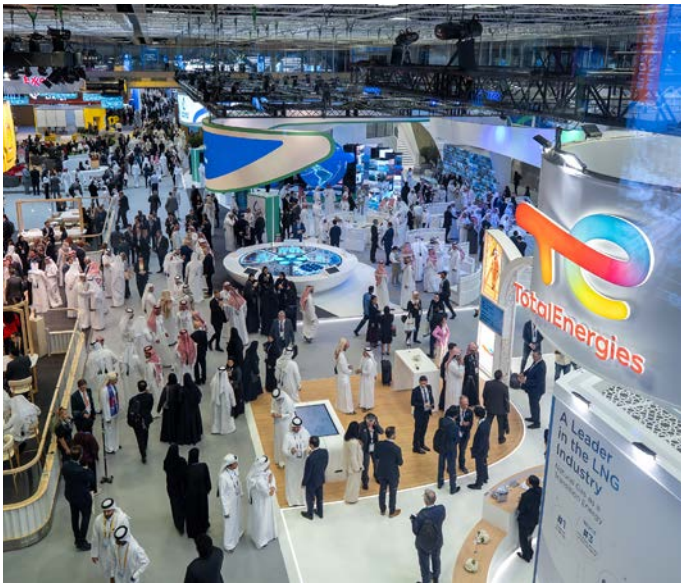
① Exhibition Hall 3
Executive Delegate Lounge and Lunch
② Trade Visitor Registration Desk
③ Trade Visitor Registration Desk
④ Conference and Exhibition Accreditation
⑤ Information Desk/Event App Support
⑥ Trade Visitor Registration Desk
⑦ Cloakroom
⑧ Exhibition Hall 9
Technical Programme Halls
Technical Delegate Lounge and Lunch
⑨ Exhibition Hall 8
Discovery Hub
⑩ Hospitality Suite 9
Technical Speaker Ready Room
⑪ Hospitality Suite 7
Male Prayer Room
⑫ Hospitality Suite 4
Female Prayer Room



Ground Level - Exhibition Halls

Tuesday's Highlights

From inspiring panels to great networking, relive yesterday's highlights through our photo galllery. •



What to Expect on Thursday

EXECUTIVE PROGRAMME: Plenary Sessions

The Future of LNG: Insights and Outlook from LNG2026

Closing plenary reflecting on four days of dialogue, innovation and industry perspectives. Industry leaders discuss key takeaways, technological advancements and the future of LNG for affordability, sustainability and resilience.

Thursday 5 February 11:00 I Conference Hall

EXECUTIVE PROGRAMME: Spotlight Sessions

The Catalyst for Hydrogen and Ammonia

This session explores how LNG can support the transition to hydrogen and ammonia—from enabling blue production with carbon capture to adapting existing LNG infrastructure and applying LNG market lessons to accelerate new lower-carbon fuels.

Thursday 5 February 9:45 I Auditorium 2

Digital Transformation in the LNG Industry

Experts examine how AI, digital twins and cybersecurity are transforming LNG operations and efficiency.

Thursday 5 February 9:45 I Auditorium 1

TECHNICAL PROGRAMME: Paper Presentations and Panel Discussions on Commercial Topics

Operations and Equipment Technology

Discover how innovations in LNG processes and equipment boost efficiency, cut costs and reduce environmental impact.

Thursday 5 February 9:30 I Technical Programme Hall C

Don't Miss the Closing Ceremony at 11:45

Celebrate a week of achievements, key insights and industry progress, including a special handover to LNG2029 in Australia.

Thursday 5 February 11:45 I Conference Hall •

Discover Qatar

Modern Experiences and Local Flavours

The city also offers vibrant modern attractions, stunning waterfronts and unique local experiences. From scenic walks and luxury shopping to bustling markets and lively dining districts, there's something for every explorer.

Doha Corniche

A picturesque waterfront promenade stretching along Doha Bay, perfect for walking, cycling or simply enjoying skyline views at sunrise or sunset.

Souq Waqif

For a taste of traditional commerce, explore the bustling alleys filled with falcons, handcrafted jewellery, spices and local souvenirs.

Msheireb Downtown Doha

A modern urban district blending heritage and contemporary architecture with chic cafés, restaurants and boutique shops, great for a relaxed afternoon.

The Pearl-Qatar

A luxurious man-made island offering high-end shopping, fine dining and a marina-lined promenade, perfect for strolling and people-watching.

Villaggio Mall / Doha Festival City

For those who love retail therapy, these iconic malls feature global brands, family entertainment and unique dining experiences under one roof.

Tours and Excursions

For a truly memorable visit, explore and book experiences such as Discover Doha, Discover the Desert and Inland Sea, or Enjoy a Sunset Dhow Boat Cruise. These experiences can be reserved through the Travel page at lng2026.com/plan-stay •

Lower-Carbon World Cannot Happen without LNG

Energy leaders emphasise that, with addition rather than transition driving consumption needs, LNG will play a necessary and complementary role for the foreseeable future | **Paul Hickin**, Editor-in-Chief and Chief Economist, *Petroleum Economist*

Natural gas is very much "at the centre" of the move to a lower-carbon world, technology pioneer Baker Hughes' chairman and CEO, Lorenzo Simonelli, said at LNG2026.

Simonelli argued that energy security is key, noting that "when you look at the abundance of natural gas around the world, [it] is really not a transition fuel. It is a destination fuel."

"It's thanks to natural gas that we'll be able to go towards a lower-carbon economy. You've seen that happen in the US, and you've seen that happen in Europe, where already today a lot of natural gas is utilised. But elsewhere in the world, as part of the energy mix gas is still relatively small," Simonelli observed at a panel titled 'LNG: A Critical Enabler for a Lower-Carbon Future'.

Flexibility and versatility

The Baker Hughes leader talked up the global importance of the optionality that LNG provides. "When you think about natural gas outside of a pipeline, the best way to have natural gas is through LNG," he said. Consumption and supply are not always in the same place, so it's important to continue to build out LNG infrastructure, Simonelli noted. "And I would say that, over the last 15 years, the growth has been significant, and we don't see that stopping. What's good about an event like this is that we can tackle the questions around the fear of oversupply, which we think are exaggerated," he added.

Simonelli said the world must realise the truth that energy demand is increasing—for example, with the rise of AI and datacentres—even in mature economies, where it was thought consumption patterns would slow and plateau, and across the developing world, where he argued it is only fair for everybody to share in economic development. Natural gas and LNG underpin both these elements.

"If we're going to do the same things the way we did them before, we're likely going to lead to brownouts," Simonelli warned, citing the example of Houston, Texas where he lives, and the crucial need to keep building infrastructure to keep up with demand. "Many in this room, like I, would have felt that Houston doesn't suffer blackouts; well, I can tell you that Houston suffers blackouts more than I thought," he quipped.

Simonelli's anecdote came with a serious message: the infrastructure is fragile, but that's not because of a lack of investment but due to the scale of demand. "We need a resilient infrastructure going forward," he concluded, stressing the critical role of working together in partnership and providing a consistent and collective voice, given that many outside the industry don't really understand how energy is produced.

Liz Westcott, acting CEO of Woodside Energy, a top Australian energy company, highlighted the important role Asia will play in gas demand as well as LNG's versatility and its ability to support renewables and the "the

massive decarbonisation goals by displacing some of the really high intensity fuel uses such as coal and oil".

Westcott contrasted Simonelli's Houston example with that of Australia, where extreme heat recently put the electricity grid under pressure in some states that rely on a lot on renewable energy. "Without traditional energy such as natural gas, those states probably experience a blackout that day," she warned, referring to a key Australia holiday in late January that caused the spike in energy use.

The world is finding out that we're not in an energy transition, we are in an energy addition – Pieton, Technip Energies

"It really just underpins the role natural gas can play, even in very established renewable volumes on backfilling and being flexible when needed," Westcott said.

Yukio Kani, global CEO and chair of JERA, warned that volatility is increasing and that LNG, with its reliability and affordability is the only practical solution.

From a buyer side and as leader of a key Japanese power company, Kani emphasised the importance of diversifying sources to respond to seasonality in the near term but also long-term consumption patterns.

Addition not transition

Arnaud Pieton, CEO of Technip Energies, did not mince his words: "The world is finding out that we're not in an energy transition, we are in an energy addition."

Pieton added that there's no replacement and there's no displacement. "The cheesecake of energy is just getting thicker," he said. "Of course, the share of renewable in that space is growing, but there's no replacement and, actually, gas is a is necessary to renewables," he added.

A leading engineering, procurement and construction player, Technip is observing that the demand for innovation is not stopping the demand for more efficient solutions.

"Decarbonisation will not be an affordable transition. So no one's paying more for a low-carbon solution… we have to win on affordability," was Pieton's pragmatic message, even if the approach to innovation and appetite for risk has improved.

"The maths has to work—in terms of the capex, the opex and the rest. If the maths doesn't work, there's no adoption," Pieton added.

Simonelli also highlighted how the LNG industry has metamorphosed. "We're very excited because, if you look at the development of LNG over the course of the last few decades, it's been impressive," he said, adding that early large-scale projects were stick-built, non-modular and very labour intensive.

Simonelli underlined the point that financially viability is pivotal, with the cost curves over the course of the last 20 years having significantly improved relative to affordability.

You're always going to need a baseload. And our belief is that natural gas and LNG can be that resilient baseload – Simonelli, Baker Hughes

"The operations that we are managing and working on are really working 24/7 and producing at limits that previously weren't anticipated. That is innovation at scale. It's progress at scale. And it's allowing us to continue to look forward and make natural gas the destination fuel as opposed to a transition fuel," Simonelli reiterated. "And I don't see that stopping."

Simonelli highlighted the crucial role LNG will continue to play as baseload power in energy systems, given how resilient and clean it is compared with alternatives.

The panellists all concurred that LNG integrates with other energy supplies such as hydropower, wind, solar and hydrogen. It is a case of both, and not either/or.

"You're always going to need a baseload. And our belief is that natural gas and LNG can be that resilient baseload," said Simonelli.

The panel also talked about the right regulatory policies and the right permitting and the importance of a well-functioning ecosystem and partnerships.•

EU Methane Regulation Could Backfire

While broadly supportive of EU efforts to tackle methane emissions, representatives of the gas industry warn it could deter supply contracting if timelines and compliance requirements are not made more pragmatic | **Joseph Murphy,** Senior Gas Analyst, *Petroleum Economist*

Well-intentioned European methane regulations risk becoming an overly blunt instrument that penalises some gas and LNG producers without adequately reflecting measurement uncertainty, technological progress or the broader global emissions context, panellists said during a discussion at LNG2026.

The speakers said the EU's emerging methane framework, which will expand monitoring, reporting and verification standards to imported gas, could raise costs, complicate trade flows and create unintended distortions between suppliers, even as the industry broadly supports the objective of cutting methane.

Compliance risks and contracting constraints

Kavita Ahluwalia, senior vice president for governmental relations international at Uniper, said European buyers support methane abatement and have already been working to reduce emissions, but warned the EU rules now extend compliance obligations up the value chain in ways that can be difficult to adhere to—and that timelines and penalties risk restricting new contracting for gas. This is at a time when the EU is pushing to eliminate all remaining Russian gas imports within the next two years, with most of this volume needing to be replaced with LNG.

"While the intention is absolutely right," Ahluwalia said, there is a key distinction between emissions that can be managed operationally by companies such as Uniper and those that are outside the company's control. "It means that basically we have to account for emissions further up the value chain," she said.

Sometimes that is achievable. For example, a buyer might take LNG from a specific terminal that receives gas via a specific pipeline from a specific field, with each part of that chain potentially owned by a single entity, making it easier to trace the emissions associated with a particular supply contract. But it can run into difficulties where value chains are complex, such as in markets like the US, where gas trade is highly fungible and fragmented, involving many different producers and infrastructure owners, making it very difficult to link a specific LNG cargo delivered to Europe with the emissions profile of the upstream production that generated it.

Ahluwalia also criticised the EU's timeframe for introducing requirements. Under the regulation as it stands, importers must demonstrate by the start of next year that the hydrocarbons they import can have their emissions monitored, reported and verified up to the standards of those applied domestically in the EU or up to the internationally recognised OGMP 2.0 Level 5 level. By August 2028, importers must report the methane intensity of imported hydrocarbons, and by August 2030 ensure the intensity is below a limit set by the European Commission.

The timelines that have been imposed are very strict, and the consequences could be very grave – Ahluwalia, Uniper

"The timelines that have been imposed are very strict, and the consequences could be very grave," Ahluwalia said. "They would see us having to be fully compliant with new contracts and having to report on those emissions by early next year," she said, adding that legal teams were focused on the risk of fines. "Penalties imposed at the level of 20% of annual turnover is just too much."

This risk will deter deal-making, potentially preventing Europe from accessing what is expected to be increasingly affordable gas supply over the next few years, driven by increased LNG arriving on the global market.

Certification as a workaround

One potential solution, she said, was the development of certification systems that decouple physical gas flow from emissions attributions.

"We want to be able to access this gas, even if it's not always clear where the gas actually emanated from at a production level," she said. "So, for that reason, you

delink the molecule—the actual physicality of the molecule with its attributes."

Rather than requiring physical traceability of a specific cargo back to a single upstream field, the approach would rely on third-party verification of methane performance at the production or portfolio level, with those environmental attributes converted into certificates that can be traded separately from the physical gas.

"You'd basically have a verifier verify what emissions are linked to a set molecule, introduce it to the space and then, at the other end, be able to take that certificate out alongside the gas," she said. "It's been proven that this can work."

The concept is similar in principle to renewable energy certificates or guarantees of origin used in power markets, where environmental attributes are tracked and traded independently of physical electricity flows.

Regulatory overreach

Philip Mshelbila, secretary general of the Gas Exporting Countries Forum (GECF), commended the EU in taking the lead on tackling methane emissions. However, he said that, while exporters supported methane abatement, there were concerns about the extraterritorial effects and the capability of some producing countries to comply.

"Let me start by reiterating the fact that GECF and all its member countries support methane emissions reduction," he said. "Where we begin to differ is on the how."

He said the challenge emerges when a regional regime imposes requirements beyond its borders: "The challenge is when one region begins to put in place regulations that have extra-territorial implications and imposes penalties on third countries, their producers, their exporters." He added that climate outcomes depend on cooperation: "One atmosphere doesn't matter whether you're sitting in the EU in the US, in Africa or in the Middle East or in Asia; it's the same atmosphere that's going to be damaged by this methane."

At the same time, he also stressed the potency of methane as a greenhouse gas, while underlining the commercial logic for reducing losses.

"It is dangerous. It is something that we have to deal with," he said. "And if you are able to keep your methane in the pipe, that is value that translates into money. It's a product you can sell, whether it's LNG or pipeline gas."

Operational solutions

Arnaud Lenail-Chouteau, vice president for LNG assets and business development at TotalEnergies, described methane reduction as a core corporate priority and backed the direction of European regulation, while urging clearer compliance requirements and pragmatism in implementation. "As far as TotalEnergies is concerned, we are really in support of EU methane regulations because it's very consistent with what we are trying to achieve as a company," he said, while stressing: "We are very keen to get as much as clarity as possible on what will be the compliance requirements expected from the importers."

> **Let me start by reiterating the fact that GECF and all its member countries support methane emissions reduction. Where we begin to differ is on the how – Mshelbila, GECF**

Lenail-Chouteau pointed to a company-wide operational focus on flaring, venting and early leak detection, and described practical interventions as well as new monitoring systems. TotalEnergies has deployed more than 10,000 monitoring devices across its global asset base, he said. The network includes infrared cameras and connected IoT sensors and flow meters, alongside in-house drone technology used to carry out aerial surveys of facilities. He described these drone surveys as a major step forward for methane monitoring.

The company has also established a centralised methane tracking centre in southern France, which aggregates and analyses data from the sensor network worldwide, allowing TotalEnergies to compare performance across sites, respond more quickly to anomalies and strengthen control of methane emissions.

From the technology and equipment side, Ken West, CEO of process technology at Honeywell, framed methane as an efficiency problem that can be addressed through integrated systems and predictive maintenance. "One of the advantages that comes with having an integrated solution is the connectivity from liquefaction all the way back to the pretreatment of the gas and, on top of that, an integrated control system," he said. "When you think about methane emissions, [they] represent basically an inefficiency in the overall process. It's a fugitive gas that's getting out."

West said operators need a mass-balance view of entire facilities, comparing what goes in with what comes out, because any unexplained losses can be assumed to be fugitive methane. Honeywell is using connected-plant data, leak-detection technologies and advanced analytics to move operations from reactive to predictive. The company is connected to more than 1,000 process units and ingests around 3.5b data points per day, with analysis powered by its AI-enabled Honeywell Forge platform.•

Evolving Partnerships in LNG

Partnerships across the LNG value chain have evolved over time, growing in both complexity and importance, according to panellists | **Joseph Murphy**

Partnerships have shifted from being largely transactional arrangements in the LNG industry to becoming central to how projects are financed, delivered and ultimately operated, panellists said at an LNG2026 session. The scale and complexity of LNG projects today has fundamentally changed how companies work together, and heightened geopolitical tensions over recent years have only increased the value of effective collaboration built on trust.

Executives from across the LNG supply chain said relationships that once revolved around point-to-point contracts are now far more integrated, longer-term and multidimensional, reflecting the need to manage capital intensity, risk allocation and political uncertainty more effectively than in the past.

There needs to be diversity of supply so individual countries and companies feel comfortable – Fusco, Cheniere

On the supply side

For LNG suppliers, partnerships increasingly shape everything from financing and infrastructure development to market access and government engagement. Cheniere CEO Jack Fusco said his company had spent more than a decade investing roughly $50b in LNG infrastructure, requiring long-term contracts with creditworthy customers to underpin financing. Those relationships, he said, are essential to building out capacity, but they are not sufficient on their own.

Fusco added that reliability remains a defining feature of successful partnerships. He pointed to the company's most recent 13mt/yr of long-term LNG sales contracts, all of which were signed with repeat customers, as evidence that buyers value consistency of supply and affordability over time. Diversity of supply, he said, has also become increasingly important as governments and companies seek greater energy security. "We're not going to supply all of it," he said. "There needs to be diversity of supply so individual countries and companies feel comfortable."

The relationship between suppliers and governments has also grown more consequential. Fusco said engagement with policymakers can materially shape project outcomes but is only one part of a much larger puzzle that includes financing, construction and customer demand. He also welcomed the improved collaboration with the US government under the current administration.

"They talk to us. They like us. They listen to us," he said. "But at the end of the day, you still need the customers, you still need the financing, and these are very complicated construction projects that take time."

On the trading side

For traders, the evolution has been equally stark. Vitol CEO Russell Hardy said that, around 20 years ago, the LNG business was largely a buyer-seller model, with cargoes moving along fixed corridors between producers and end-users. As new gas resources were developed and markets diversified, greater flexibility became essential. "Gas is much more of a just-in-time commodity," he said, contrasting it with oil, where storage is more abundant and inventories are measured in months rather than days.

Hardy said the biggest change over the past two decades has been the growth of portfolios across the industry. Producers, traders and buyers now manage increasingly complex positions, requiring flexibility in pricing, logistics and contract structures to remain competitive. Traders, he said, have built partnerships across the supply chain, including shipping and logistics, to deliver energy reliably and on time.

Not every producer wants to create a flexible portfolio, and not every buyer wants to source directly from upstream suppliers, Hardy said. Traders often act as intermediaries, absorbing risk, creating optionality and opening new markets before others are willing to follow. "We may go in first and provide that bridgehead," he said, adding that, once markets are de-risked, other players often enter.

Companies such as commodities trader Vitol play a critical role in bridging markets where risk profiles are less compatible with the financing needs of large liquefaction developers, according to Fusco. He said traders often have a far higher tolerance for commercial and credit risk, allowing LNG to reach markets that developers would otherwise struggle to serve directly. "We build infrastructure, and we need those long-term customers

to help us grow that infrastructure base," he said. "But it's companies like Vitol that help us access other markets that maybe aren't as creditworthy as the ones we need to get our financing."

Petronas CEO Tengku Muhammad Taufik said traders are often unfairly characterised as "promiscuous" but argued that modern LNG markets rely on trusted intermediaries to match sellers and buyers and to create optionality across an increasingly complex system. He said the LNG business has evolved from a largely point-to-point model with limited flexibility into a far more fluid ecosystem in which transparency, trust and flexibility are paramount.

On the engineering side

From an engineering and construction perspective, partnerships are even more critical, given the scale and complexity of LNG projects. McDermott International CEO Michael McKelvy said EPC contractors sit at a pivotal point in the value chain, where success or failure can determine overall project outcomes. "Everything has to come through us at one particular point," he said, adding that failure to deliver project certainty can be catastrophic.

McKelvy said partnerships allow contractors to combine resources and capabilities in ways that create value for customers, arguing that "one plus one can be three" when partnerships are structured correctly. They also provide risk mitigation, particularly when contractors encounter difficulties. In recent years, he said, some partnerships have proven resilient, with partners stepping in to support troubled projects, while others have failed, underscoring the importance of careful partner selection.

Cultural alignment and clear rules of engagement are essential, McKelvy said, alongside transparency and mutual understanding. But he also stressed that partnership did not necessarily mean full agreement but could mean "constructive conflict".

In LNG, partnerships at the EPC level must also be understood and supported by customers, shareholders and regulators. Compared with the past, he said, integration with customers has deepened significantly, replacing transactional "throw it over the fence" relationships with collaborative models in which customers are closely involved in delivery.

That transparency becomes especially important when projects face challenges. LNG developments involve multibillion-dollar investments, complex logistics and large workforces, McKelvy said, requiring open communication with regulators, code authorities and customers when conditions change. Long-standing relationships, he added, allow customers to request specific personnel by name, reflecting trust built over years of collaboration.

Partnership amid geopolitical volatility

Executives also argued that the nature of partnerships is being reshaped by growing geopolitical volatility. Security of supply has moved to the top of the agenda, with affordability only just behind it, as governments reassess energy strategies in response to geopolitical shocks. The industry has shifted from more idealistic assumptions to a pragmatic focus on how to power economic growth reliably, with Tengku Taufik noting that energy security now "trumps everything".

According to the Petronas CEO, partner selection has become "even more daunting" as geopolitics and energy security increasingly shape commercial decisions. The situation has forced developers to prioritise like-minded partners that are not easily swayed by political changes—those that "don't take knee-jerk reactions over a policy announcement"—and are capable of sharing risk pragmatically.

He pointed to Petronas' LNG complex in Sarawak, which has been operating since the early 1980s and still supplies customers that have taken cargoes for more than four decades, as evidence that long-term reliability and openness are key to durable partnerships.

Fast-changing geopolitical conditions have also increased the value of flexibility in partnerships. Hardy pointed to the rapid loss of tens of billions of cubic metres of Russian pipeline gas to Europe in 2022, which forced the LNG industry to respond at unprecedented speed by diverting cargoes and building regasification capacity. This kept homes heated and grids balanced in Europe, he said, "though at a cost" of high energy prices and economic weakness.

McKelvy agreed that geopolitical uncertainty had intensified the need for risk-sharing. He said EPC contractors now had to be more open and transparent with customers about how to handle risks outside either party's control, whether related to trade restrictions, labour availability or supply-chain disruptions. McDermott has responded by developing a global fabrication network, allowing it to modularise projects and source components from regions less exposed to geopolitical or cost pressures.

Since the pandemic, he said, attitudes toward risk sharing have shifted markedly. COVID-19, followed by supply-chain disruptions, conflicts and geopolitical tensions, has made uncertainty a constant rather than an exception. "The openness to that risk-sharing model has been much greater in the last five years than it was in the previous 15," he said.•

PARTNERED CONTENT

Leading with Certainty

A Conversation with **Neil Gunnion,** McDermott Country Head and Vice President, Operations, Qatar

How does digitalisation fit into McDermott's long term strategy for operations in Qatar?

Gunnion: Digitalisation, for us, has evolved beyond driving efficiency. It is now a tool for delivering certainty for our customers. To minimise schedule disruptions, we leverage digital technologies to rehearse the project before we build it. With McDermott, a seamless digital thread, driven by project management, links engineering, supply chain and our QFAB fabrication yard together to identify conflicts, constraints and bottlenecks months ahead of execution. The increased visibility tells us exactly where to focus our attention and resources.

We're not simply digitising documents; we're digitising the execution logic. This is how we ensure predictability.

Adoption of new technologies is a perennial challenge. How do you ensure legacy systems integrate with new digital solutions?

Gunnion: One of the industry's perennial problems is that engineering, procurement and construction data often lives in isolated silos, each speaking its own digital language.

Instead of forcing everyone into a single proprietary "black box," McDermott is a technology agnostic integrator. We implement visualisation and orchestration layers that sit above existing tools, creating a unified, logic driven information highway.

Whether it's a 3D model, a procurement milestone, or a construction sequence, all stakeholders see one aligned reality—from a supervisor in Ras Laffan to a design engineer in London.

Our goal is to democratise data, not imprison it. And with the support of key digitalisation partners, we're already seeing meaningful success.

Digital twins are becoming standard for new builds, but what about "brownfield digitalisation"? How are you applying modern tools to Qatar's mature offshore facilities?

Gunnion: Merging brownfield digitalisation with modern technology is essential for Qatar and the region. You cannot build a true digital ecosystem if half your assets live on paper and the other half in the cloud.

To close the gap, we forge strategic partnerships that combine reality capture with AI. Using high resolution 3D laser scanning, we can capture the "as is" condition of aging offshore facilities. AI then converts those vast point clouds into intelligent CAD models automatically.

This allows us to place decades old platforms into the same modern visualisation environment as new expansion projects. Suddenly, a 20 year old asset can be managed with the same digital precision as a brand new one.

The key is collaboration—bringing together operators, an integrated EPC contractor, a next generation digitalisation provider and cutting edge scanning technology to transform brownfield data into actionable intelligence.

There is often a perception that AI replaces human talent. How has digitalisation changed skill requirements across your workforce?

Gunnion: We see AI as an accelerator, not a replacement. Our goal is to build an AI augmented workforce here in Doha—one where technology removes friction, allowing our subject matter experts to focus on high value engineering and decision making.

For example, we're developing an AI expeditor to predict supply chain delays before they materialise and AI driven document generation tools to dramatically speed up execution.

Instead of engineers spending days chasing dates or counting pipes, AI provides the intelligence, and the engineer applies judgment and solution making. By 2026, our document management workflows will be heavily AI supported, automating the enormous effort of managing thousands of documents. •

MCDERMOTT

Filling a Gap in the Global LNG Market

De la Rey Venter, CEO of LNG player MidOcean Energy, discusses strategy, project developments and the prospects for the LNG market | **Joseph Murphy**

What gap in the LNG market was the company aiming to fill at its launch in 2022, and how has the strategy evolved?

Venter: The gap in the market was the absence of a global, highly diversified, full-function, full-value-chain midcap LNG company. The space was vacant after Shell acquired BG. We set out to create a well-capitalised company that is nimble, highly commercial and has deep links all over the global LNG industry and the investment banking and project finance worlds. We grow largely through acquisitions. We drive global diversity into the portfolio from the onset. And we balance between acquiring existing onstream assets to build out a solid and growing cash flow foundation for the company and investing selectively in new greenfield projects. That has been our strategy from day one—and it remains the strategy.

What was the rationale for buying the Petronas stake in LNG Canada—and the value of upstream exposure?

Venter: LNG Canada is a prized LNG value chain that connects a superb upstream province with decades of gas supply to the growing LNG markets of North and South Asia. It is expandable, cost and carbon competitive, and very long life. Adding Canada to the global supply roster gives buyers more diversity and security of supply. We equity lift our share of the production, which is in line with our 'full function' business model that is a well-to-water model. And being invested across the full value chain is what we look for wherever possible. It is a hedge against long-term local market price fluctuations, protects against value migration and provides a more controllable long-term cash cost base.

How are talks with Energy Transfer on Lake Charles LNG progressing?

Venter: We were essentially done with all of the project docs between Energy Transfer (ET) and MidOcean, ready to issue LNTP and get on the clock towards FID, when ET changed their position and decided to allocate more capital to their core pipeline business—and stand back from Lake Charles. This is a change of capital allocation priorities within ET, but it does not alter the strong fundamentals of Lake Charles. We still believe it is one of the most attractive opportunities in the Gulf. ET has stated an openness to engage others on taking over the project.

What does MidOcean look for when choosing anchor investors such as Saudi Aramco?

Venter: We seek strategic investor partners who bring more than capital. Firstly, a long-term perspective and time horizon––MidOcean is a permanent capital vehicle, not a limited lifespan Private Equity fund. Secondly, anchors that can scale their capital commitments as we grow the company—versus one-off investors. Thirdly, partners that can provide balance sheet support, investment-grade-rated offtake, market access and intelligence, and bring their networks and relationships around the world. An anchor investor should help the company grow and thrive and be an active player in the delivery of our strategy and the promise to our investors—whilst respecting that MidOcean must independently

MidOcean Energy was established in 2022 by EIG, and in the following years brought on board Aramco and Mitsubishi as strategic partners. It currently holds stakes in five liquefaction projects globally

make commercial decisions and serve the interests of all its investors in a balanced manner. One of the first things I learned after starting this role is that not all capital is the same. We look for capital with the right DNA!

Can demand absorb the near-term LNG capacity build–and will low prices spur more demand?

Venter: The market is entering a major expansion phase. Every time this happened in the past, it triggered major growth in global LNG demand. Softer prices, and the expectation of affordable prices for the foreseeable future, unleashes latent demand around the world. Demand that has been waiting for the cost of LNG to come into a target range that enables more demand pull from chemicals, heavy industry, the transport sector, residential and commercial––and, of course, power as well. I have no doubt that the latent demand for LNG will absorb the current capacity buildout. Could there be dips in the spot market indexes that causes pain for some suppliers as demand catches up with supply? Yes. That can happen. But these dips tend to be relatively short-lived given how quickly demand responds and how quickly unprofitable supply gets shut in.

Where are the main drivers of growth in Asia?

Venter: Growth will be driven by three things: (a) rising gas demand across most all consumption sectors in Southeast and South Asia as these regions become the engines of global economic growth for the next decade or two; (b) increased use of gas as a cleaner alternative in heavy industry and petrochemicals; and (c) new demand vectors such as marine bunkering, trucking and gas-fired power underpinning resilience of fast-growing power systems around the world. India and parts of ASEAN look particularly important for incremental demand.

How materially do ESG requirements influence MidOcean's investment choices?

Venter: ESG is fully integrated into our investment process–it's not a box-tick exercise but a material underwriting factor for us and for our lenders. MidOcean applies ESG diligence at origination and through asset ownership. This covers, for example, the future position of an asset on the carbon intensity curve, climate risk assessments, emissions management and reduction strategies, methane management, stakeholder engagement, host community relationships and governance standards and practices. These assessments materially influence whether we proceed and how we structure investments.

Where do you see MidOcean in five years?

Venter: In five years, we aim to be a top-tier, diversified global LNG platform. That means a larger, even more diversified supply footprint, coupled with a highly diverse sales portfolio. We want to be respected for our commercial creativity and admired for the speed and decisiveness at which we move. But also, I want MidOcean to have the brand of company that you want to do business with. A company of the highest integrity. A company that you can do business with on a handshake. A company that is a pleasure to do business with. A valued joint venture partner–supportive, creative, value-adding–and able to mobilise even more capital than today and pull off major transactions, be these new developments or acquisitions. •

Matching Asian LNG Demand with Regional Supply

INPEX's senior vice-president for global marketing, Koichi Okamoto, argues the company is well-positioned to meet growing Asian LNG demand with its own projects in the region. He also comments on the outlook for prices and LNG trading dynamics, pragmatic energy transition pathways and the future role for LNG in Japan | **Joseph Murphy**

What is INPEX's view on the outlook for LNG? Following the energy crisis, can we consider increased volatility in the LNG market as the new norm?

Okamoto: The outlook on the global LNG market can vary depending on how one views the scope and impact of renewables, but it is widely expected that global demand will outpace the production volume of existing projects after the first half of the 2030s, and new projects will need to come onstream to sustain the market.

Demand will predominantly grow in Asia, where traditional buyers in East Asia are expected to remain key markets while medium-to-long-term demand growth is expected mainly in South and Southeast Asia.

INPEX is strategically positioned to respond to this growing demand through its Ichthys and Abadi LNG operations, and we continue to contribute to the supply of stable, affordable and sustainable energy to the region.

In terms of spot prices, the startup of multiple projects in North America and the Middle East is expected to elevate the overall supply volume with a tendency to lessen price fluctuations, although geopolitical, meteorological and operational factors will continue to impact supply and demand, especially in key markets such as Asia and Europe.

There will also likely continue to be sufficient demand in emerging markets for LNG as a cleaner alternative to other fossil fuels, and this is a market that we will closely monitor and be in a position to supply.

Can we expect high momentum behind LNG project FIDs to decline in the year to come?

Okamoto: The strong commercial momentum we have seen in recent years appears to be driving several more pre-FID projects in North America. While the recent wave of sanctioned projects will boost global LNG supply in the coming years, the relatively long lead times required in this business mean that development plans need to be kept in motion to ensure sustained supplies in the medium-to-long term where further demand growth is expected.

Furthermore, it should be recognised that most of the projects that will come onstream are located in North America and the Middle East, while demand growth will continue to be centred around Asia. As output from existing projects in the APAC region declines with limited new supply sources, LNG buyers' expectations for APAC projects to reach FID will likely grow stronger, given the buyers' preference for diversifying their supply sources.

What risks does the impending period of increased supply represent to producers? To what extent can lower prices in the coming years stimulate new structural demand, and where?

Okamoto: Increased supply from the newly started-up facilities will lower prices and drive up demand over the short-to-medium term, affecting LNG spot prices in particular. Asia and Europe are expected to remain key markets, and new structural demand will likely expand on the back of growing economies such as those in South and Southeast Asia as the infrastructure in these regions gets developed. Affordable LNG will also further help incentivise these regions to introduce LNG as a new source of relatively clean energy.

Can you elaborate on INPEX's overarching strategy towards LNG and how it fits into the company's overall strategy?

Okamoto: In February 2025, INPEX announced its new long-term vision and mid-term business plan, called INPEX Vision 2035. The vision is based on three pillars, the first of which is the expansion of our upstream business, with a focus on natural gas and LNG. More specifically, we will seek to expand the liquefaction capacity of our flagship Ichthys LNG project while maintaining safe and reliable operation; aim to achieve FID and begin operations on our Abadi LNG project in Indonesia at an early stage; strengthen our LNG capabilities to achieve greater flexibility in supply by increasing our LNG portfolio; and focus on exploration activities in high-potential areas such as Southeast Asia where we can expect early monetisation.

The other two pillars consist of lower-carbon solutions leveraging CCS and hydrogen, and initiatives in non-oil and gas resources and power-related business fields, both of which are expected to complement our core business of developing and producing natural gas and LNG to maintain and expand a stable supply of energy and grow our business while making it cleaner.

Energy transition pathways vary across regions and require tailored measures. Pragmatic pathways involve integrating gas production facilities with CCS and effectively utilising lower-carbon solutions such as blue hydrogen and ammonia, in addition to tapping sustainable renewable energy sources.

What trends do you see in LNG trading?

Okamoto: A surge in supply volume over the short-to-medium term will lower prices and provide more flexibility and leverage to buyers. However, rising demand, especially in Asia, and a growing need for energy security in Europe and other places around the world point to structural market shifts and the need to optimise LNG trading portfolios.

In this context, to ensure a stable and consistent LNG supply, we will seek to strengthen our capabilities to supply LNG more flexibly and complement the LNG supply from our projects, with the goal of increasing our net LNG trading volume to approximately 8.5mt/yr by 2027, mainly through US LNG. In addition to this, we will further increase our net LNG trading volume through third-party procurement and eventually the startup of the Abadi LNG project.

How does INPEX look to increase the sustainability of its LNG/gas operations?

Okamoto: As part of our second growth pillar, consisting of lower-carbon solutions leveraging CCS and hydrogen, we are involved in various initiatives to minimise the carbon intensity of our projects in different parts of the world, starting with the INPEX-operated Bonaparte CCS Project in Australia, which is expected to reduce GHG emissions by 2mt/yr by around 2030 at Ichthys LNG. Meanwhile, the Abadi LNG project in Indonesia, where we commenced FEED work in 2025, will incorporate a CCS component that will capture 100% of native CO_2 from the reservoir from the first day of operations.

As part of our vision, we announced our '60/60' target for growth and emissions reduction, whereby we will grow our business scale by 60% while reducing net carbon intensity also by 60% over the next ten years, through CCS and other measures.

What about the LNG dynamics in Japan? How will increases in nuclear energy generation in the coming years impact LNG demand?

Okamoto: The seventh strategic energy plan, issued by the Japanese government in February 2025, sets an energy roadmap towards 2040, aiming for carbon neutrality by restructuring the power generation mix, growing renewables to 40–50% from the current 23% and nuclear to approximately 20% from the current 8.5%.

The plan also seeks to downscale thermal power from 68% to approximately 30–40% while continuing to position LNG-fired power generation as a key component of the power generation mix for its relatively lower emissions. LNG will be particularly important as a flexible and reliable source of power to back up the fluctuating output of renewable energy.

This is indicative of the essential role that natural gas and LNG will continue to play well into the future, to sufficiently provide for the expected increase in electricity demand due to the development of digital and green transformation initiatives, at competitive prices all based on the premise of safety first. •

US LNG Enters 2026 in Strong Position

The sector moves into the new year with firm political backing and a dominant export position, but shifting market fundamentals and looming EU emissions rules are set to test its next phase of growth, says Charlie Riedl, executive director of the Center for LNG | **Joseph Murphy**

The US LNG industry has started the year in a position of strength both politically and commercially but faces uncertainty around incoming EU methane emissions regulation and as the global market moves into a phase of increased supply and lower prices, Charlie Riedl, executive director of the Center for LNG, told *Petroleum Economist*.

Washington has made clear it views LNG as a strategic asset, not only for providing energy security to its allies but also as a tool of international diplomacy and trade policy, Riedl said. This is at a time when the US has consolidated its position as the world's largest LNG exporter, having delivered a record 111mt in 2025, according to preliminary data.

"The US LNG industry is in a very favourable position right now," Riedl said. Yet he cautioned the outlook over the next year was uncertain for a number of reasons.

EU methane rules

One of the biggest variables is the EU's methane emissions regulation, which applies not only to domestic producers but also to imported oil, gas and coal. Adopted in 2024 and entering its first implementation phases, the regulation requires importers to monitor, report and verify methane emissions across the supply chain, with penalties envisaged for non-compliance later in the decade.

For US LNG exporters and European buyers, the question is how those rules will be applied in practice. Given the diverse ownership of upstream and midstream assets in the US, and the vast number of wells and thousands of kilometres of pipelines involved, ensuring compliance is inherently difficult. The US LNG industry has urged Brussels to adopt country-level equivalency for US supplies rather than demanding project-level traceability.

The European Commission has indicated some willingness to introduce flexibility, including the possibility of compliance through certification mechanisms rather than strict asset-by-asset equivalence. But significant details remain unresolved, Riedl said.

"There is still this need to define what compliance looks like," Riedl said. "The penalty issue is a big unknown."

Commission officials met with EU member states in mid-December to begin outlining how penalties might work, according to Riedl, while industry groups on both sides of the Atlantic have continued to press for clarity. The US government has also become more directly involved, warning Brussels that overly rigid implementation could amount to a non-tariff trade barrier.

"The good news is that at least the dialogue is now happening," Riedl said. "It's going to take government to government to solve this."

The stakes are high. The EU has pledged to purchase up to $750b worth of US energy over several years as part of broader trade deal, a target that implicitly assumes LNG will play a central role. At the same time, Europe plans to phase out remaining imports of Russian pipeline gas and LNG—a move that would further increase reliance on US supply, provided regulatory hurdles can be managed.

Regulatory issues at home

Beyond Europe, US exporters are also watching domestic regulatory developments closely. The Federal Energy Regulatory Commission (FERC) has launched a notice of intent aimed at streamlining LNG permitting, a move the industry says could materially affect projects already in the approval pipeline.

When FERC first began permitting LNG terminals, it required extensive engineering detail and design scrutiny, reflecting the novelty and scale of the facilities. After a decade of operations, the agency now has a substantial track record showing US LNG terminals to be safe, reliable and "world class", Riedl said.

At the same time, FERC faces persistent staffing constraints, even as its workload grows. The agency is considering a more tiered approach to approvals. Under the proposal, certain expansions that do not fundamentally alter a facility's footprint could qualify for blanket authori-

sations, allowing projects to move ahead more quickly.

"That would mean greater speed and efficiency, both for FERC staff and for projects," Riedl said, adding that similar frameworks already exist for pipelines and are being explored for other infrastructure, including wind.

More contentious is a separate US trade rule affecting LNG shipping. Regulations drafted by the US Trade Representative (USTR) require a growing share of LNG carriers serving US exports to be built domestically—a requirement the industry argues is unrealistic given the absence of a competitive US LNG shipbuilding sector.

In October, the USTR scrapped one of the most punitive measures in the policy, which could have seen US LNG exporters lose their export licences if they failed to comply. But, otherwise, there has been little movement towards reversing the rules, Riedl said.

"We've got this year and next year to get to the bottom of this before we start running into significant issues," he said, warning that the rule could be weaponised by a future administration less supportive of LNG.

Political risks also stem from the upcoming mid-term elections later this year, which could see control of Congress flip, potentially leaving the president a lame duck. "There are a lot of things out there that make it hard to say with certainty what the outcome is going to be," Riedl said.

Shifting market conditions

Against this backdrop of policy uncertainty, the market environment is also shifting rapidly. A wave of new LNG supply is coming online in the US and Qatar, adding to capacity that has already pushed prices sharply lower from the highs seen in 2022 following the start of the Russia-Ukraine conflict.

The new price environment has already claimed its first high-profile casualty. Energy Transfer surprised the market in December by suspending work on its 16.5mt/yr Lake Charles LNG project, despite signalling only weeks earlier that it was close to taking FID.

"I don't think many people saw that coming," Riedl said. He added that, while he would not speculate on which projects might follow, Lake Charles was unlikely to be the last to be sidelined as the industry adjusts to the prospect of oversupply later this decade.

Major greenfield projects still tracking to reach FID face the greatest risk. By contrast, planned expansions at existing projects are in a stronger position.

"This is not the end of the US LNG buildout," Riedl said.

The pace of FIDs is already slowing from the record levels of the past two years, but Riedl does not expect a prolonged glut. "Yes, you're going to see a slowdown in FIDs," he said. "No, I don't think you're going to see this wildly oversupplied market that some suggest."

Historically, the LNG market has repeatedly found ways to rebalance, he said, even if periods of oversupply lasting a year or more are possible. Weather, geopolitics and policy shocks—from warmer-than-expected winters to wars—continue to create volatility for a fuel that is increasingly global and tied to variable demand for power generation and heating.

Lower prices, however, may prove to be a catalyst rather than a constraint. As LNG becomes more affordable, countries that were effectively priced out of the market over the past two years could return, signing long-term contracts to hedge against future volatility.

South America, South Asia and parts of Southeast Asia are likely candidates. India and Pakistan have repeatedly cited affordability as a barrier to higher gas use, while Vietnam and other emerging Asian economies have ambitious gas-to-power plans that stalled as spot prices surged.

Europe also has some growth prospects. The EU's plan to eliminate remaining Russian pipeline gas and LNG can create some structural demand for alternative supply. But Riedl noted that potential barriers created by the incoming methane regulations could limit Europe's access to the very LNG it needs most.

At the same time, any reduction in Russian LNG reaching Europe is unlikely to remove volumes from the global market altogether. "I don't think you're going to see LNG coming off the water," Riedl said, suggesting cargoes would instead be redirected to Asia, limiting the impact on overall supply. •

Customised Turbomachinery Solutions

Klaus Brun, vice president for products & technology at Ebara Elliott Energy, discusses how the company prides itself on developing, designing and building highly customised turbomachinery products optimised for a client's specific process and application | **Joseph Murphy**

Ebara Elliott Energy (EEE) provides turbomachinery for some of the world's most important LNG projects. How would you characterise the company's current operational footprint globally?

Brun: EEE is a major player in the global LNG market. Our portfolio covers a broad range of turbomachinery for LNG applications. Many of our machines are specifically tailored to the LNG market to provide optimal performance, reliability and range. This includes not just compressors such as mixed refrigerant, dual refrigerant, end flash gas, propane refrigerant and boosters but also cryogenic liquid LNG pumps and single-phase and two-phase expanders.

EEE's background in LNG stems from its association with Carrier Corporation in the 1950s and 1960s. We are not just a technology leader; we also have a rich history of novel product development in the LNG industry. For example, EEE developed the world's first baseload LNG process in the 1960s and then—later on in the 1970s, 1980s, and 1990s—the world's first gas-turbine-driven LNG compressors, the world's first mixed-refrigerant compressor, the world's first large horizontally split propane compressor, the world's first dual-mixed-refrigerant compressor, and many more pioneering products. We also provided some of the world's largest LNG compressors, with several of our machines in the 100,000+ horsepower range. We have similar pioneering achievements for LNG liquid pumps and expanders, with the largest fleet of these types of machines in operation globally.

Currently, there are EEE products ranging from pumps to compressors and expanders in operation in almost all major LNG facilities in the world. But we don't stop there. We are aggressively developing novel technologies for the LNG industry, such as multi-phase expanders and extremely high flow compressor wheels. We also recently completed our new facility expansion in Jeannette, Pennsylvania, which allows us to full-load-test LNG compressors up to 100MW in power. These ongoing investments demonstrate EEE's significant long-term commitment to the LNG industry and customers.

From a products and technology perspective, how would you differentiate EEE's products from competing offerings in the global market?

Brun: EEE prides itself on working closely with our customers to develop, design and build highly customised products that are optimised for a client's specific process and application.

The LNG value chain begins with upstream production and transitions into specialised gas processing, where contaminants such as H_2S, CO_2, and water are removed using a range of different turbomachines. This is followed by NGL recovery, a cryogenic separation process utilising high-efficiency gas expanders and various compression stages—including flash gas, regasification and booster compressors. The midstream segment centres on the liquefaction plant, which employs a range of proprietary refrigeration cycles such as cascade, single-mixed refrigerant (SMR), and dual-mixed refrigerant (DMR). Each of these licensed processes demands highly customised, precision-engineered turbomachinery tailored to specific thermodynamic requirements.

The technical scope extends into the downstream sector, where cryogenic pumps and regasification compressors facilitate transport and distribution. Ultimately, the entire LNG infrastructure represents an integrated value chain reliant on specialised compression, pumping and expansion technology to maintain cryogenic integrity and operational flow. EEE specialises in all of this tur-

EEE's electrical upgrade project is in response to growing energy demand, particularly from the LNG sector

bomachinery to provide our clients with optimised solutions for their entire LNG process value chain.

How has customer demand evolved in recent years in terms of efficiency, reliability and lifecycle performance, and how has that shaped your product development priorities?

Brun: The liquefaction of natural gas is an energy-intensive process where approximately 10–15% of the feed gas thermal energy is consumed by the refrigeration cycle itself. This significant parasitic load creates a critical mandate for thermodynamic efficiency, as any inefficiency directly reduces the volume of marketable product. Beyond efficiency, the high degree of integration within LNG facilities necessitates extreme operational reliability. Because these complex process plants are difficult to restart once a trip occurs, the turbomachinery must be engineered for maximum ruggedness to ensure continuous availability. The industry has seen a massive shift in scale, evolving from 0.5mt/yr units in the 1960s to modern 'mega-trains' producing 8mt/yr or more. This transition drives a requirement for single-train compressor scaling to handle immense volumetric flows, as operators prefer large-scale individual units over the complexity of managing numerous parallel strings.

From an aerodynamic perspective, designing compressors for these applications involves navigating the challenges of high molecular weight refrigerants. Working fluids such as propane, which has a molecular weight comparable to CO_2, as well as ethylene and nitrogen, introduces complexities related to gas compressibility and Mach number effects. These factors require precise blade path design to manage high throughput and maintain a stable operating range without sacrificing polytropic efficiency.

The fundamental technology relies on either Reverse Rankine (vapour compression) or Reverse Brayton cycles. While Reverse Rankine cycles offer superior compactness and higher efficiency, Reverse Brayton cycles are often favoured for their operational simplicity. Ultimately, the hardware is highly specialised and proprietary; major process licensors require custom-engineered compressors tailored to their specific refrigerant mixtures and thermodynamic cycles, making these machines unique to the specific liquefaction technology employed.

How do you work with LNG operators and technology licensors to optimise your turbomachinery for a specific plant?

Brun: The development of LNG refrigeration and other process systems is a fundamentally iterative process that requires close technical collaboration between technology licensors and turbomachinery OEMs. While most refrigeration cycles rely on established reverse Rankine, reverse Brayton or gas expansion thermodynamics, the practical application is complicated by varying fluid compositions, immense scales and cycle complexities.

It is common for conceptual processes to exceed the physical or mechanical limits of existing equipment, necessitating a two-way exchange where the vendor

provides critical feedback on hardware feasibility. To optimise capital expenditure and improve plant reliability, design efforts often focus on consolidating multiple stages—such as low, medium and high-pressure compressors—into single tandem strings driven by a single prime mover. This integration reduces equipment footprints and minimises potential failure points. Ultimately, the most efficient solutions emerge when vendors proactively suggest innovations, such as strategic expander placement or multi-duty compressor configurations, to align the proprietary process with the mechanical realities of modern turbomachinery.

How is EEE addressing new technology requirements, such as emissions reduction and energy efficiency in the development of its products?

Brun: As noted above, efficiency has become a major driver in the technology development for LNG plant turbomachinery. Whereas, in the past, most clients focused primarily on reliability, ruggedness, capital cost and scalability in the decision-making process, we now see operators also demanding higher efficiency turbomachines.

EEE has very active long-term development technology programmes that continuously aim to improve the performance of our machines. This includes aerodynamic, mechanical and thermodynamic optimisation using advanced computational tools such as computational fluid dynamics (CFD), finite element analysis (FEA) and rotor/blade dynamic analysis.

Traditionally, the LNG industry follows an evolutionary trajectory rather than a revolutionary one, primarily due to the immense capital requirements and inherent risk aversion associated with multi-billion-dollar infrastructure. Engineering efforts focus on blending innovation with proven reliability, ensuring that advancements in machinery do not compromise plant availability. Over the past seven decades, compression technology has matured significantly; while reliability is now well-established even at massive scales, the primary design driver

Many of our machines are specifically tailored to the LNG market to provide optimal performance, reliability and range

has shifted towards maximising thermodynamic efficiency to reduce long-term operational expenditures.

Modern development leverages high-fidelity CFD and FEA to engineer 3D aerodynamic impeller geometries that push the boundaries of polytropic efficiency. These aerodynamic gains must be balanced against structural integrity and rotordynamic stability, particularly in complex compression trains featuring long rotors, multiple casings and numerous impellers. Unlike standard pipeline equipment, LNG compressors often incorporate side loads and intercooling stages, resulting in sophisticated machines that manage multiple mass flow entries.

Given the 25–30-year design life of these assets, even marginal efficiency improvements yield substantial cumulative cost savings. This necessitates highly customised equipment tailored to specific process licensor requirements. Furthermore, the industry is increasingly adopting digitisation through digital twins and fleet monitoring. These technologies enable predictive maintenance and real-time performance analytics, allowing operators to identify potential anomalies early and intervene before mechanical issues escalate into costly downtime.

You mentioned digitalisation and automation. How has the company incorporated digitalisation and AI into its operations?

Brun: EEE has committed significant capital to the development of proprietary fleet-monitoring and digital twin architectures, providing customers with sophisticated tools for day-to-day operational optimisation. By leveraging these technologies, operators can maximise equipment performance, mitigate performance degradation and proactively prevent mechanical failures that lead to costly downtime. Our current portfolio includes digital twins specifically engineered for performance modelling, mechanical integrity assessment and thermal balance analysis across the entire EEE product line.

Presently, EEE provides intelligent remote and fleet-monitoring solutions for compressors, pumps and steam turbines, with plans to integrate this capability across our broader product ecosystem. To enhance these services, we are increasingly incorporating AI into our diagnostic and analytical frameworks. This integration facilitates more rapid, reliable and precise detection of anomalies, enabling advanced forecasting of machinery failures and system upsets. Through these continuous digital advancements, EEE remains dedicated to improving the long-term reliability and thermodynamic efficiency of our turbomachinery for global clients.

Where do you see LNG turbomachinery technology going over the next few years?

Brun: The LNG market is still rapidly growing, with massive global demand increases. The primary engineering challenge in LNG turbomachinery lies in maintaining high efficiency and reliability as plant capacities scale exponentially. Since the 1960s, facility throughput has evolved from 0.5mt/yr to modern mega-trains exceeding 8mt/yr, with major hubs like Qatar reaching 20mt/yr.

This massive increase in scale compels compressor manufacturers to develop larger, higher-capacity equipment. To minimise capital expenditure and operational complexity, operators prioritise single-train compressors capable of managing immense volumetric flows over the use of multiple parallel units. EEE's new 100MW facility expansion in our plant in Jeannette, Pennsylvania allows us to string test these massive machines at full load. This unique test capability reduces the operator's risk and limits delays during startup and commissioning of the equipment.

Thanks for talking to us. Would you like to add anything?

Brun: Please visit our official EEE webpage for a comprehensive overview of our technical capabilities and specialised equipment. Our digital portal provides extensive documentation on our dedicated LNG product line, including detailed specifications for our refrigeration and compression technologies. We invite industry professionals to engage with us directly for deeper technical discussions; I am available for inquiries via email or through LinkedIn to address specific project requirements or engineering challenges.

Furthermore, EEE has recently authored a series of technical white papers and peer-reviewed publications focusing on the latest advancements in turbomachinery for LNG applications. These papers cover critical topics such as aerodynamic optimisation, high-molecular-weight fluid dynamics, and the integration of digital twin technology. We would be pleased to share these resources with those looking to enhance their understanding of the field. Given the critical role of LNG in the global energy transition, we welcome the opportunity to collaborate and share insights on the innovations driving this vital industry. •

LNG, a Strategic Safeguard

Europe has transformed into a global LNG demand powerhouse over the last few years, with the fuel continuing to play a key role in safeguarding the continent's energy security, Carsten Poppinga, chief commercial officer at Uniper, tells *Petroleum Economist* | **Joseph Murphy**

In Uniper's view, what have been the main LNG market developments and trends over the past year, particularly in Europe?

Poppinga: We have seen how the European LNG market has fundamentally evolved over the past year. The urgent need to reinforce energy security, especially after the decline in Russian pipeline supplies, has transformed Europe into a global LNG demand powerhouse. Our continent's LNG imports have become essential to maintaining energy stability. The remarkable pace at which we've expanded regasification capacity—such as completing the Wilhelmshaven terminal in less than a year—demonstrates Europe's determination to improve its infrastructure. At Uniper, we have actively participated by securing diverse LNG cargoes from the US, Norway, Australia, the Middle East and, from 2028, Canada. In fact, our LNG portfolio now handles over 160 cargoes per year, which has been instrumental in mitigating price volatility and reducing dependence on any single supplier.

What can we expect in the year ahead?

Poppinga: Looking ahead, I anticipate that the European LNG landscape will remain robust and highly competitive. Uniper intends to continue to invest in infrastructure to ensure even greater supply security. Uniper has a sales portfolio of around 200TWh.

We also see a growing policy focus on integrating renewables and low-carbon gases, which aligns with our commitment to supporting decarbonisation.

How energy-secure is Europe and how can LNG supply and baseload gas-fired power generation support security?

Poppinga: Europe's energy security has significantly improved thanks to Uniper's collective diversification of gas sources and the rapid buildout of LNG infrastructure. LNG now acts as a strategic safeguard, helping us to adapt to rapid market changes. At Uniper, we also recognise the enduring importance of efficient, reliable baseload gas-fired power plants. These assets are essential for balancing the grid as renewables continue to grow. We are committed to making these plants hydrogen-ready and to integrating CCS technologies, as seen in our projects at Connah's Quay and Killingholme in the UK, to further support European climate goals.

What role is Uniper playing in ensuring both Germany's and Europe's energy security?

Poppinga: Ensuring energy security for Germany and Europe is core to Uniper's mission, and I am proud of our role as Germany's largest gas midstream operator and a leading European LNG importer. We supply over a fifth of German gas demand and manage around a quarter of the country's storage capacity—close to 80TWh in Germany, the UK and Austria. Our procurement strategy deliberately avoids over-dependence on any one supplier and draws from a broad, flexible global portfolio. We are strengthening our LNG capabilities by investing in operating gas storage facilities and advancing our fleet of biofuel-ready LNG carriers.

Our vision also encompasses preparing for hydrogen in all its forms—whether green, blue or any kind of colour—by adapting our infrastructure and progressing new projects for hydrogen storage and utilisation, ensuring we are well positioned for the energy transition.

Can you provide a summary of progress at Uniper's key LNG and gas-fired power generation projects?

Poppinga: Uniper is making tangible progress on several fronts. In LNG, we have signed long-term deals with, for example, Woodside Energy, which will underpin reliable European supply. The speedy construction of Wil-

LNG tanker at the Gate terminal

helmshaven, Germany's first LNG terminal, is a standout achievement. We are investing in hydrogen-ready projects, with Scholven 1 (140MW) and Irsching 6 (300MW) recently commissioned and are working to integrate CCS at Connah's Quay and Killingholme. In Sweden, we are planning to convert open-cycle turbines to biofuels, targeting 1.7GW by 2026.

How can these investments be future-proofed for the energy transition?

Poppinga: Futureproofing Uniper's investments is a strategic priority for me as CCO. We focus on making our infrastructure hydrogen-ready, which we expect to allow us to transition smoothly from natural gas to low-carbon alternatives as markets evolve. Our commitment to CCUS ensures that new and existing gas plants can operate with extremely low emissions, in line with EU net-zero ambitions. With that in mind, we build up the business and have the strategic target of 8GW of ready-to-build-capacity by 2030. Our extensive gas storage network is being tested for hydrogen, supporting the integration of green molecules into the energy mix.

How would you characterise Uniper's LNG purchase strategy? How can importers strike a balance between the advantages and disadvantages of short-term purchases versus long-term contracts?

Poppinga: In the upcoming wave of LNG oversupply, producers must be more proactive in accommodating LNG buyers. Market dynamics and regulatory uncertainty require commercial structures that go beyond traditional long-term, rigid contracts.

To secure demand and maintain strategic partnerships, suppliers should offer greater flexibility, improved risk sharing and pricing mechanisms that reflect the realities of a rapidly evolving global gas market. And that is what our strategy is about.

Uniper's LNG procurement strategy is all about security of supply and diversification. Long-term contracts help to ensure price stability and reliable supply—essential for underpinning infrastructure and providing our customers with secure and affordable energy. Our recent agreements with Woodside and Tourmaline showcase how we diversify our supply and manage risk.

As the LNG market grows more flexible and transparent, suppliers need to offer innovative contracts and risk-sharing. These trends ensure long-term competitiveness and stability for all market participants. •

LNG Shipping Needs Freedom to Evolve

Maritime leaders warn of dangers of over-regulation on competitiveness, sustainability and innovation | **Joseph Murphy**

For an industry that is the lifeblood of global trade and has continually worked hard to reduce its carbon emissions, shipping has received an unfair level of criticism and penalties, panellists said at LNG2026.

In a session titled 'Seas of Change: LNG shipping in an Evolving Energy Landscape', top executives warned of the risks of hampering the economics of global trade and the counterproductive nature of regulations.

Sveinung Stohle, deputy CEO at Angelicoussis Group, argued that, while the industry has to live with regulations, the recent proposals from the International Maritime Organization (IMO) to decarbonise the sector act like a punitive tax and should be a "wake-up call" for shipowners. Stohle said the IMO plans are not "fit for purpose" and those "that invest all the money and take all the risk" must be in the driver's seat.

The IMO has approved a landmark global carbon pricing scheme for the shipping industry in a bid to slash emissions, with implementation starting in 2028.

Stohle's warnings received an ovation from attendees, all of whom were aware of the strides the sector has made to lower emissions and the fact it makes up only 3% of overall emissions despite accounting for more than 80% of global trade by volume.

The panellists—which included Eng. Abdullah Al-Sulaiti, CEO of Nakilat, Carl-Antoine Saverys, CEO of Exmar, and Panos Mitrou, senior vice president, shipping strategy, at Lloyd's Register— agreed that the industry is always trying to be more efficient, and so lowering costs and lowering emissions go hand in hand.

"I don't think regulations will ever drive a business. It's competition that drives business," said Saverys.

There have been significant improvements when it comes to fuel efficiencies in LNG carriers, but Saverys added that "in every single segment of the shipping industry, there's always big improvements at all levels".

"We should be proud of our industry rather than say that we [produce] 3% of the global emissions," Saverys added, highlighting the fact "we are still the most efficient way of transporting goods from one place to another, and I think we're still constantly striving for improvements."

Saverys added that, if the industry is more efficient, it will consume less and that fuel is probably one of the biggest cost drivers in shipping.

> **I don't think regulations will ever drive a business. It's competition that drives business – Saverys, Exmar**

Mitrou noted that increased long-term risk is unhelpful to the energy transition. "We need to balance things between the transition ambition, but also the realism and the safe investment," he said, talking up the need for pragmatism, fairness, inclusion and technology development.

Al-Sulaiti, meanwhile, pointed at the dangers of improving fuel efficiency at the cost of reliability and the importance of long-term partnerships to manage risk, especially given the capital-intensive nature of the industry and the challenge to balance risk and return.

The panellists noted that the rise of LNG shipping presents an opportunity given the growth in LNG supply and the need for new infrastructure. It also presents an opportunity to repurpose LNG vessels as floating storage units. They also highlighted how much LNG demand will be needed as the world moves away from coal and creates a lower-carbon energy sector. •

QatarEnergy and JERA Enter New LNG Chapter

The long close relationship between key supplier Qatar and pivotal buyer Japan becomes even deeper following new landmark deal | **Joseph Murphy**

QatarEnergy and Japan's JERA have forged one of the most significant long-term LNG supply agreements in recent years, a deal that highlights both Qatar's ambition to remain the world's leading LNG exporter and Japan's determination to secure stable energy supplies for decades to come.

Signed at LNG2026 in Doha between Yukio Kani, global CEO and chair of JERA, and H.E. Saad Sherida Al-Kaabi, Minister of State for Energy Affairs, State of Qatar, President and CEO - QatarEnergy, the agreement commits QatarEnergy to deliver 3mt/yr of LNG to JERA over 27 years. This contract is remarkable not only for its sheer length but also for the strategic implications it carries for both nations and the global LNG market.

The QatarEnergy–JERA LNG agreement is a landmark deal that secures mutual benefits for both sides

For Qatar, the deal is a cornerstone of its North Field expansion project, which is set to increase the country's LNG production capacity from 77mt/yr to 126mt/yr by 2027. The North Field, the largest natural gas reserve in the world, has long been the foundation of Qatar's energy dominance. By securing such a long-term contract with JERA, QatarEnergy ensures its expanded capacity will have a guaranteed market, reinforcing its role as a reliable supplier to Asia. This is particularly important as Qatar balances its commitments between Europe, which has turned to LNG after reducing reliance on Russian gas, and Asia, which remains its core market.

For Japan, the agreement represents a major step in safeguarding energy security. As a nation with limited domestic energy resources, Japan relies heavily on imports to power its economy. LNG has been central to Japan's energy mix, especially since the Fukushima nuclear disaster in 2011, which led to a reduction in nuclear power generation. JERA, Japan's largest power generation company and LNG trader, supplies nearly one-third of the country's electricity.

By locking in supplies from Qatar for nearly three decades, JERA reduces its exposure to volatile spot markets and ensures a steady flow of fuel to meet Japan's long-term energy needs. This stability is crucial at a time when global energy markets are increasingly unpredictable due to geopolitical tensions and the ongoing energy transition.

The deal also reflects broader trends in the LNG industry. While spot trading has grown in recent years, long-term contracts remain the backbone of the sector, particularly for buyers seeking predictability and suppliers looking to secure financing for massive infrastructure projects. LNG is seen as a crucial fuel—cleaner than coal and oil—and essential for countries such as Japan that are striving to reduce carbon emissions without compromising energy reliability.

Beyond the commercial aspects, the partnership carries geopolitical weight. Qatar has positioned itself as a dependable energy partner, using long-term contracts to strengthen ties with key nations. Japan, meanwhile, gains not only energy security but also a deeper strategic relationship with a country that plays a pivotal role in global energy diplomacy. In an era where energy supply chains are increasingly intertwined with geopolitics, such partnerships are invaluable.

The QatarEnergy–JERA LNG agreement is a landmark deal that secures mutual benefits for both sides. For Qatar, it guarantees a long-term market for its expanded LNG production, reinforcing its global leadership. For Japan, it provides the stability and security needed to power its economy while navigating the challenges of decarbonisation. More broadly, the deal exemplifies how long-term contracts continue to shape the LNG industry, offering certainty in a world of energy volatility. It is a partnership that will not only influence the energy strategies of both nations but also set a precedent for future agreements in the global LNG market. •

Libya Looks to Maximise Gas Opportunity

North African producer plans to boost output by early 2030, with Europe its number one priority as export destination | **Paul Hickin**

The chairman of Libya's state-owned NOC, Masoud Suleman, wants to reduce gas flaring and free up more supply to help power the Libyan economy and use additional gas first to supply European customers and second as an option to export as LNG to more distant markets.

Speaking at LNG2026 in Doha, the energy leader said Libya plans to boost its natural gas production in the next five years so as to maximise supply to Europe by the start of the next decade.

The country's current gas production is insufficient to meet local demand, Suleman noted, with around 85% the gas produced in Libya used for power generation. Gas consumption may rise further amid industrial expansion, with Suleman highlighting growth plans at steel and cement plants and petrochemical facilities.

Libya has 80tcf of gas reserves, split between conventional and unconventional resources. The country is exporting a negligible volume of natural gas via the Greenstream pipeline to Europe, Suleman said.

Gas development is a central pillar of Libya's upstream strategy, with the NOC prioritising domestic supply and pipeline exports to Europe before possibly shifting to longer-distance LNG markets.

Libya wants first to maximise throughput on the 11.5bcm/yr Greenstream pipeline, which links western Libya to Italy, before considering any revival of LNG exports from the ageing Marsa el-Brega plant. The plant has been out of action for over a decade.

The country has needed to focus on supplying the needs of its local population in recent years as a result of rising domestic demand and falling gas output.

Libya is also seeking to unlock incremental gas supply by reducing reinjection and lowering flaring. The country currently reinjects around 400mcf/d of gas for pressure maintenance but is studying water injection alternatives to free volumes for the local network. Separately, the NOC is advancing a $1.5b gas recovery project aimed at curbing flaring to near zero by 2030.

Suleman said the project is about 70% complete and is expected to bring around 120mcf/d of gas onstream by the third quarter of this year.

Some 100mcf/d of previously flared gas was redirected into the system in 2024.

Libya is also preparing to restart unconventional gas exploration, with initial shale drilling expected to begin in the second half of this year, Suleman said, adding that offshore acreage is likely to be gas-rich.

Libya is also set to announce the winners of its latest bid round on 11 February, he added. Companies from Asia, Europe, North America, the Middle East and Africa participated, including Chevron, Eni, ConocoPhillips and a consortium that included Repsol, he added.

NOC will also announce another bid round this year, Suleman said, noting there may be bid rounds for unconventional resources or marginal fields.•

Buyer Strategies in the Age of Volatility

Panellists from three LNG buyers outline their evolving procurement strategies as they navigate heightened market volatility | **Joseph Murphy**

LNG buyers are reshaping the market by centralising procurement, building trading and optimisation capability, and seeking more flexible, diversified and secure supply as they navigate a decade of volatility, panellists said during a LNG2026 discussion.

Centralising procurement

Alan Heng, CEO of Singapore GasCo, noted his company was established nine months ago as a centralised importer of gas and LNG for Singapore's power sector, where gas-fired generation accounts for about 95% of electricity supply. He said the 2021–23 energy crisis forced Singapore to rethink how it would strengthen energy security and preserve affordability during periods of extreme price volatility.

Singapore GasCo, which is 100% government-owned, is building a team to develop a gas supply portfolio, manage delivery to power generation firms and "essentially manage the risk across that entire value chain", he said.

The company's mandate, he said, was "to make sure gas gets delivered…on a lowest-cost-possible basis".

Heng noted that Singapore's limited land, water and natural resources left the country heavily dependent on imported energy. Singapore plans to substantially increase its clean power imports—up to 6GW by 2035 versus a relatively negligible level today. It is also expanding domestic power generation. "But here we are obviously faced with intermittency challenges that require gas-fired generation that works well and is flexible to address our needs," he said.

The challenge for buyers, he suggested, is that even if a supply surge pushes spot prices lower, procurement strategy cannot be driven by the outlook for the next 2–3 years alone.

"Our horizon has to be beyond that," he said, arguing for a disciplined portfolio approach that blends firm long-term contracts for security, medium-term contracts to exploit cyclical pricing and spot purchases to balance the book. He cautioned against over-reliance on spot purchases, pointing to how quickly markets can swing. He recalled that the JKM fell below $2/m Btu at the height of the COVID-19 pandemic, then climbed to $25–40/m Btu within less than 18 months as the global energy crisis unfolded. He warned that the more volatile geopolitical environment today made it even harder to predict the next trigger for another crisis.

The buyer becomes the trader

Yaoyu Zhang, assistant CEO and global head of LNG and new energies at PetroChina International, illustrated another way that an LNG buyer can evolve: by building up the capabilities of a trader.

He said PetroChina International, CNPC's trading arm, moves molecules from CNPC's equity positions overseas as well as third-party volumes, and optimises flows across a diversified portfolio. He put the group's LNG volumes at roughly 33mt/yr, with around half imported into China and the remainder traded internationally, and said the company had been "prolific" in expanding its trading operations since 2018–19 as it sought a stronger role in global pricing dynamics.

"We realised we are big in the market, but we have little voice in global pricing," he explained. "That's when the

idea of repositioning started to take shape."

China's first LNG cargo arrived in 2008, and in the less than two decades since it has become the world's largest importer of the super-cooled fuel. But size alone does not guarantee influence over pricing.

Zhang said the trading mandate is also tied to domestic responsibilities. With PetroChina supplying a large share of China's gas market, he said the company carries a "caretaker" role for customers who rely on it to buy, sell and sometimes use swaps as a release valve when conditions change.

He said portfolio optimisation is increasingly central to modern buyer strategy but warned that taking spot exposure is "a double-edged sword" that depends on the buyer's scale, risk appetite and risk-management maturity. Smaller buyers may prioritise predictability and security of supply, he suggested, while larger portfolio players can be more opportunistic if they have the middle-office controls and "mark-to-market culture" to measure risk properly. "Always have a price for everything you own," he said, framing that discipline as essential to knowing when and how to exit positions.

Always have a price for everything you own – Zhang, PetroChina

Diversification

Ralf Dickgreber, global head of LNG and biomass at Engie, said Europe's experience since the Russia-Ukraine conflict started had pushed buyers to prioritise security and diversification above all, even as they try to keep procurement economical and reduce environmental impact.

Engie reset its LNG exposure in 2018 by selling much of its portfolio—including upstream assets. But Europe's loss of Russian supply over the past four years has prompted the company to quickly rebuild its portfolio.

Dickgreber said Engie had to replace roughly 120TWh from Russian supply contracts "overnight". He framed his mandate as a three-part balancing act: "first order is security of supply," he said, before adding that the second was affordability and the third the environment—and said Europe's instinct to impose strict environmental rules can complicate procurement because "that's not always met with love on the seller's side".

The LNG outlook

The panellists broadly agreed that an oncoming wave of new LNG supply is likely to soften prices, but they repeatedly stressed that volatility will remain a defining feature.

First order is security of supply – Dickgreber, Engie

This will make it even more important for buyers to build up their portfolios and hedge their risks.

Heng said lower prices could spur new adoption of gas in segments such as marine fuel, as well as greater coal-to-gas switching. But he warned against assuming that these low prices would persist for a long time.

Dickgreber made a similar point, saying buyers must prepare for "surprises... around the corner"—from project delays and technical outages to force majeure events and hurricanes—and should avoid the trap of going "100% spot" after a period of cheap prices. Buyers cannot lock everything into long-term contracts either, he said, because flexibility and price risk management are needed to reap the benefits of a future glut in supply.

While forward curves show prices will continue to fall over the next two years, Zhang warned of demand uncertainty, particularly in China, which has become a key swing market.

Mild winters in China in recent years have dampened seasonal demand and flattened curves. He also suggested geopolitical uncertainty has weighed on business confidence, with buyers hesitant to commit amid unclear trade and tariff policies.

More structurally, Zhang said China's rapid renewables buildout is creating a headwind for gas-fired power growth, noting that the levelised cost of electricity from solar and wind had fallen sharply to $50–70/MWh, approaching parity with gas-fired power. He said technology progress in storage could eventually ease intermittency constraints, which would further challenge the role of gas in power. Beijing's targets for gas-fired power use have been revised down over time as renewables deployment has accelerated.

From a European perspective, Dickgreber said lower global prices would help, but Europe's competitiveness challenge is not just absolute price—it is also relative price versus the US and Asia. He argued Europe is already disadvantaged because LNG is typically more expensive than pipeline gas, and that competition becomes more acute if other regions access cheaper supplies while European industry faces higher energy costs.

He also raised the possibility that redirected pipeline volumes, including discounted supplies from "distressed sellers" such as Russia to markets in Asia could further undermine European competitiveness.•

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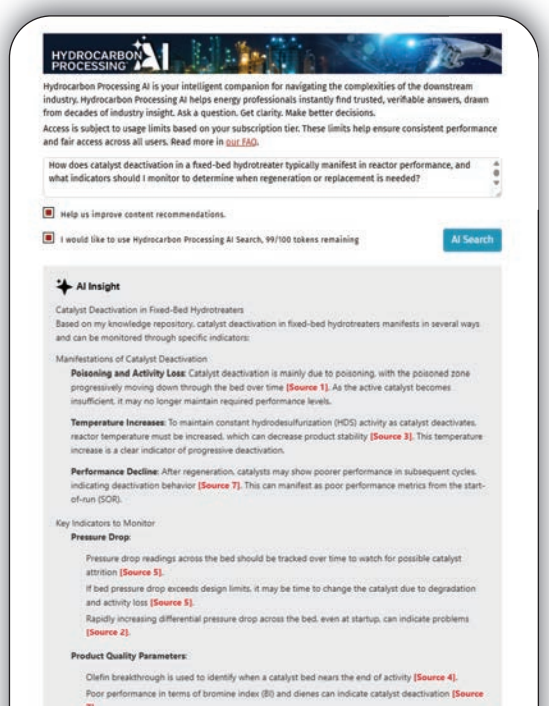

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Attendees will be asked to present government-issued photo ID at security every time they enter LNG2026. This can be in the form of a valid passport or a Qatar ID (QID) for residents.
Attendees are required to wear their badge AT ALL TIMES during LNG2026, including networking functions. Attendees will only be able to access the areas of the event included in their registration.

Dress Code

Business attire is requested for attendance at the Conference, Exhibition and all networking functions.

Download the Event App

The Event App is an essential tool to help you navigate the event and contains the programme for the week, speaker profiles, exhibition layout, networking features and much more.
For any questions on the Event App, our staff at the Event App Support Desks would be delighted to assist you. The desks are located in the Spider Area, Level 1 and the Registration Area in the Exhibition Foyer, Ground Level.
For any assistance, you can also email support@allintheloop.com.

Conference and Exhibition Refreshments

Morning coffee, lunch and afternoon tea are provided to all Conference delegates.
Kiosks are open in the Exhibition foyers for food and beverage purchases for exhibitors and trade visitors.

Prayer Rooms

Prayer rooms, male and female, are available in the Conference area located on Level 1, by the QNCC Spider Café.
Additional prayer rooms are also available on the Exhibition Mezzanine Level, Hospitality Suite 4 for female attendees and Hospitality Suite 7 for male attendees.

Accessibility

The QNCC is designed to ensure equal access for all attendees with limited mobility. If you require any assistance, please ask the Organisers.

Water Stations

Water fountains are available at your disposal throughout the venue.

Photography

Professional photographers are taking photos throughout the event. These images may be used in post-event reports and marketing collateral, and supplied to industry media. If you do not want your photo to be taken, please advise the photographer.

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We have a dedicated Media Centre and Press Conference Room at the following locations:

- Room 105: Press Conference
- Room 106: Media Centre

For media and PR enquiries, please visit the Media Team at the Media Centre or contact the team at media@lng2026.com.

Delegate Gift Bag Collection

The Executive and Technical Delegate Gift Bag may be redeemed upon presentation of your registration badge at the Delegate Bag Collection Desk located on Ground Level, near Auditorium 2.

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In case of emergency, please follow the instructions given to you by security and venue staff.

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The event is supported by onsite medical services, with professional healthcare teams and emergency response measures in place to ensure the well-being of all participants throughout the week. Our Medical Centre is located on Level 1, by the QNCC Spider Café.

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PRINCIPAL

ConocoPhillips

Shell

GLOBAL

Cheniere

ExxonMobil

TotalEnergies

Venture Global

DIAMOND

Baker Hughes

eni

jera

LNG2029 Brisbane April 17–20

PLATINUM

Caturus

Excelerate Energy

TEN Technip Energies

Trafigura

Vitol

Woodside Energy

GOLD

Bechtel

CCC

Copia Group of Companies S.A

ENGIE

EQT

Glenfarne Group, LLC

MidOcean Energy

Mitsui & Co.

Petronas

Sempra Infrastructure

OFFICIAL AIRLINE PARTNER

Hamad International Airport Qatar

Qatar Airways