

LNG Unlimited

LNG JOURNAL PUBLICATION

14 November 2023

Kosmos plans LNG project from Senegal's Yakaar-Teranga gas

Dallas-based Atlantic Margin specialist has field working interest of 90 percent as operator
LNG News Editor

Kosmos Energy, the Dallas-based oil and gas exploration and production company with assets in the Gulf of Mexico and West Africa, has posted solid earnings and plans a new LNG export project from the Yakaar-Teranga gas fields offshore Senegal in addition to the ongoing FLNG ventures based on the Greater Tortue Ahmeyim resources shared between Senegal and Mauritania.

The details were revealed in the latest earnings with Kosmos reporting net income down to \$85.18 million from \$220.25M in the same three months of 2022.

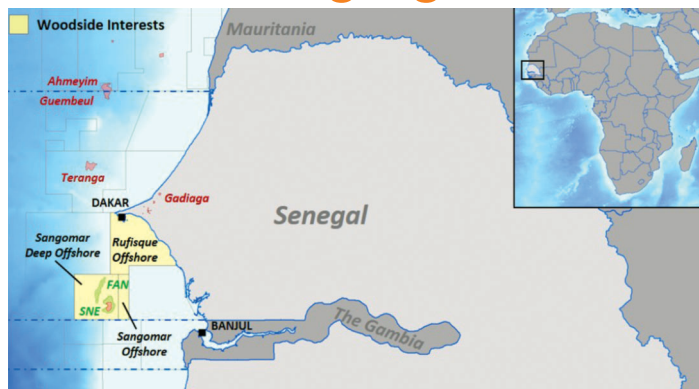
Quarterly revenues increased to \$526.54M from \$456.10M from the same period last year from oil and gas operations in African nations including Ghana and Equatorial Guinea as well as Senegal and Mauritania.

The company, which is listed on the New York Stock Exchange as well as the London Stock Exchange, said it exited the third quarter with approximately \$2.4 billion of total long-term debt, about \$2.3 billion of net debt and around \$600M of liquidity.

LNG growth

During the quarter, Kosmos repaid its Gulf of Mexico term loan, simplifying the company's capital structure. Net capital expenditure for the third quarter was \$193M which was in line with guidance.

"Kosmos continues to create value for its stakeholders through the consistent delivery of its strat-



The Teranga gas field is located at the centre of the offshore area of the prolific Atlantic Margin

egy to grow production, advance its advantaged oil and LNG projects and add resource through infrastructure-led exploration," said Chairman and Chief Executive Andrew G. Inglis.

"Production in the quarter increased by around 17 percent versus the second quarter following the successful start-up of the Jubilee South East development (in Ghana), with three producers brought online taking gross field production up to around 100,000 barrels of oil per day, with continued growth expected," added Inglis.

"Looking to options for future growth, Kosmos recently announced the Tiberius oil discovery in the US Gulf of Mexico, as well as the assumption of operatorship of the Yakaar-Teranga gas fields offshore Senegal," Inglis explained.

"These low cost, lower carbon oil and gas projects are expected to provide the next phase of growth for the company beyond 2024. We plan to balance the pace and working interest of these future projects to ensure we can manage our growth and generate material free cash flow," stated the CEO.

Kosmos said it was increasing its working interest to 90 percent and assumed operatorship, subject

to customary government approvals, of the world-scale Yakaar-Teranga gas discoveries offshore Senegal.

BP exit

"The increase in working interest follows BP's exit from the field," said Kosmos.

Yakaar-Teranga is one of the world's largest gas discoveries in recent years and holds around 25 trillion cubic feet of advantaged gas in place, with negligible carbon-dioxide content and minimal impurities, reducing the need for processing ahead of transportation and liquefaction for LNG.

Kosmos said it had been working closely with Senegal's state-run energy company Petrosen and the Government of Senegal on an innovative development concept to boost domestic supplies combined with an offshore LNG facility targeting exports to international markets.

"The currently envisioned development concept is an offshore development producing approximately 550 million standard cubic feet of gas per day with domestic gas transported via pipeline to shore and export volumes liquified on a floating LNG vessel," Kosmos added.

UNLIMITED AGENDA

SHIPPING

Flex LNG reports profit and expects balanced freight market for winter

2

SUPPLIES

US issues forecasts for LNG supply with more projects now on stream

3

EARNINGS

TC Energy completes pipeline for LNG Canada and reports solid set of earnings

5

ACQUISITIONS

Kinder Morgan to buy STX Midstream for \$1.8Bln to boost Texas pipeline system

6

PROJECTS

US LNG equipment & industrial fuel projects company Air Products advances projects

7

STORAGE



Sinopec says China well set for LNG with world's largest storage tank at Qingdao

9

Flex LNG reports profit and expects balanced freight market for winter season into 2024

LNG News Editor

Flex LNG, the Norwegian shipping company with a fleet of 13 vessels and several chartered to the largest exporters, posted solid net income and increased vessel operating revenues with all ships available after previous dry-dockings.

FLEX reported slightly lower third-quarter net income of \$45.10 million compared with \$46.58M for the same three months of 2022.

TCE rates

The company's average Time Charter Equivalent (TCE) rate rose to \$79,207 per day for the third quarter 2023 compared with \$77,218 per day for the second quarter.

Vessel operating revenues increased to \$94.58M from \$91.26M in the same quarter last year.

Nine-month net income fell to \$110.64M from \$146.60M while voyage operating revenues from January to September rose to \$273.78M from \$249.98M in the same period of 2022.

"After successfully completing



Flex has options for the LNG carrier 'Flex Constellation'

our drydock program for the year during the second quarter when we temporarily took out three ships for five-year special survey in drydock, we had all 13 LNG carriers back in full operation during the third quarter," explained Øystein M. Kalleklev, Chief Executive of Flex LNG Management.

"Higher vessel availability coupled with a stronger spot market, which positively impacted our single ship on a spot-market linked, variable rate time charter, resulted in quarterly revenues increasing by \$7.9M from \$86.7M in the second

quarter to \$94.6M in the third quarter," Kalleklev added.

"With seasonally stronger spot market heading into the winter season, we expect a further increase in revenues in the fourth and last quarter of the year with expected revenues of \$97M-\$99M," the CEO stated.

In a market overview, Flex said that the overall freight and product market ahead of the peak winter season was fairly balanced.

The LNG product market was well supplied as supply curtailments have recently been limited

despite the noise. "That said, spot LNG prices remain at about \$15 per MMBtu which still reflects a tight market with LNG being priced at premium to crude oil which is somewhat unusual in a historical context," said Flex.

Tight market

"As LNG export growth will continue to be fairly muted the next two years, we do expect the LNG product market to stay tight as European buyers will continue to be buyers both of first and last resort," the company stated.

Flex noted that all of the vessels in the fleet had contracts for the remaining days in 2023.

For 2024, the firm contract periods cover 12.3 vessel years out of the 13 vessels, which represented a 95 percent contract coverage in 2024.

The "Flex Constellation" has a firm period scheduled to end in the second quarter 2024. However, the charterer has options to extend this contract up to the second quarter 2027.

Peninsula starts full West Med and Gibraltar LNG operations with Royal Caribbean re-fuel

Peninsula, the leading global independent marine energy supplier founded to fill a gap in the Gibraltar market for bunkering services and benefitting from the assistance of a refinery across the bay in Algeciras in Spain, has successfully supplied Royal Caribbean's cruise liner "Silver Nova" with LNG fuel in an operation in Gibraltar.

The supply operation was carried out by Peninsula's latest addition to its fleet, the LNG bunkering vessel "Levante LNG" with 12,500 cubic metres of capacity.

The "Levante LNG" bunker ship arrived at her Mediterranean home at the end of September and is now fully operational in the Strait of Gibraltar and the ports of

the Western Mediterranean.

"We are all very proud of hitting this milestone. This is our first LNG supply in Gibraltar keeping us ahead of the decarbonisation curve and marking our move into the physical space through our joint owned, and operated vessel," explained John A. Bassadone, Chief Executive of Peninsula.

"My thanks also go to Royal Caribbean for their commitment to Peninsula in further advancing a lower-carbon future together," Bassadone stated.

Shipping asset

Nacho de Miguel, Peninsula's Head of Alternative Fuels and Sustain-

ability, said the company's LNG bunkering services in the West Med are now fully operational.

"Our latest asset is a state-of-the-art, dedicated LNG supply vessel that is providing lower carbon alternatives to the global LNG-powered fleet," said De Miguel.

"I want to thank Royal Caribbean for trusting in us to supply their 'Silver Nova' and I have no doubt this is only the beginning of our decarbonisation journey together," he added.

Peninsula was also only recently awarded an LNG Bunkering Operator Licence from the Government of Gibraltar and the Gibraltar Port Authority.

"The ability to operate our LNG

vessel in the Strait of Gibraltar will bring lower-carbon solutions to vessels entering and leaving the Mediterranean," said the company at the time.

"The proactivity of the Gibraltar Port Authority and the Government of Gibraltar will continue to cement the jurisdiction's position as a leading centre for maritime excellence," Peninsula said.

Far East fixing

The company operates far beyond Gibraltar as well and at the start of October 2023 Peninsula fixed its first Biofuel deal for one of the world's largest shipping companies from China.

Bangladesh signs up for Excelerate deliveries

Excelerate Energy signed a long-term liquefied natural gas sale and purchase agreement (SPA) with the Bangladesh Oil, Gas & Mineral Corp. (PetroBangla) in South Asia.

Under the SPA, PetroBangla has agreed to purchase between 850,000 to 1.0 million tonnes per annum of LNG from Excelerate for a term of 15 years beginning in January 2026.

Excelerate will deliver 850,000 of LNG in 2026 and 2027 and 1 MTPA from 2028 to 2040.

"Bangladesh is one of the most dynamic LNG markets in the world, and Excelerate has been a key player since the country began importing LNG," said Steven Kobos, President and Chief Executive of Excelerate.

"Natural gas is important to Bangladesh's economy, and we look forward to partnering with PetroBangla to help the country meet its rapidly growing energy needs," stated Kobos.

Excelerate said that the long-term SPA represented the next phase of the company's plan to integrate its business in Bangladesh.

Excelerate first opened the Bangladesh market to LNG in 2018 with the development of its integrated Moheshkhali LNG floating storage and regasification unit (FSRU) terminal.

In the years since, the company deployed a second FSRU terminal to the Bay of Bengal and has utilized its infrastructure position to win spot LNG cargos sales into Bangladesh.

Excelerate's two FSRUs in Bangladesh deliver approximately 25 percent of the country's natural gas supply.

US issues forecasts for LNG supply with more projects now on stream

LNG News Editor

The United States government forecasts that the global liquefied natural gas markets in the current winter season would likely be balanced through to the end of March 2024 even as geopolitical, weather and other risks remained.

"Relatively full natural gas inventories in the United States and Europe as well as expanded global export and import capacity for LNG have improved the likelihood that supply will be sufficient to meet demand in global natural gas markets in the 2023-2024 winter season (November-March)," said a report on LNG Markets just issued by the US Energy Information Administration.

Some risks

"However, risks to this balance are associated with possible extreme weather and supply issues," the EIA stated.

The agency forecasts that LNG shipments from the export facilities in Louisiana, Texas, Georgia and Maryland would help key mar-



Gulf Coast export facilities have a higher peak capacity

kets supplied. "This winter, we forecast US LNG exports averaging 12.2 billion cubic feet per day, a 10 percent increase from last winter," said the EIA.

"If global LNG demand has a sustained peak, US LNG export facilities, which we estimate have an overall peak capacity of 13.9 Bcf per day, could be utilized at higher rates," the report stated.

The EIA said that LNG supplies from new LNG export projects that came on stream this year or that will start service this winter, in addition to greater output at

existing facilities especially in the US, should help balance global natural gas markets.

"The addition of new LNG import facilities - both fixed terminal facilities and floating storage regasification units that convert LNG into pipeline-ready gaseous supplies - have increased regional LNG import capacity, especially in Europe," the EIA explained.

It also noted that Europe's natural gas storage inventories were full at the formal start last week of the 2023-2024 winter season.

New Fortress Energy signs LNG FSRU charter to start up terminal

New Fortress Energy, the New York-based developer of liquefied natural gas import and export projects, has entered into a definitive agreement to charter the "Energos Winter", a floating storage and regasification unit (FSRU), from Brazilian state company Petróleo Brasileiro (Petrobras) and with the FSRU being deployed in the south of the country.

Growth opportunity

NFE said that the "Energos Winter" charter from Petrobras would start in December and the FSRU would "immediately" be deployed to the Terminal Gas Sul (TGS), NFE's newest LNG import facility in the state of Santa Catarina.

The US company said that the

TGS terminal project would thus begin commercial operations ahead of schedule in January 2024.

NFE is currently completing two terminals projects in Brazil, one at Santa Catarina and a second at Barcarena in the state of Pará in the far northeast of Brazil.

"We are extremely pleased to reach this agreement with Petrobras and begin operations at the TGS terminal in Santa Catarina, Brazil ahead of schedule in January 2024," said NFE Managing Director Andrew Dete.

"The TGS terminal is a unique, high-growth opportunity for NFE, as connection to the pipeline system in south Brazil offers a diverse and near-term set of opportunities

across power and gas supply," Dete explained.

The "Energos Winter" will be sub-chartered by NFE through the remaining term of the Petrobras charter with Energos Infrastructure and then direct-chartered by NFE on a long-term basis with Energos.

"This will enable NFE to commence commercial operations at TGS in January 2024 and continue uninterrupted service on a long-term basis," said NFE.

Energos Infrastructure, the owner of the "Energos Winter" FSRU, is owned 80 percent by funds managed by New York equity firm Apollo and 20 percent owned by NFE.

Fast solutions for your LNG Storage & Transportation needs.



We can build your small-scale LNG terminal or peak-shaving plant within 18 months.



On-site/Factory-Built Storage Tanks, Intermodal ISO Tank-Containers, Tanker Trailers, Ship/Barge Cargo Tanks for LNG or any Cryogenic/Liquefied Gases

Corban Energy Group (CEG), based in New Jersey, USA, creates highly engineered products for the natural gas supply chain in the Americas, Europe, and Africa. With its global network of engineers and manufacturing facilities, CEG has provided unmatched quality and value in LNG equipment.

Call or e-mail us to find out how your company can benefit from our comprehensive natural gas products and services today.

www.CorbanEnergyGroup.com

CORBAN ENERGY GROUP
Your Solution for LNG/CNG



T. 201.509.8555 info@corbanenergygroup.com
418 Falmouth Avenue, Elmwood Park, NJ 07407, USA

NEWS BRIEFS

Inkoo FSRU delivery

Finnish state-run energy company Gasum has delivered a Norwegian-supplied LNG cargo to Finland's Inkoo floating storage regasification unit (FSRU) facility to be fed into the nation's gas pipeline grid. This is the second LNG cargo Gasum has delivered to the Inkoo FSRU since the Balticconnector gas pipeline between Finland and the state of Estonia suffered a rupture and was shut down in early October. Gasum explained that repairs to the pipeline are expected to take at least five months and until then all Finnish natural gas demand must be met through imports of LNG.

Capital Gas newbuild

Capital Gas Ship Management Corp., the LNG fleet owner headquartered in the Greek port of Piraeus, has taken delivery of its latest newbuild LNG carrier, the "Amore Mio I". The ship with 174,000 cubic metres capacity was built at the Hyundai Heavy Industries shipyard in South Korea. Capital Gas said that the carrier is the eighth of the 18 most modern LNG vessels that will be delivered to the company through 2027.

China in winter mode

China said night temperatures dropped below zero degrees Celsius in Beijing and snow fell in other cities, signalling an early start to the official winter season. "The Beijing Municipal Commission of Urban Management said that the heating supply would ensure the indoor temperature in centralized heating areas meets 18 degrees Celsius by the morning of November 7, which is much earlier than the usual start date for the winter heating season," said the official Xinhua news agency.

TC Energy completes pipeline for LNG Canada and reports earnings amid US feed-gas and Mexican progress

LNG News Editor

TC Energy Corp., whose current ventures include the building of the Coastal GasLink pipeline for the Shell-led LNG Canada project, said it had made "monumental progress" on the Coastal GasLink in British Columbia and had achieved mechanical completion ahead of the year-end target.

TC Energy reported a quarterly net loss of C\$197 million (US\$143M) versus a C\$841M (US\$612M) net profit in the same three months of 2022 largely due to the after-tax impairment charge of C\$1.18Bn (US\$858M) for the three months to the ended of September 2023 related to TC Energy's equity investment in Coastal GasLink Pipeline Limited Partnership project company.

Hydrotesting

The Calgary, Alberta-based company reported that net income for the nine months from January to September because of the impairment had dropped to C\$1.36Bn from C\$2.08Bn in the previous year.

"The team's exceptional safety and construction execution on this challenging project means that we have reached 100 percent pipeline installation, including the successful hydrotesting of the full 670km (Coastal GasLink) pipeline length," said François Poirier, TC Energy's President and Chief Executive.

"The project remains on track with the approximately C\$14.5Bn cost estimate," added Poirier.

TC Energy's five divisions include Canadian Natural Gas Pipelines, US Natural Gas Pipeline, Mexican Natural gas Pipeline, Liquids Pipeline and Energy and Power Solutions.

"We are also delivering on our 2023 strategic priorities, including strengthening the balance sheet with the recent receipt of C\$5.3Bn of asset sale proceeds that will be utilized for debt re-



Coastal GasLink in British Columbia completed to Kitimat

payment and funding, along with maximizing the value of our assets with the announced intention to spin-off our Liquids Pipelines business," the CEO explained.

Columbia sales

At the start of October 2023 TC Energy completed the sale of 40 percent stakes for a total of C\$5.3 billion (US\$3.9Bn) in two US assets, Columbia Gas Transmission and Columbia Gulf Transmission, transporters of 20 percent of US LNG feed-gas volumes.

The Calgary, Alberta-based company confirmed that the Columbia Gas and Columbia Gulf stakes was completed to the buyer, the New York-headquartered asset management firm Global Infrastructure Partners (GIP).

The Canadian company described GIP as a "strong and reputable strategic and financial partner" that would help it unlock incremental value on the Columbia gas systems.

The Columbia Gas and Columbia Gulf pipelines span more than 15,000 miles across the North American natural gas network and are underpinned by strong long-term natural gas supplies and a rate-regulated commercial framework.

The company noted in its earnings highlights that quarterly US Gas Pipeline net profits rose to C\$782M from C\$714M and in the

nine months to C\$2.57Bn from C\$1.73Bn because of US LNG feed-gas deliveries.

TC Energy said in the earnings statement that US Natural Gas Pipelines LNG deliveries in the third quarter averaged 3.1 billion cubic feet per day, an increase from the third quarter of 2022.

The US Pipelines division also achieved a new record of deliveries to power generators of 5.2 Bcf on July 28, 2023.

TC Energy said that it delivered approximately 7 percent comparable gross earnings (EBITDA) growth of C\$2.6Bn in the third quarter compared with \$2.5Bn in the same three months of 2022.

Nova Gas Transmission Ltd. (NGTL), TC Energy's natural gas gathering and transportation system for the Western Canadian Sedimentary Basin connecting most of the natural gas production in western Canada to domestic and export markets, saw receipts average 14.0 Bcf per day, up 0.5 Bcf/d from the third quarter 2022.

NGTL System daily receipts reached 14.6 Bcf on August 6, 2023, the highest single day average on the pipeline.

TC Energy was also making progress together with Mexico's Federal Electricity Commission (CFE) on the Southeast Gateway Project.

Kinder Morgan to purchase STX Midstream for \$1.8Bln to boost Texas pipelines holdings

LNG News Editor

Kinder Morgan Inc. (KMI), the leading US pipeline feed-gas company for liquefied natural gas plants and a key energy infrastructure operator and developer, said it agreed to acquire STX Midstream, the South Texas unit of NextEra Energy Partners, for \$1.815 billion.

KMI said that the STX Midstream pipeline system includes a set of integrated, large diameter high-pressure natural gas pipelines that connect the Eagle Ford shale basin to growing Gulf Coast and Mexican demand markets.

The overall assets of STX Midstream comprise 462 miles of pipelines and 4.9 billion cubic feet per day of capacity.

"STX Midstream owns and operates Eagle Ford Midstream, a 158-mile residue line connecting the Eagle Ford basin to the Agua Dulce Hub in Nueces County, Texas," KMI explained.

The Houston-based company added that the Eagle Ford Midstream asset is connected to multiple pipeline systems, including KMI's Tennessee Gas Pipeline and its Tejas Pipeline and Natural Gas Pipeline Company of America.

STX Midstream also owns a 50 percent interest in Dos Caminos LLC while the other 50 percent is held by operator Howard Energy Partners (HEP).

Contracted portfolio

"Dos Caminos has placed in service a 62-mile pipeline that connects HEP's existing midstream



Eagle Ford basin connected to the Agua Dulce Hub

pipeline and facilities in Webb County, Texas to KMI's new Eagle Ford pipeline, which was recently placed in service," said KMI.

"The portfolio of assets is highly contracted, with an average contract length over 8 years. Approximately 75 percent of the business is supported by take-or-pay contracts," KMI stated.

Additionally, STX Midstream also holds a 90 percent interest in the NET Mexico pipeline and MGI Enterprises, which is an affiliate of Mexico's state energy company Petroleos Mexicanos (Pemex), owns the other 10 percent.

"This is a very attractive acquisition for KMI," said Sital Mody, KMI President of Natural Gas Pipelines.

"STX Midstream nicely complements our existing assets and will enable us to capture incremental opportunities serving LNG, power generation, LDC customers and exports to Mexico," Mody added.

"Initially, we plan to fund the transaction with cash on hand and short-term borrowings," said KMI.

"Based on our longer-term funding plans, we expect this transac-

tion to be neutral to KMI's balance sheet," the company added.

KMI said it expected the investment to be "accretive to its shareholders" with the purchase price representing a 2024 EBITDA multiple of 8.6 times and a long-term investment-to-EBITDA multiple of approximately 7.0-7.5 times, based on KMI's financial projections and inclusive of commercial synergies.

The company concluded that the transaction required antitrust clearance and was expected to close in the first quarter of 2024.

Equinor of Norway has signed an agreement starting immediately to supply German utility and LNG market participant RWE with pipeline natural gas.

The Equinor accord was signed for five years is for starting in October this year with volumes of between 10 to 15 TWh per year.

Terms

RWE and Equinor have signed a new supply contract for between 1 billion cubic metres and 1.50 Bcm until 2028, which is the equivalent of up to 1.11 million tonnes per

annum of LNG. The German utility also developed the operating Brunsbüttel floating terminal on the Elbe and also has a 10 percent stake in the German LNG Terminal (GLNG) onshore terminal joint venture at Brunsbüttel. The project includes Dutch utility Gasunie and is aiming for completion in 2026.

Equinor said the new bilateral pipeline gas agreement builds upon the long-standing relationship between RWE and Stavanger-based Equinor.

The contract with RWE, which is headquartered in the German city of Essen, is priced at market terms and the gas will be delivered at Germany's virtual trading hub THE (Trading Hub Europe).

The Trading Hub Europe day-ahead price was last at the equivalent of around \$14.700 per million British thermal unit compared with the US Henry Hub spot price of about \$3.230 per MMBtu.

"Germany and Norway have been energy partners ever since Norwegian gas exports first started more than 45 years ago," explained Helge Haugane, Equinor's Senior Vice President Gas & Power.

"I am very pleased that we continue to develop this partnership and that we can announce another bilateral agreement between Equinor and RWE, which is one of many companies that see Norwegian gas as an enabler for energy security as well as of the energy transition," he added.

The Chief Executive of RWE Supply & Trading, Andree Stracke, said that the company was delighted with the Norwegian deal.

"For us as a global energy trader gas plays an important role in the energy transition," added Stracke.

"The newly concluded gas supply agreement adds a further important building block to our Pan-European natural gas portfolio contributing to security of supply," he stated.

LNG Journal Subscription Package

Sign up now for an Online Subscription at only US\$1190; €920 or £830
Discount options available for multi-users
Contact us for more information

New subscriptions or general queries:
Stephan Venter
venter@lngjournal.com
+44 207 017 3407

Renew an existing subscription or upgrade your package:
Gabi Weck
gabi@lngjournal.com



Russia sanctions impacts revenues

The Russian Finance Ministry said that the federation's oil and gas revenues decreased by 26 percent in the first 10 months of the year amid warnings that natural gas and LNG producer Gazprom was heading for record losses and another gas company Novatek faced financial disruption to its Arctic LNG II project.

"Oil and gas revenues amounted to 7.21 trillion roubles (\$78 billion), down by 26.3 percent year-on-year, which is related to last year's high comparison base, a decline in Urals price quotations at the beginning of the year, a drop in prices and the contraction of natural gas export volumes," the Ministry said in a statement.

However, the Ministry noted that non-oil and gas revenues increased by 28.7 percent in the January-October period to 15.896 trillion roubles (\$172Bln).

The Energy Committee of the Russian lower house in parliament, the Duma, has also reported that Gazprom's losses could reach about 1 trillion roubles (\$10.8Bln) each year through 2025 due to an increase in the tax burden on the company and a decrease in revenue from gas exports.

The report cited a study from the Institute of Energy Research under the Russian Academy of Sciences assessing the tax burden and business health of Gazprom over the next three years, taking into account the decline in exports and export revenues.

LNG equipment-maker Air Products increases orders and advances projects

LNG News Editor

Air Products, the leading global supplier of LNG equipment and a growing global player in industrial gases and large-scale green fuel and power projects, reported an increase in fiscal fourth-quarter net income as annual net profits again soared over \$2 billion.

The company reported a 20 percent surge in fourth-quarter net income of \$694 million while annual net income came to \$2.30Bln compared with \$2.25Bln in the previous fiscal year.

Sales in the fourth quarter came to \$3.19Bln and for the full fiscal year amounted to \$12.60Bln, almost in line with the prior-year periods respectively.

Among the highlights were major LNG technology orders including for the Petronas LNG Complex in Bintulu, Malaysia, for the QatarEnergy's North Field South project in Ras Laffan and for NextDecade's Rio Grande LNG Phase I project in the Port of Brownsville in Texas.

Air Product, whose headquar-



Pennsylvania company is long-term partner of Petronas LNG

ters are in Allentown, Pennsylvania, also announced that Chairman, President and Chief Executive Seifi Ghasemi has had his contract extended.

Contract terms

The company entered into an amended employment agreement with Iranian-born Ghasemi, who became a US Citizen in 1982, to extend the term of his employment until September 30, 2028.

"On September 30, 2024 and on each anniversary thereof, the term of the employment agree-

ment will automatically renew to be a five year term unless either party provides notice of non-renewal or the agreement is otherwise terminated in accordance with its terms," said Air Products.

The other company highlights including the issuance of inaugural green bonds in concurrent \$600M and €700M debt offerings in March 2023, making Air Products the first US chemicals company to qualify green and blue hydrogen projects as an eligible expenditure category.

LNG and utility company Sempra reports on earnings and investment

Sempra, the US utility company with power and natural gas services centred on California and Texas and LNG developments in the US and Mexico through the Sempra Infrastructure subsidiary, posted solid third-quarter earnings and said it expected to increase capital investment by up to \$48 billion over the next five years.

The San Diego, California-based company reported quarterly earnings of \$721 million compared with \$485M in the same three months of 2022.

Port Arthur progress

Earnings for the first nine months of 2023 through the end of

September amounted to \$2.29 billion versus \$1.65Bln in the same period last year.

Sempra, which operates the Cameron LNG export plant in Louisiana and whose other projects include the Port Arthur LNG project in Texas and Costa Azul LNG on the Pacific Coast of Mexico, gave a positive update on the various ventures.

"The Port Arthur energy hub reached several milestones this past quarter," said Sempra.

"In September, the Port Arthur LNG Phase II expansion project under development in Jefferson County, Texas received FERC approval. With Phase 1 currently under construction, the develop-

ment of the proposed Phase II project could increase the total liquefaction capacity of the facility from approximately 13 million tonnes per annum (MTPA) to up to 26 MTPA," Sempra explained.

This news followed the successful completion of the sale of a 42 percent indirect, non-controlling interest in the Port Arthur LNG Phase 1 project to New York-based investment firm Kohlberg Kravis Roberts (KKR) & Co.

"Increasing global interest in lower emissions fuels and the status of the US as a strong energy partner are creating further opportunities for Sempra Infrastructure," said the company.



NEXUS OF CLEAN™

"Chart's vision is to be the global leader in the design, engineering and manufacturing of cryogenic process technologies and equipment for the Nexus of Clean™ — **clean power, clean water, clean food and clean industrials**, regardless of molecule."

A handwritten signature in black ink, likely belonging to Jill Evanko.

JILL EVANKO / CEO / CHART INDUSTRIES

CLEAN CLEAN CLEAN CLEAN

 CHART DELIVERS CLEAN SOLUTIONS FOR



Power



Water



Food



Industrials



Learn more at chartindustries.com

Sinopec says China well set for LNG with world's largest storage tank at Qingdao and Tianjin project

LNG News Editor

China Petroleum and Chemical Corporation (Sinopec) has formally put the largest liquefied natural gas storage tank into service at the Qingdao regasification and import terminal in China's eastern Shandong province.

The world's largest terminal tank at Qingdao has capacity of 270,000 cubic metres and is part of a natural gas hub in that part of China that provides gas to several million households during the winter heating season.

Mega-storage

Sinopec said that the mega-storage tank was independently designed, developed and built by Sinopec and has a diameter of 100.6 metres and is 55 metres high.

"It was part of Sinopec's Qingdao terminal phase III construction and with the adoption 17 patented technologies with independent intellectual property, the main structure of the 270,000 cubic



World's largest terminal tank at Qingdao has 270,000 cbm

metres tank was completed in only 18 months and was in full service within 27 months," Sinopec explained.

In the construction process, Sinopec said it "localized the applications of over 20 core sets of equipment" that significantly reduced procurement costs and boosted the localization level of the tank to 95 percent, the highest in China.

On the same day, a second Sinopec LNG importer terminal, the Tianjin facility in northeast China's Binhai economic zone lo-

cated east of Beijing, completed an expansion.

The Tianjin terminal completed its phase II expansion with three storage tanks, each of 220,000 cubic metres capacity.

The three tanks came into full service and have added more than 400 million cubic metres of natural gas storing capacity to bring the total storage capacity of the Tianjin terminal to 1.08 billion cubic metres, the largest in China.

Sinopec's two LNG terminals in Qingdao and Tianjin, with seven and nine storage tanks respec-

tively, have a total of 1.68 Bcm of storage capacity, further guaranteeing the supply of resources in the winter season.

"Sinopec has continued to expand the natural gas storage capacity following a strategic plan covering the full scope of production, supply, storage and sales, giving the group about 5 Bcm of LNG storage capacity," Sinopec said.

Import-ready

Sinopec added that it had built 12 natural gas storage systems including the Zhongyuan cluster, Jintan, Wen 96 and Jiangnan Yanxue while also expanding the Qingdao and Tianjin LNG receiving terminals.

"Sinopec aims to build more natural gas storage depots and LNG receiving terminals in China to further strengthen the natural gas storage and peak gas consumption adjustment capabilities and expand LNG storage capacities during its five-year plan," the company declared in the statement.

QatarEnergy signs another block of partnership and cargo deals with Sinopec for Arab Gulf LNG

QatarEnergy has signed a second partnership and supply agreement with China Petroleum and Chemicals Corp. (Sinopec) for Qatar's North Field South (NFS) expansion project in the Arabian Gulf after Sinopec had previously taken a stake in the other Qatar expansion, the North Field East (NFE) joint venture.

The agreements were signed in the Chinese port city of Shanghai by Saad Sherida Al-Kaabi, Qatar's Minister of State for Energy Affairs as well President and Chief Executive of QatarEnergy and Ma Yongsheng, the Chairman of Sinopec.

A long-term sales and purchase agreement (SPA) will also see the delivery of an additional 3 million tonnes per annum of LNG for 27 years from the NFS project to

Sinopec's receiving terminals in China.

Transfer

Under the NFS project investment agreement, QatarEnergy will transfer a 5 percent interest to Sinopec in a joint venture company that will own the equivalent of 6 MTPA of LNG production capacity in the NFS project.

"The partnership agreement is the second of its kind with Sinopec, following a similar one signed in Doha last April, which marked Sinopec's entry as a shareholder in one of the North Field East (NFE) joint venture companies that own the NFE project," QatarEnergy explained.

"The agreement will not affect the participating interests of any

of the other shareholders," the company added.

The long-term LNG SPA signed in Shanghai followed another signed in November 2022 for the supply of 4 MTPA of LNG over 27 years.

Qatar's two LNG expansion project, the NFS joint venture and the NFE venture, are in partnerships with international energy majors like Shell and ExxonMobil and others and when completed will take Qatar's output from 77 million tonnes per annum to 126 MTPA.

The two Qatari LNG expansions involve feed-gas developments in the prolific North Field in the Arabian Gulf and the construction of an additional six mega-Trains each with 8 MTPA of output.

The NFS venture will have two mega-Trains while the NFE project

will have four of the mega-Trains processing the Gulf gas for export.

Growing player

"We are providing the world with the cleanest hydrocarbon source of energy, which enjoys both economic and environmental qualities to support sustainable growth and a better future," said Al-Kaabi after the deals were signed.

"In fact, by 2029, about 40 percent of all new LNG supplies will be provided by Qatar. Therefore, we believe that a stronger relationship between the world's largest LNG producer and the world's largest energy consumer is a natural development of the realities shaping the energy map," Al-Kaabi stated.