

GERAB**BULLETIN**

Weekly News

**EXECUTIVE SUMMARY****The Commodity summary**

- Crude Oil Brent prices trading lower by 13% 3MTD and Crude Oil WTI prices are trading lower by 16% 3MTD.
- Coal prices are trading lower by 10% WTD
- Steel HRC (FOB China) prices are trading higher by 8% 3MTD
- Iron ore prices are trading higher by 24% YTD
- Natural Gas prices are trading higher by 9% WTD

The Currency summary

- Euro is stronger by 2% YTD to USD
- The US Dollar to CNY exchange rate differential is 6% YTD

The Rig count summary

- The Rig counts in GCC have gone down by 5 % MTD and in North America have gone up by 5% MTD.

Project summary

- Oman: Tethys Oil expands operational activities, discovers hydrocarbons in 3 different zones
- QatarEnergy preparing to launch tender for multibillion-dollar offshore facilities
- Aramco: World's largest oil producer deepens its push into China
- TAQA Consortium awarded \$408.4 million Juranah Water Reservoir Project in Makkah
- Worley, Aramco Signs Licensing Agreement for Liquids-to-Chemicals Program
- Kalpataru Projects International bags orders worth Rs 3,244 crore; forays into metro tunnelling segment
- Iraq's oil surge: Aiming for 6M barrels daily in five years
- Hyundai aims for three million tonnes of hydrogen offtake by 2035 for fuel, steel and power
- KBR's technology selected for green ammonia project in Malaysia
- Dubai's Dragon Oil starts crude production in Egypt, to drill 7 new wells by 2026
- Egypt to launch new international bids for oil, natural gas exploration in 2024
- Ivory Coast to construct a US \$186m waste water treatment plant
- Petrofac delivering FEED for Aramis, the Netherlands' flagship CCS project
- Equinor and Linde to jointly develop 1GW blue hydrogen project in the Netherlands
- Construction to begin soon on largest blue hydrogen plant in UK
- TechnipFMC wins contract with Petrobras worth over \$1 billion
- UK contractor wins prestigious engineering role at \$7.2 billion Mexico project
- Samsung Heavy Industries secures 2 Trillion Won FLNG Order

COMMODITY UPDATES

COMMODITY	UOM	LATEST PRICE	WTD %	MTD %	3MTD %	6MTD %	YTD %
Chromium	USD/MT	9,318.46	-0.27	-0.08	2.20	4.22	-12.16
Coal	USD/MT	145.01	-10.14	-8.88	-6.14	-2.02	-64.19
Cobalt	USD/MT	28,307.35	-0.85	-4.59	-14.18	-17.34	-28.37
Copper	USD/MT	8,422.00	-1.98	-0.71	5.17	-0.44	-6.30
Crude Oil	USD/BBL	75.42	-0.09	0.31	-14.16	-2.40	-7.59
Crude Oil Brent	USD/BBL	77.90	-0.49	0.17	-12.82	-1.87	-7.75
Crude Oil WTI	USD/BBL	72.94	0.33	0.46	-15.54	-2.97	-7.42
Iron Ore	USD/MT	135.52	0.33	5.97	13.13	21.75	23.75
Molybdenum	USD/MT	44,298.45	8.42	11.26	-5.35	-10.11	-34.71
Natural Gas	USD/MCF	2.98	8.67	13.45	-5.90	7.54	-18.99
Nickel	USD/MT	16,270.00	-1.93	-2.38	-12.16	-23.79	-42.90
Steel HRC (FOB China)	USD/MT	582.00	3.07	3.62	8.42	6.35	-5.56
Steel HRC (N. America)	USD/MT	1,212.54	1.01	3.45	51.32	25.04	52.25
Steel Rebar	USD/MT	592.92	-2.49	-2.29	8.00	3.85	-10.28
Steel Scrap	USD/MT	415.00	2.22	-0.27	12.84	13.63	0.51

Source: Investing.com / Trading Economics / London Metal Exchange / MarketIndex.com.au / OilPrice.com

CURRENCY EXCHANGE RATE									
Code	Description	Country	Units	Latest Exchange Rates	WTD%	MTD%	3MTD%	6MTD%	YTD%
EURUSD	1 EUR to USD	Euro Area	USD	1.0962	0.14	1.88	3.76	-0.06	2.18
USDCNY	1 USD to CNY	China	CNY	7.1661	-0.22	0.24	1.72	0.88	-5.67

Source- Trading Economics

CRUDE OIL STOCK							
Region	Unit	Latest Count	WTD %	MTD %	3MTD %	6MTD %	YTD %
US Stocks of Crude Oil & Petroleum Products	Thousand Barrels	16,05,513.00	0.50	-1.05	-1.08	-0.17	1.77

Source: US Energy Information Authority

SELECTIVE COMMODITY TRADERS AND PIPE MANUFACTURERS STOCK PRICES

STOCK PRICES							
Name	Latest Value	Units	WTD%	MTD%	3MTD%	6MTD%	YTD%
ArcelorMittal SA	27.90	USD	-1.13	10.06	15.96	5.88	-3.13
Chiyoda Corporation	346.00	JPY	1.47	3.59	-2.54	0.87	-4.95
Glencore PLC	457.10	GBP	-2.47	-0.07	1.41	4.76	-15.76
HD Hyundai Heavy Industries Co. Ltd.	1,23,700.00	KRW	-2.75	0.49	10.74	6.64	6.64

JGC Holdings Corporation	1,689.00	JPY	3.78	6.36	-7.04	-6.79	4.13
McDermott International Ltd.	0.12	USD	35.11	-32.44	-39.20	-62.00	-62.00
National Marine Dredging	27.02	AED	-9.87	-0.73	16.27	35.78	7.22
NYSE American Steel Index	2,178.35	Index	-1.16	7.66	16.08	15.59	19.46
Rio Tinto PLC	5,685.00	GBP	-3.50	1.83	14.98	15.67	-6.67
Technip Energies NV	20.63	EUR	-2.50	2.03	-10.03	40.63	40.63
TechnipFMC PLC	19.05	USD	-4.99	0.69	-5.08	11.14	53.88
Tenaris SA	33.51	USD	-2.93	-1.33	3.39	11.07	-0.92
Tubacex SA	3.51	EUR	-1.96	3.54	23.81	25.36	59.55
Woodside Energy Group	31.18	AUD	-0.86	4.60	-11.52	-8.72	-11.02

Source- Trading Economics / Wall Street Journal / CNBC

INTERNATIONAL RIG COUNTS

ACTIVE RIG COUNTS BY REGION

Region	Latest Count	WTD %	MTD %	3MTD %	6MTD %	YTD %
United Arab Emirates	61	*	0.00	3.39	8.93	17.31
GCC	223	*	-4.70	0.90	1.83	2.29
Middle East	329	*	-2.95	1.86	1.54	2.49
Africa	101	*	-9.01	5.21	9.78	20.24
Asia-Pacific	200	*	-0.99	-2.44	-2.44	9.29
Europe	113	*	0.89	4.63	0.89	5.61
Latin America	174	*	-0.57	-0.57	-7.94	0.58
North America	744	5.38	5.38	-8.94	-12.47	-26.77
Total	1,661	*	0.97	-3.65	-6.26	-11.84

Source- Baker Hughes

(*) No weekly data available for those particular regions

NEWS OF THE WEEK

GULF COOPERATION COUNCIL (GCC)

UAE	<ul style="list-style-type: none"> Rival contracting groups submit offers for multibillion-dollar Adnoc gas export facility Commercial bids recently submitted for Ruwais LNG project. Two rival contracting groups have submitted price offers to Abu Dhabi National Oil Company (Adnoc) for work on its 9.6 million tonnes per annum liquefied natural gas export terminal at Al Ruwais in Abu Dhabi. The Ruwais liquefaction facility is expected to cater to several international gas markets and is crucial to Abu Dhabi's ambition to emerge as a key gas exporter before the end of this decade. The LNG facility is expected to cost Adnoc billions of dollars and features two 4.8 million tpa LNG trains operating on renewable and nuclear energy. 9th January 2024
OMAN	<ul style="list-style-type: none"> Oman Signs concession agreement for Oil & Gas Exploration & Production The Ministry of Energy and Minerals today signed a concession agreement for oil and gas exploration in concession areas No. 38 and 74 with CC Energy Development Oman company. The company will conduct

	<p>geological and geophysical studies and seismic surveys necessary for oil and gas prospecting in the designated zone. Located in the southwestern part of the Dhofar Governorate, concession Area No. 38 extends approximately 17,425 square kilometres, while Concession Area No. 74, in the south-eastern part of the Governorate, covers an area of 3,064 square kilometres. 7th January 2024</p> <ul style="list-style-type: none"> <p><u>Oman: Tethys Oil expands operational activities, discovers hydrocarbons in 3 different zones</u> Tethys Oil expands Oman operations, discovers hydrocarbons in Block 56, and advances Menna-1, Sarha-3 wells for resource potential assessment. Stockholm-based oil exploration and production company Tethys Oil, which primarily operates in the Sultanate of Oman, has announced an expansion of its operational activities. The company has discovered indications of three different hydrocarbon zones in Block 56, located onshore in Oman. Additionally, Tethys Oil plans to resume testing operations on the previously drilled Sarha-3 well, following a completed workover. The company emphasised that both the Menna-1 well and the Sarha-3 operations are crucial for the ongoing data compilation and the preparation of a field development plan for Block 56. 10th January 2024</p>
QATAR	<ul style="list-style-type: none"> <p><u>Three leading contractors in fray for coveted QatarEnergy offshore deal</u> The EPCI project involves the laying of more than 100 kilometres of offshore pipelines. At least three leading international contracting giants are poised to battle it out for a sizeable offshore pipeline contract from QatarEnergy for work on its North Field South (NFS) expansion project. Qatar is executing a two-phased expansion of its giant North Field, which could boost the nation's liquefied natural gas (LNG) production capacity to 126 million tonnes per annum (tpa) in another three to four years, up from the 77 million tpa nameplate capacity. 5th January 2024</p> <p><u>QatarEnergy preparing to launch tender for multibillion-dollar offshore facilities</u> QatarEnergy is preparing to issue tender documents to select contractors for the further development of its massive Bul Hanine offshore oilfield. Qatar is spending more than \$50 billion to increase its liquefied natural gas production capacity but is also said to be eyeing sizeable investments in its key oilfields. The country has an oil production capacity of between 500,000 and 600,000 barrels per day, and a majority of Qatar's oilfield projects are aimed at sustaining and expanding the production profile of some of its largest fields. 11th January 2024</p>
SAUDI ARABIA	<ul style="list-style-type: none"> <p><u>Aramco: World's largest oil producer deepens its push into China</u> Saudi energy giant Aramco, the world's largest integrated oil and gas company, is planning to up its investment in its Chinese partner, as it expands its footprint in the country. Aramco is in talks with Rongsheng Petrochemical to acquire a maximum 50% stake in the latter's subsidiary Ningbo Chongjin Petrochemical, the Chinese company said in a Wednesday filing to the Shenzhen Stock Exchange. Rongsheng, a Hangzhou-based privately-owned refiner, said it's also discussing the possibility of taking a 50% stake in Saudi Aramco Jubail Refinery Company, the refining unit of the Saudi company, citing a memorandum of understanding the two sides had signed a day earlier. In March, Aramco agreed to buy a 10% stake in Rongsheng for 24.6 billion yuan (\$3.5 billion). As part of the deal, it would supply 480,000 barrels per day of crude oil to the Chinese company. China has also sought to grow its presence in the Middle East country. 4th January 2024</p> <p><u>ACCIONA achieves Key milestone for Shuqaiq 4 and Jubail 3B desalination plants in Saudi Arabia</u> ACCIONA has achieved a key milestone in the construction of two of its main projects in the Kingdom of Saudi Arabia, Jubail 3B and Shuqaiq 4 desalination plants, ramping up production during final testing to full capacity of 575,000 m³ of potable water per day and 400,000 m³/day respectively, enough to meet the needs of more than 5.5 million people between both utilities. Shuqaiq 4 will help to improve the supply of drinking water and offset water shortages to 3.5 million of citizen in the South-West of Saudi Arabia by providing a new source of potable water. While Jubail 3B desalination plant will supply two million people</p>

in the cities of Riyadh and Qassim once commercially operational in 2024. Both plants are equipped with energy-efficient Sea Water Reverse Osmosis (SWRO) technology and are a key project in the modernization of Saudi Arabia's water sector. These facilities, together with the rest of the projects that ACCIONA currently has under construction in the Kingdom, bring the total capacity of desalinated water to 2,300,000 m3 per day, that is, to supply drinking water for nine million people, which represents 25% of the country's population. The Kingdom has set a national program for rationalizing water consumption, setting ambitious targets that include slashing usage by nearly 43% by 2030. The targets form part of the Saudi Arabia's comprehensive Vision 2030 social and economic development plan. **4th January 2024**

- **TAQA Consortium awarded \$408.4 million Juranah Water Reservoir Project in Makkah**

Abu Dhabi National Energy Company PSJC (TAQA), UAE announces its participation in the winning consortium for the Juranah Independent Strategic Water Reservoir Project (ISWR-1) in the Makkah region, Saudi Arabia. The consortium, which also includes Vision International Investment Company (Vision Invest) and Gulf Investment Corporation (GIC), has signed the relevant project agreements with the procurer Saudi Water Partnership Company (SWPC). The Juranah ISWR-1 Project is the first of its kind in the Kingdom of Saudi Arabia under a BOOT (Build, Own, Operate, Transfer) model, reflecting active private sector involvement in essential water infrastructure development. TAQA will be the lead member for the operations and maintenance (O&M) activities through a specialized standalone O&M company, which will be co-owned by Vision Invest. The total project cost is estimated at AED 1.5bn, with debt funding expected to account for approximately 80%. TAQA is taking a 35% share in the project company and a 50% stake in the O&M company. **2nd January 2024.**

- **Worley, Aramco Signs Licensing Agreement for Liquids-to-Chemicals Program**

Worley Comprimo, has signed a General Licensing Agreement with **aramco** to support its liquids-to-chemicals program. Key to the energy transition, Aramco's strategy aims to remove or streamline several conventional industrial processes by integrating refining processes to produce petrochemicals directly, while reducing direct CO2 emissions from the process through carbon capture. Worley Comprimo is proudly among the few global technology providers to be awarded a licensing agreement, enabling us to contribute to this pioneering technological progress. We look forward to supporting Aramco with our century-old expertise in delivering sustainable, economical and performant gas treating and sulphur recovery technology, statement mentioned. **9th January 2024**

ASIA EXCLUDING GULF COOPERATION COUNCIL (GCC)

CHINA

- **China's Shale Exploration Yields Promising Results**

China Petroleum & Chemical Corporation, or Sinopec, has found oil and gas at a shale exploration well in the Sichuan province in the southwest, estimating that the initial flows could lead to the discovery of around 100 million metric tons of hydrocarbons. The Xingye-9 exploration well in the Chongqing municipality tested a daily flow of 108.15 cubic meters of oil and 15,800 cubic meters of natural gas, Sinopec said on Tuesday in a statement carried by Reuters. The Sichuan province in southwestern China is estimated to hold a large part of China's shale gas resources. Chinese state oil and gas giants have stepped up exploration efforts in China in recent years, in line with a government policy to boost reserves and production to help reduce dependence on imports. A new shale gas field in the Sichuan basin contains as much as 146 billion cubic meters (bcm) of certified proven natural gas reserves, Sinopec said at the end of 2022. In November 2023, Sinopec announced the first oil and gas flows from the deepest onshore well in Asia, which had been recently completed. The well depth is 9,432 meters (30,945 ft) a new record set for the deepest onshore well in Asia. Drilling for shale gas in China requires deeper wells, while fracturing is also tricky because of the mountain terrain and geological constraints. **9th January 2024**

INDIA

- **GAIL and TruAlt Bioenergy announce USD 72 Million investment through CBG JV**

GAIL (India) Limited, the country's leading natural gas company, and truAlt Bioenergy Limited, the largest producer of ethanol in India, have signed a Term Sheet for GAIL's equity participation in TruAlt's joint

venture company Leafinti Bioenergy Limited which owns and operates India's second Compressed Bio Gas (CBG) plant. TruAlt Bioenergy and GAIL India shareholding in the JV would be 51 per cent and 49 per cent respectively. The investment in setting up the CBG plants will exceed over \$72 million and will be funded through a combination of debt and equity. However, this will be subject to favourable outcome of due diligence and requisite approvals. The JV company will process over 600 million kgs of organic waste like agricultural residue, sugarcane press mud, spent wash (waste generated during ethanol production) and other decomposable waste per annum, to produce over 33 million kgs of CBG, nearly 20 million kgs of Solid Fermented Organic Manure (SFOM) and over 30 million kgs of Liquid Fermented Organic Manure (LFOM) per annum. The government aims to achieve a 15 per cent gas share in the energy mix by 2030, emphasizing a shift to a Gas-based economy. India targets 5,000 commercial CBG plants by 2023-24, producing 15 million metric tonnes (MMT), to replace other gaseous fuels and enhance energy sustainability. The comprehensive approach exhibits India's commitment to renewable energy, environmental responsibility, and economic growth. **3rd January 2024**

- **Kalpataru Projects International bags orders worth Rs 3,244 crore; forays into metro tunnelling segment**
Synopsis: Kalpataru Projects International, along with its overseas subsidiaries and joint ventures, has secured new orders totaling Rs 3,244 crore. The orders include a contract for the design and construction of an underground metro rail project. The company also secured orders in the buildings and factories business, including its largest-ever design and building contract for a residential project in South India. Engineering and construction firm Kalpataru Projects International said the company along with overseas subsidiaries and joint ventures bagged new orders worth Rs 3,244 crore and announced its foray into underground metro rail tunnelling segment. The company said it secured an order for design and construction of an underground metro rail project, marking its foray into electric mobility business with TBM (tunnel boring machine) tunnelling scope. According to a statement, Kalpataru Projects International Ltd (KPIL) along with its joint ventures (JVs) and overseas subsidiaries has secured new orders/notification of awards of Rs 3,244 crore. It has also got orders in the buildings & factories (B&F) business, including KPIL's largest ever design and building contract for a residential project in south India with a built-up area of approximately 13 million square feet from a reputed developer. Besides, the company got orders in the Transmission & Distribution (T&D) business from overseas markets. **29th December 2023**
- **Chennai Metro Phase 2 Tunnelling Underway**
Tunnelling has commenced beneath the Adyar River on Chennai Metro Rail's (CMRL) Phase II project. The project involves TBM Kaveri excavating at a depth of approximately 18 meters, symbolising a crucial phase in expanding the city's metro infrastructure. Kaveri started its journey in February 2023 at Greenways Road Station in Corridor 3 contract TU02 between Kellys and Taramani of Phase II Chennai Metro Rail Project. Its partner, TBM Adyar follows closely at 250 m and will join within 20 days. Both machines will tunnel under the DB Road and the iconic Thiru.Vi.Ka. Bridge, reaching Adyar Junction Station. The project aims to enhance connectivity and streamline transportation in Chennai. The Adyar River tunnelling marks a milestone, reinforcing the project and city's commitment to sustainable and efficient public transportation. This development underscores Chennai's dedication to advancing its metro infrastructure, ensuring that residents benefit from an extensive and well-connected transportation system. The ongoing tunnelling work sets the stage for a transformative shift in Chennai's urban mobility landscape, aligning with the vision of a modern and accessible city. Rapid population growth and increasing traffic volumes have put significant strain on Chennai's urban transport system. To address this, the government of Tamil Nadu has undertaken the Chennai Metro Rail Project, looking to provide the people of Chennai with a more modern, efficient, and affordable framework of public transportation. The project is scheduled to be completed by the end of 2026. **8th January 2024**
- **India's Petronet to sign deal to extend Qatar LNG imports beyond 2028**
Qatar, the world's top LNG exporter, aims to expand its liquefaction capacity to 126mtpy by 2027. India's top gas importer Petronet LNG is likely to sign a deal this month to extend its long-term liquefied natural gas (LNG) imports from Qatar to beyond 2028, India's Oil Secretary said on Wednesday. Petronet has a 7.5-

million metric ton per year (tpy) long-term LNG import deal with Qatar and its promoters Indian Oil Corp, Bharat Petroleum Corp and GAIL (India) Ltd has a 1 million tpy deal. Indian companies had until the end of 2023 to negotiate with Qatar for renewal of the deals to beyond 2028. "We are pretty close to signing the deal," Oil Secretary Pankaj Jain told reporters. Qatar, the world's top LNG exporter, aims to expand its liquefaction capacity to 126 million tpy by 2027 from 77 million and has signed long-term deals with European majors Shell, TotalEnergies and ENI. It has also signed long-term gas deals with China's Sinopec, China National Petroleum Corp and Bangladesh. **3rd January 2024**

- **Cairn Oil & Gas Submits Plan for Gas Production in Gujarat**

Vedanta's oil and gas subsidiary, Cairn Oil & Gas, has officially submitted a Field Development Plan (FDP) with the intent of kick-starting gas production from the Jaya field in Gujarat by 2024. The FDP is no mere formality, but a vital cog in the wheel of oil and gas field development, outlining the strategy for harnessing the field's resources both effectively and efficiently. Cairn Oil & Gas, a key player in the Vedanta Group, is not just looking to boost its portfolio but also contribute significantly to India's domestic energy production. The country's reliance on imported energy has been a persistent worry, and Cairn's move is a step towards alleviating that concern. The initiation of gas production in Jaya forms part of Cairn's broader strategy to not just enhance its portfolio but also support India's energy security goals. In a world increasingly aware of the importance of energy security and sustainability, Cairn Oil & Gas's move is a key development. Beyond the immediate implications for the company's portfolio and India's energy landscape, it represents a recognition of the critical role that domestic energy production plays in national security, economic growth, and environmental sustainability. **11th January 2024.**

- **PETRONAS secures production sharing contract extension for the Ketapang working area**

PC Ketapang II, a subsidiary of PETRONAS, has secured the 20-year extension of the Production Sharing Contract for the Ketapang Working Area, located in the Java Sea. Due to expire in 2028, the Ketapang PSC extension was officially granted by the Government of Indonesia through the Ministry of Energy and Mineral Resources on 22 December 2023 with the same composition of participating interests. Executive Vice President and Chief Executive Officer of Upstream PETRONAS, Datuk Adif Zulkifli said, "We are grateful to the Government of Indonesia for the PSC extension, which will allow PETRONAS to continue leveraging our strong portfolio in Indonesia, through our key strategic projects that we have planned for the Ketapang Working Area. Presently, PETRONAS is the operator for the Ketapang, North Madura II, and North Ketapang PSC, located offshore East Java, and is a joint venture partner in seven PSCs located both onshore and offshore Sumatra, Natuna Sea, East Java, as well as East Indonesia. **5th January 2024.**

- **Harbour Energy Starts Drilling Gayo-1 Well Off Indonesia**

Oil and gas company Harbour Energy has started drilling the Gayo-1 exploration well in the Andaman II block, offshore Indonesia. Drilling started on December 31, 2023, using West Capella ultra-deepwater drillship. According to SKK Migas, Indonesia's government regulator, the efforts are being made to re-explore potential oil and gas reserves in the Andaman II, inspired by discovery of significant oil and gas reserves through the Timpan-1 exploration well in 2022. The West Capella is the 6th generation Seadrill drillship that was recently employed by Mubadala Energy on Layaran-1 exploration well in South Andaman, where it made a major gas discovery. Layaran-1 is the first of a four well exploration campaign targeting the same Oligocene play as the successful Timpan-1 well. Aside from Larayan-1 and Gayo-1, the rig will work on Halwa exploration too, Harbour Energy said. The partners in the Andaman II license are Premier Oil Andaman, a Harbour Energy company (40%, operator), bp (30%), and Mubadala (30%). **4th January 2024.**

- **FEED tenders launched for giant Asian LNG project**

Inpex has launched the front-end engineering and design competitions to two of the major worksopes for its \$20 billion Abadi deep-water giant gas project offshore Indonesia, which incorporates a carbon capture and storage (CCS) scheme. As the operator revs up Abadi after bringing on board new partners Pertamina and Petronas, it is wasting no time in finally getting the field development off the drawing board — starting

INDONESIA

	<p>2024 with the FEED tenders for the subsea umbilicals, risers and flowlines (SURF) package and for the gas export pipeline (GEP) and CCS pipeline. The GEP will traverse from a 600-metre water depth across the Darwin slope to an approximate 1500-metre water depth at the base of the Tanimbar Trough and then climb the Tanimbar slope to shore cross on Saumlaki Island, Indonesia. This pipeline will deliver an average of 1.8 billion cubic feet per day of gas for 30 years 10th January 2024.</p>
IRAQ	<ul style="list-style-type: none"> <p><u>Iraq's oil surge: Aiming for 6M barrels daily in five years</u> Iraqi Ministry of Oil plans to increase oil production to 6 million bpd in five years, amidst rising export figures. The Iraqi Ministry of Oil has announced comprehensive plans to boost the country's oil production capacity. The Ministry's goal is to reach a production rate of 6 million barrels per day (bpd) within the next five years. 8th January 2024</p> <p><u>Chinese subsidiary wins deal to develop Iraqi gas field</u> A subsidiary of PetroChina has signed an agreement with Iraq to develop an onshore gas field with an initial output capacity of 150 million cubic feet per day (mcf/d). Petrochina Halfaya was awarded the contract on BOOT (build-own-operate-transfer) basis for the development of Nahr bin Umar field in the Southern port of Basra. In comments published on Sunday, Iraqi Oil Minister Hayan Abdel Ghani said the project could be expanded later to produce an additional quantity of 150 mcf/d to be used in fuelling power stations in Southern Iraq. In other remarks, Oil Ministry Undersecretary Izzat Sabir said the project would be completed within 36 months and would include construction of gas gathering facilities, storage tanks and pipeline networks to supply gas to power stations. Project values weren't disclosed. 8th January 2024</p>
KOREA	<ul style="list-style-type: none"> <p><u>Hyundai aims for three million tonnes of hydrogen offtake by 2035 for fuel, steel and power</u> The Korean automaker has also reaffirmed plans to produce H2 from waste and plastic, as well as in-house electrolyser manufacturing. Korean auto giant Hyundai has doubled down on hydrogen as its route to reach carbon neutrality by 2050 with an announcement at the start of technology conference CES in Las Vegas that it will offtake three million tonnes of hydrogen by 2035, for use in "logistics", green steel and power generation. While the company did not expand on exactly how it would source these vast volumes of H2, the car manufacturer one of the few to sell fuel-cell electric vehicles (FCEVs) also revealed that it will start to manufacture polymer electrolyte membrane (PEM) electrolysers at the megawatt scale, with an eye to sharing components with the fuel cells used in its vehicles. While Hyundai noted that PEM technology is currently around 1.5 times the price of alkaline electrolysers, it expects that component sharing will make its equipment cheaper. 9th January 2024</p>
MALAYSIA	<ul style="list-style-type: none"> <p><u>PETRONAS Carigali, PTTEP sign MoU and operational agreements for Blocks SK405B and SK410B, Off the Coast of Sarawak, Offshore Malaysia</u> PETRONAS Carigali Sdn Bhd (PETRONAS Carigali), a wholly-owned subsidiary of PETRONAS, has signed a Memorandum of Understanding (MoU) and two Technical Assistance Agreements (TAAs) with PTT Exploration and Production (PTTEP) in relation to the development of PTTEP-operated Blocks SK405B and SK410B located off the coast of Sarawak, offshore Malaysia. The MoU covers the scope of potential evacuation of production from Block SK405B through D35/D21/J4 Production Sharing Contract (PSC) facilities, Post 1976 Balingian PSC facilities and Bintulu Crude Oil Terminal operated by PETRONAS Carigali. Meanwhile, the first TAA covers the study and design works for Block SK405B fields into the same PETRONAS Carigali-operated facilities. In Sarawak, we have a number of developments forthcoming including SK410B and SK405B. We highly appreciate and value this collaboration a lot since it will enable the parties to advance the success of our projects," he added. With a keen focus on supporting the domestic energy industry, PETRONAS Carigali continues to collaborate with industry partners as part of its deliberate steps in accelerating a sustainable portfolio to produce energy responsibly, in line with PETRONAS' Net Zero Carbon Emissions by 2050 Pathway. PTTEP holds 49.5 per cent participating interest in Block SK405B PSC, with MOECO Oil (Sarawak) Sdn Bhd and PETRONAS Carigali holding 25.5 per cent and 25 per cent</p>

	<p>respectively. For Block SK410B PSC, PTTEP and Kuwait Foreign Petroleum Exploration Company each holds 42.5 per cent interest with the remaining 15 per cent held by PETRONAS Carigali. 4th January 2024</p> <ul style="list-style-type: none"> <p><u>KBR's technology selected for green ammonia project in Malaysia</u> A consortium consisting of Lotte Chemical, Korea National Oil Corporation (KNOC) and Samsung Engineering has chosen KBR's K-GreeN technology for Lotte Chemical's green ammonia project, a part of H2biscus green hydrogen and ammonia project development in Sarawak, Malaysia. Specifically, under the terms of the contract, KBR will provide a technology license and proprietary engineering design to Lotte Chemical for the ammonia project. Doug Kelly, KBR President, Technology, said KBR is pleased to work with Lotte Chemical and support their energy transition objectives with zero-carbon K-Green technology, noting that green ammonia is a key enabler to achieving global net-zero targets. Based on the FEED, a final investment decision (FID) will be made at the end of 2024, Samsung Engineering said at the time, adding that once FID is approved, engineering, procurement and construction (EPC) is expected to begin right after, at the end of 2024. To remind, Samsung Engineering, SEDC Energy, Sarawak Energy Berhad, Lotte Chemical and POSCO Holdings signed a memorandum of understanding (MoU) to study the potential of supplying at least 900 MW of hydro-based renewable power for the green hydrogen and ammonia project in Malaysia back in September 2022, building upon the MoU signed by Samsung Engineering, Lotte Chemical and POSCO Holdings with SEDC Energy for the H2biscus project earlier in the year. 8th January 2024</p>
THAILAND	<ul style="list-style-type: none"> <p><u>PTTEP ready to join Thailand in Northern Gulf of Thailand CCS study as pathway toward Net Zero goal</u> TTEP will utilize its knowledge and experience to conduct a study on carbon storage potential in the Northern Gulf of Thailand together with INPEX CORPORATION, a Japanese counterpart, under an international collaboration between the Thai Department of Mineral Fuels (DMF) and Japan Organization for Metals and Energy Security (JOGMEC). The study will lay a foundation for potential development of Carbon Capture and Storage (CCS) Hub in the Eastern Economic Corridor of Thailand (EEC). Meanwhile, PTTEP is leading the feasibility study of PTT Group's Eastern Thailand CCS Hub initiative in the EEC which aims to reduce CO2 emission from the group's operational sites in Rayong and Chonburi provinces as well as nearby industrial areas using CCS technology and storage potential in the Gulf of Thailand. With Front-End Engineering Design (FEED) phase now completed, PTTEP expects to commence CCS operation at the Arthit field in 2027 to reduce 700,000–1,000,000 tonnes of CO2 per year from gas production. The outcome of CCS study at EEC, Arthit field, and this Northern Gulf of Thailand CCS Exploration Project will deepen geological insights into the storage capacity and help Thailand to meet Net Zero greenhouse gas emissions target by 2065. 8th January 2024</p>
TURKEY	<ul style="list-style-type: none"> <p><u>Türkiye now eyeing large shale gas reserves</u> Türkiye, which has been working to reduce its dependency on imported energy, is now turning to extract large shale gas reserves estimated at 679 billion cubic meters. As part of its efforts to diversify its energy resources, the country has already discovered 710 billion cubic meters of natural gas in the Black Sea and millions of barrels of oil in the southeastern Gabar region. Now, Türkiye is speeding up efforts to extract shale gas from its soil. According to experts the market value of the estimated 679 billion cubic meters of shale gas reserves is \$350 billion. "Türkiye has the technology to extract shale gas from 4,000 to 5,000 meters depth," said Ali Rıza Öner, a renewable energy expert at 4T Platform. The last time TPAO opened a shale gas well was three years ago in Diyarbakır. According to a report by the Foundation for Political, Economic and Social Research (SETA), Türkiye's southeastern and Thrace regions hold 679 billion cubic meters of shale gas reserves and 4.7 billion barrels of shale oil reserves. That means shale gas can meet the gas needs of Türkiye, which consumes around 50 billion cubic meters of gas each year, for 14 years. "Türkiye needs to invest in shale gas because it spends some \$100 billion on imported energy resources," Öner said. Shale gas extraction is easier compared with conventional oil and natural gas extraction, but it is 50 percent more expensive, according to Öner. Energy Minister Alparslan Bayraktar said last week that the daily oil production in Gabar reached 30,000 barrels. Some 30 wells have been opened in the fields in Gabar, and 23 of them are producing oil, according to the minister. According to the government projections, Türkiye's</p>

energy import will increase from an estimated \$71 billion in 2023 to \$77.3 billion this year before declining to \$76.3 billion in 2025. **3rd January 2024**

- **Adnoc's help sought to boost Turkmen gas project**

Turkmenistan's former president travels to UAE to secure oil giant's help with field expansion and export options. Turkmenistan has made another attempt to secure the participation of Abu Dhabi National Oil Company (Adnoc) in the country's largest natural gas development, the Galkynysh group of fields. Former Turkmenistan president and current chairman of the country's People's Council, Gurbanguly Berdymukhamedov, travelled to the United Arab Emirates at the end of the last week to witness the signing of a new memorandum of understanding between Turkmen state gas producer Turkmengaz and Adnoc, according to an official media report in Ashgabat. Both companies have also agreed to consider the joint implementation of "projects related to the construction of gas pipeline infrastructure intended for the supply of natural gas" to the Caspian and other regions. Galkynysh is thought to harbour in-place geological reserves of more than 27 trillion cubic metres of gas. The project is currently in its first development phase, with tenders reported to be ongoing for a second phase. Subsequent phases could boost production to 200 billion cubic metres per annum of gas, according to Turkmengaz. **9th January 2024**

- **Dragon Oil opens its largest regional office in Turkmenistan**

Dragon Oil aims to raise its production, which currently stands at 180,000 barrels to 250,000 barrels per day with the natural growth of site production at the end of 2025. Dubai-based Dragon Oil Company opened its largest regional office in Ashgabat, the capital of Turkmenistan, to enhance oil production capacity in the Turkmen market through increased investment, Emirates News Agency said in a report. Dragon Oil aims to raise its production, which currently stands at 180,000 barrels to 250,000 barrels per day with the natural growth of site production at the end of 2025, with Turkmenistan paying great attention to this expected increase, a statement said. Al Jarwan said: "The opening of the company's regional office in Turkmenistan is the result of more than 20 years of presence here. Today, we are launching a new chapter of serious and fruitful cooperation between our two countries, and it is also an affirmation of the strategic partnership that brings us together. Al Jarwan said that the new office has all the necessary facilities for work and has integrated management from all the company's departments to ensure smooth work, pointing out that the number of the company's employees in Turkmenistan reaches 2,000 employees, and the new office will ensure their service and meet their requirements. He pointed out that Dragon Oil's work in Turkmenistan will focus on enhancing oil production and stopping gas burning by 2027 completely, which will contribute to enhancing sustainability and reducing carbon emissions, in addition to other work related to protecting the marine environment. **30th December 2023.**

TURKMENISTA
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AFRICA

- **Egypt's step towards sustainable fertilisers**

Egypt's journey towards sustainable energy took a significant leap forward with the announcement of a memorandum of understanding (MoU) on Facebook by the Minister of Petroleum and Mineral Resources, Tarek El Molla. The MoU, a collaborative effort between Abu Qir Fertilizers Company, ABB International Group, MPS Infrastructure Company, and Petrojet, is set to revolutionise the production of green ammonia, positioning Egypt as a leader in green energy initiatives. **5th January 2024**

- **United Oil & Gas PLC announces successful drilling of ASD S-1X well in Egypt**

United Oil & Gas PLC successfully drills ASD S-1X well in Abu Sennan; awaits Egypt's approval for commercial production commencement. United Oil & Gas PLC (UOG), operating in Egypt, has recently updated stakeholders on the progress of the ASD S-1X exploration well, located in the ASD South prospect within the Abu Sennan licence, where UOG holds a significant 22% working interest. The drilling of the ASD S-1X well commenced on 11 November and remarkably reached its total depth of 3,450 metres on 12 December, achieving this milestone under budget and ahead of schedule. **3rd January 2024**

EGYPT

- **Dubai’s Dragon Oil starts crude production in Egypt, to drill 7 new wells by 2026**

Company aims to intensify oil exploration, expansion of Gulf of Suez. Dragon Oil, an upstream exploration and production platform wholly owned by the Dubai Government, has launched crude oil production in Egypt and confirmed plans to drill 7 new wells in about two years. The Al Wasl field (North Safa), the company’s first oil discovery in Egypt, was put in on production at an initial rate of 3,000 barrels of crude oil per day, the company said in a statement on Tuesday. Discovered in 2021, the field represents one of the largest oil discoveries in the Gulf of Suez during the last two decades, with an oil reserve exceeding 95 million barrels. The company said it will intensify oil exploration and expansion in the Gulf of Suez by developing fields and repairing wells to boost crude output and expand further in the Egyptian market. Al Wasl field Dragon Oil confirmed it is investing \$200 million to develop the Al Wasl oil field, with plans to drill more wells to more than double the daily output by 2026. The project includes establishing a new offshore production platform and extending a production line and an electricity line to operate oil production pumps, in addition to a water injection project to maintain high production rates. **3rd January 2024**

- **Egypt to launch new international bids for oil, natural gas exploration in 2024**

The international oil and natural gas tenders would be of onshore and offshore fields in the Gulf of Suez and the Eastern and Western Desert. Arab Finance: Egypt is working on the launch of new international bids for oil, natural gas, and gold exploration during 2024, Minister of Petroleum Tarek El-Molla told Asharq Business on January 8th.

The new gold auction will be launched during the second half (H2) of 2024, El-Molla added on the sidelines of the International Mining Conference in Riyadh. The minister also revealed that the international oil and natural gas tenders would be of onshore and offshore fields in the Gulf of Suez and the Eastern and Western Desert. Egypt’s average production of natural gas hit 5.8 billion cubic feet per day in 2023, El-Molla pointed out. **10th January 2024**

- **Ivory Coast to construct a US \$186m waste water treatment plant**

Ivory Coast to construct a US \$186m waste water treatment plant. Fluence along with sub contractor Lavisio have made substantial progress on the building of a water treatment plant that will treat 150,000 m³/d water from the Aghien lagoon, producing drinking water for 1.5 million people in Abidjan. The projects genesis was in 2019 when the Federal Government of Ivory Coast set out to construct a waste treatment plant at cost of US \$186m that will treat water from Lagune Aghien, the largest freshwater reserve near Abidjan, to help meet the fresh water needs of the country’s largest city. Fluence Managing Director and CEO Henry Charrabé confirmed at the time that the company had won the contract to develop the waste treatment plant. Meanwhile, the company is in discussions to arrange third-party financing for the Government of Ivory Coast through a loan from Israel Discount Bank. Financial close is expected in the third quarter of 2019 after which construction will commence. The facility will be completed within two years from the date of commencement of construction. Additionally, Fluence has also been invited to bid for an operating and maintenance contract, which could provide further recurring revenue. Subject to financial close and project commencement, Fluence expects the contract to contribute revenues of up to US \$20m in 2019, US \$80m in 2020 and the balance in 2021. **6th January 2024**

- **With 'multi-million' deal in the bag, Petrofac wins more work on BP’s giant gas project**

UK-headquartered energy giant BP has hired Petrofac on a long-term contract for work at its Greater Tortue Ahmeyim (GTA) natural gas project off the coasts of Mauritania and Senegal. Thanks to a new three-year operations services contract for the Greater Tortue Ahmeyim project, Petrofac has expanded its role with BP in West Africa. While the company did not reveal the exact value of the new contract, it did disclose that this is a “multi-million-dollar” deal. According to Petrofac, the master services agreement covers a wide scope of services, which include – but are not limited to – onshore and offshore management and supervision, provision of personnel, and equipment maintenance. The project is located around 40 kilometers offshore on the maritime border of Mauritania and Senegal. The GTA development’s first phase is set to produce around 2.3 million tonnes of LNG per year. Furthermore, BP previously explained that the

IVORY COAST

SENEGAL

majority of the gas would be liquefied by the FLNG facilities, enabling export to international markets, while some would be allocated to help meet growing demand in the two host countries. Allseas' vessels are executing the subsea pipelay scope. The launch of the GTA project is slated for 1Q 2024. BP sees this gas development as "the biggest project" in its portfolio, which has "enough gas to support production for at least 20 years." **8th January 2024**

NAMIBIA

- Totalenergies Boosts Its Stake in Namibian Oil Discovery With Acquisition of More Interests in Two Offshore Blocks**

French energy giant TotalEnergies has inked an agreement with Impact Oil and Gas Namibia to get its hands on additional interests in two blocks located offshore Namibia. One of these blocks contains the Venus discovery, which the oil major made in February 2022. Once the acquisition of an additional 10.5% participating interest in block 2913B and 9.39% participating interest in block 2912, which are operated by TotalEnergies, has been completed, the French oil major intends to share the additional participating interest with its strategic partner and joint venture member, QatarEnergy. Roger Tucker, Africa Oil President and CEO, highlighted: "The farm-out agreement allows Africa Oil to retain a very attractive growth opportunity in a major energy project, that is expected to add significant reserves and production to our portfolio from the late 2020s through the 2030s and beyond, without stretching our balance sheet or exposing ourselves to the execution risk on a large-scale deepwater project. It also reinforces our view of TotalEnergies' confidence in the development outlook for the Venus oil discovery and the follow-on prospectivity of the two blocks." The PEL 56, encompassing block 2913B, is located offshore southern Namibia and covers approximately 8,215 km² in water depths between 2,450m and 3,250m. Impact currently holds a 20% interest in this block while TotalEnergies, as the operator, holds a 40% interest, QatarEnergy 30%, and NAMCOR, the Namibian state oil company, has the remaining 10% interest. On the other hand, the PEL 91, entailing block 2912, is adjacent and to the west of block 2913B and covers an area of approximately 7,884 km² in water depths between 3,000m and 3,950m. While Impact currently holds an 18.9% interest in this block, TotalEnergies operates the block with a 37.8% interest. Other partners include QatarEnergy with a 28.3% interest and NAMCOR, the Namibian state oil company, which holds a 15% interest. **10th January 2024**

AUSTRALIA

AUSTRALIA

- Outer Harbor LNG Import Terminal, Port of Adelaide, Australia**

Project Type :	LNG Import Terminal
Location :	Port of Adelaide, Australia
Capacity :	110 petajoules of gas per Year
Final Investment Decision :	2023
First Gas :	2026
Owner :	Venice Energy

Outer Harbor LNG Import Terminal is planned to be developed at the Port of Adelaide, Australia. South Australian energy infrastructure developer Venice Energy is the developer of the \$320m project. The LNG import facility would be located adjacent to the Pelican Point gas-fired power station next to the Flinders Ports quay line. The project will regasify imported LNG and inject it into the South Australian and Victorian gas networks. PROJECT GALLERY The project was granted government project approval in December 2021. Australian Government declared the project an 'essential infrastructure' and will provide Crown Sponsorship for the project. The terminal is planned to be operated exclusively on renewable energy. The project reached 'shovel-ready' stage in August 2023. Construction of the LNG import terminal is expected to run for approximately 24 months. The first gas from the terminal is estimated to flow by May 2026, following a period of commissioning. Austral's scope of work includes the supply and installation of piles, concrete to build berthing and mooring infrastructure, internal roads, and an office. **9th January 2024**
- TotalEnergies' Australian green hydrogen project put on fast track for regulatory approvals**

1GW Darwin H2 Hub in Northern Territory awarded major project status. Australia's Northern Territory has granted the Darwin H2 Hub green hydrogen project being developed by a TotalEnergies-led venture major project status in a bid to speed up approvals. In addition to formally acknowledging that the 1 gigawatt green hydrogen plant is significant to the Northern Territory's economic development, the regional government will identify and map out relevant approvals, appoint a dedicated case manager, and allow the developers to access "investment attraction opportunities, which include overseas trade missions, to access markets and potential sources of finance". In June last year, the Northern Territory had also issued a 12-month "not to deal" commitment to project developer TE H2, in which French supermajor TotalEnergies holds an 80% stake. **9th January 2024**

- **Australian territory puts oil giant's green hydrogen project on fast track for regulatory approvals**

The 1GW Darwin H2 Hub being developed by a joint venture of TotalEnergies and EREN has been awarded major project status. The government of Australia's Northern Territory has granted the Darwin H2 Hub — a 1GW green hydrogen project being developed by TE H2, which is 80%-owned French oil major TotalEnergies — so-called major project status, in a bid to speed up approvals. In addition to formally acknowledging that the H2 plant is significant to the Northern Territory's economic development, the regional government will identify and map out relevant approvals, appoint a dedicated case manager, and allow the developers to access "investment attraction opportunities, which include overseas trade missions, to access markets and potential sources of finance". In June last year, the Northern Territory had also issued TE H2 with a 12-month "not to deal" commitment, which reserves land on their preferred site at the Middle Arm Sustainable Development Precinct. Major Project Status' marks a significant milestone in the project development. The current objective is to pursue studies in order to consider Final Investment Decision (FID) by 2027," he added. **8th January 2024**

- **Breakthrough Milestone for Snowy 2.0 Announced**

Snowy Hydro have announced a major milestone for the Snowy 2.0 pumped-hydro project, with the breakthrough of the final three metres of the power station's 223-metre long transformer hall cavern crown. The Snowy 2.0 delivery team began excavating the transformer hall and machine hall caverns in June 2023. The Snowy 2.0 power station will be located approximately 800m underground at Lobs Hole in the Snowy Mountains. When completed, the machine hall will be 251 metres long and 52 metres high and the transformer hall 223 metres long and 46 metres high. Together they will form one of the largest and deepest caverns in the world, big enough to fit the Sydney Opera House inside. Precise drill and blast methods are used to profile the curved cavern crowns (or ceilings) and break up the rock, which is mucked out and followed by surface scaling to remove any remaining loose rock. The exposed solid rock face is then supported with rock bolts and shotcrete. The breakthrough of the transformer hall cavern crown represents another important milestone for the Snowy 2.0 pumped-hydro project that will significantly expand the existing Snowy Scheme and will provide an added 2,200 megawatts of on-demand power and 160 hours of large-scale renewable energy storage for the National Electricity Market. **5th January 2024**

EUROPE

ESTONIA

- **Estonia invites Indian businesses to explore its green energy, IT opportunities**

Adani group exploring investments in Estonia, says country's economy minister Tiit Risalo at the Vibrant Gujarat summit. Estonia's economy minister Tiit Risalo told Mint that the Adani group is exploring business opportunities and investment in the Baltic country, with both sides set to take forward the conversations at the Vibrant Gujarat summit. "In Vibrant Gujarat, we're going to meet the Adani group. I understand they have taken notice of Estonia and we are trying to take this conversation forward right right. So, I hope they will come soon to investigate more deeply," Risalo told Mint. Queries mailed to the Adani group went unanswered. Risalo added that major Indian business houses are exploring opportunities in green energy and IT services. Cybersecurity, Risalo said, was another key interest for bilateral cooperation and pointed out that India is interested in participating in NATO's Locked Shields cybersecurity exercises. He also said that Estonia, which hosts the exercises, is ready to invite India for the same. Besides this, Estonia is also

	<p>keen to increase cooperation with India on oil shale, which Estonia relies on to meet its domestic energy consumption. 10th January 2024.</p>
FINLAND	<ul style="list-style-type: none"> <p><u>European gas operators launch PFS on Nordic-Baltic Hydrogen Corridor</u> Sweden-based consulting, engineering, and design company AFRY Management Consulting, the winner of the tender, will analyse the conditions for the development of the Nordic-Baltic Hydrogen Corridor project. Six European Gas Transmission System Operators (TSOs) have awarded a contract for the pre-feasibility study (PFS) on the Nordic-Baltic green hydrogen corridor project. The TSOs include Gasgrid Finland (Finland), Elering (Estonia), Conexus Baltic Grid (Latvia), Amber Grid (Lithuania), GAZ-SYSTEM (Poland) and ONTRAS (Germany). Sweden-based consulting, engineering, and design company AFRY Management Consulting, the winner of the tender, will analyse the conditions for the project development. It will analyse the cross-border hydrogen infrastructure from Finland, through the Baltic countries and Poland to Germany, along with green hydrogen trends in the region. It is planned that the study, which will provide a comprehensive, fact-based framework to allow optimal decisions to be made, will be prepared by the middle of 2024. The Nordic-Baltic hydrogen corridor project aims to create a connection between green energy production regions in Northern Europe, with primary consumption centres in Central Europe. The green hydrogen project is expected to be implemented by 2030. 8th January 2024.</p>
NORWAY	<ul style="list-style-type: none"> <p><u>AkerBP starts construction for major project at Worley Rosenberg</u> This week, Worley Rosenberg, Aker Solutions and Aker BP marked the first steel cut for the utility module for the new platform at the Valhall field centre, PWP. The contract secures work at the yard in Stavanger for more than 1000 people and more than 50 apprentices. We couldn't get a better start for 2024. In total, the Valhall PWP (production and wellhead platform) comprises three large topside modules with a total weight of more than 15,000 tonnes. Rosenberg Worley will deliver the utility module weighing 4800 tonnes. This is a major project for Worley Rosenberg, and the largest new-build we've done in 20 years", says Jan Narvestad, Managing Director of Worley Rosenberg. Valhall PWP-Fenris is one of the largest development projects on the Norwegian shelf over the next few years, with total investments of around NOK 50 billion. The development comprises a new production and wellhead platform (PWP) at the Valhall field centre, and an unmanned installation (UI) at Fenris located 50 km away. Fenris will be tied into Valhall through pipelines on the seabed. Production is planned to commence in 2027. During the construction period, the Norwegian content for Valhall PWP-Fenris is estimated at more than 65 per cent. Several hundred Norwegian suppliers will contribute to this development. The utility module will be 55 metres tall, 32 metres wide and 54 metres long, and weigh around 4800 tonnes. When finalized it will be transported by barge to Aker Solutions' yard at Stord for installation on the topsides prior to transport to the Valhall field in the summer of 2026. 8th January 2024.</p> <p><u>NCC awarded Norwegian tunnel and road project</u> Swedish construction company NCC has been selected to build a new road and tunnel between Breivika and Lerstad in Ålesund Municipality in Norway. The works, for Norwegian Public Roads Administration, are valued at approximately SEK1.5bn (£115.3m). NCC will construct route E136, a 3.3km, four-lane road that will largely comprise a tunnel. The road is the main part of the major Bypakke Ålesund infrastructure project, which is an initiative to reduce road traffic in Ålesund in west Norway. In addition to relieving pressure on the existing road network and creating space for more public transport, the new road will also shorten travel times and improve accessibility and road safety. Construction is set to start in spring this year and the project is scheduled for completion in 2027. 10th January 2024.</p>
NETHERLANDS	<ul style="list-style-type: none"> <p><u>Petrofac delivering FEED for Aramis, the Netherlands' flagship CCS project</u> Petrofac has begun a multi-million-dollar front-end-engineering design (FEED) for the Netherlands' flagship carbon transport and storage (CCS) system, Aramis. The development marks a significant step towards achieving the European Union's decarbonisation targets announced in the European Green Deal and the</p>

Dutch Climate Agreement. Aramis, a joint development by TotalEnergies, Shell, Energie Beheer Nederland (EBN) and Gasunie, offers a route to decarbonisation for hard-to-abate industries across the Netherlands, Belgium, and France. It seeks to capture carbon dioxide (CO₂) from industrial clusters, transporting it for permanent storage in depleted offshore gas fields under the North Sea. The captured CO₂ will be carried via onshore pipeline or ship to a collection hub in the Port of Rotterdam. Following temporary storage and compression, the CO₂ will be carried by pipeline, designed to transport up to 22 million tonnes of CO₂ annually, to several offshore facilities. Here it will be injected, via wells, into depleted gas reservoirs some three to four kilometres under the seabed. Petrofac is collaborating with partners Peritus International and Offshore Independents in the Netherlands. **4th January 2024.**

- **Dutch state joins offshore green hydrogen pilot PosHYdon via EBN**

Dutch state is stepping in as an active partner in PosHYdon through Energie Beheer Nederland (EBN). In this pilot, green hydrogen will be produced on an operational gas platform. This will be the first time that three offshore energy systems will be integrated. The pilot is essential for the development of large-scale production of green hydrogen at sea and thus for the energy transition in the Netherlands and Northwest Europe. In order to safeguard this public interest, EBN will actively participate in the consortium. EBN is already a 40% partner in the Q13a-A platform, where the pilot will take place. PosHYdon is now approaching the final phase: the setup will be tested on land at InVesta in May 2024, and the first production of hydrogen on the platform operated by Neptune Energy is scheduled for the second half of 2024. **4th January 2024.**

- **Equinor and Linde to jointly develop 1GW blue hydrogen project in the Netherlands**

Norway's Equinor is planning to jointly develop a 1GW blue hydrogen project in the Netherlands with industrial gas firm Linde, shortly after Germany's state-owned gas company stated its ambition to buy 'giga-scale' volumes of blue H₂ from the Norwegian firm. H2M Eemshaven would produce around 210,000 tonnes of blue hydrogen made with fossil gas per year, much of which would be delivered to customers in steel production, chemicals and power production, Equinor said. Gas for the scheme in the northern Netherlands would be sourced from Norway, with production scheduled to begin in 2028. Equinor and Linde would joint own the hydrogen and CCS facilities, with Linde building and operating the blue hydrogen production and carbon capture plants, and Equinor shouldering the transport and storage of carbon dioxide under the seabed of the Norwegian continental shelf. The pair expect to achieve a 95% carbon capture rate from the plant although research from the Institute for Energy Economics and Financial Analysis (IEEFA) has found that there is "no evidence" of any existing commercial-scale carbon capture projects capturing "anywhere close" to 95% of CO₂. Last month Germany's state-owned gas supplier signed a letter of intent to take delivery of up to 5TWh per year of blue H₂ from Equinor in 2029 (around 127,000 tonnes per year, equivalent to just over half Eemshaven's capacity), shortly after H2M Eemshaven is scheduled to begin production. If realised, the H2M Eemshaven would rank alongside some of the biggest blue H₂ plants in the Netherlands, which is emerging as a low-carbon hydrogen hub, close to Europe's industrial heartlands. "The H2M Eemshaven project is part of our strategy to develop hydrogen production in three to five major industrial clusters in Europe by 2035," said Grete Tveit, senior vice president for low carbon solutions in Equinor. "Linde's experience with the safe development, execution and operation of hydrogen and carbon capture plants complements Equinor's .experience and competence within energy marketing and CCS. **9th January 2024.**

UK

- **£1m study commissioned to consider Tees tunnel viability in the UK**

A £1m study into a potential tunnel under the River Tees has been commissioned. Conservative Tees Valley Mayor Ben Houchen has committed to the investment into a viability study into the creation of an eastern link tunnel connecting Redcar and Hartlepool. If deemed feasible, the journey between the two towns would be significantly reduced from a 45-minute drive to "just a few minutes", he said. The Tees Valley Combined Authority is funding the project through investment previously earmarked for the now-cancelled northern leg of HS2. If the study finds the cost of the crossing is too high, or it predicts usage will be too low, it may recommend scrapping the plan. A land assessment must also be carried out to determine whether a tunnel can be built in the area. The feasibility study will not only consider the Tees Tunnel but

also the possibility of a bridge over the river. Mr Houchen said: "I personally don't think a bridge is the right idea as it could limit the size of ships that you get down the river. "We don't want that to impact on the businesses that rely on the river and, to be fair, that's pretty much the heart of our economy in Teesside. **5th January 2024.**

- **Construction to begin soon on largest blue hydrogen plant in UK**

Construction to begin soon on largest blue hydrogen plant in UK Construction on the first phase of the largest blue hydrogen plant in the UK is set to begin soon following approval from local planning authorities at Cheshire West and Chester (CWAC). The billion-dollar plant will be located at the Stanlow Manufacturing Complex in Ellesmere Port, North-west England. The first phase of construction involves constructing a pant with a capacity of 350MW. The second phase is expected to add an additional pant with a capacity of 700MW. This brings the total capacity to just over 1GW. A final investment decision (FID) has, however, not been made yet but is scheduled to be come to this year. Essar Energy Transition (EET), a joint venture between Essar Oil UK, a refining giant, and Progressive Energy, a hydrogen specialist, is the project developer. It has pledged to spend \$1bn on the first phase of the plant. Additionally, it hopes to ramp up to 4GW by 2030. Late last year, KBR was awarded the front-end engineering design (FEED) contract for the project. Local companies including Essar, Tata Chemicals, Kellogg's, Unilever, Encirc and Pilkington will be the customers of the produced hydrogen. HyNet Northwest has been selected by the UK government as one of its two priority industrial decarbonization cluster for projects it is supporting as part of its broader ambition to use CCS technology to capture and store 20 to 30 million tons of CO2 per year by 2030. The 1GW blue hydrogen project is expected to produce nearly 210,000 tons of blue hydrogen made with fossil gas per year. Production is scheduled to begin in 2028 with gas for the scheme to be sourced from Norway. **11th January 2024.**

NORTH & SOUTH AMERICA

CANADA

- **Shell signs offtake deal with Canadian FLNG developer**

Shell has entered into a long-term sales and purchase agreement to source liquefied natural gas from Ksi Lisims LNG in Canada, where a consortium is developing a floating LNG facility on the country's western coast. The agreement is for the supply of 2 million tonnes per annum of LNG for a duration of 20 years, bought on a free on board basis from the Ksi Lisims FLNG facility in British Columbia. The volumes will serve mainly customers in Asia, according to a statement from the companies. The deal was signed by Ksi Lisims LNG Limited Partnership, a co-development of the Nisga'a Nation, Rockies LNG Limited Partnership and Western LNG LLC, and Shell Eastern Trading Pte Ltd. It is the first offtake agreement for this project. At Ksi Lisims LNG, the developers are seeking to deploy a 12 million tpa LNG operation, produced from two floating production and storage facilities. Project developers expect the site could be operational by 2027 or 2028, although industry analysts had previously described the timeline as "hard to reach. **8th January 2024.**

BRAZIL

- **TechnipFMC wins contract with Petrobras worth over \$1 billion**

TechnipFMC has secured a "major" integrated engineering, procurement, construction, and installation (iEPCI) contract with Brazilian state-owned oil and gas giant Petrobras for a project offshore Brazil. TechnipFMC reported it had won the contract to deliver the Mero 3 HISEP project which uses subsea processing to capture carbon dioxide-rich dense gases and then inject them into the reservoir. The two companies have advanced the qualification of some of the core technologies needed to deliver the HISEP (High-Pressure Separation) process entirely subsea, several of which are proprietary and will be used in other subsea applications. These include gas separation systems and dense gas pumps which enable the injection of CO2-rich dense gas. TechnipFMC defines a "major" contract as one worth over \$1 billion. Petrobras revealed plans in 2023 to put 11 additional FPSO units into operation in the pre-salt layer offshore Brazil by 2027, which are anticipated to boost production, enabling it to reach 2.4 million boe. Petrobras just recently kicked off production from the second development phase of the Mero field. **4th January 2024.**

- **Petrobras signs contract with Unigel**

	<p>Petrobras, following up on the releases published on 06/06/2023 and 06/23/2023, informs that today it signed a contract with Unigel Participações S.A. (Unigel) for industrialization on order (tolling) for the production of fertilizers at the Sergipe and Bahia plants. The agreement is the result of the partnership between Petrobras and Unigel disclosed on 06/06/2023 (non-disclosure agreement) and is in line with the company's Strategic Plan 2024-2028+ (SP 2024-28+) for fertilizer production. Studies into the production of low-carbon projects will continue. Petrobras thus reinforces its commitment to leading the transformation and driving a sustainable, fair and safe energy transition. 3rd January 2024.</p> <ul style="list-style-type: none"> <p><u>Libra Consortium Reaches FID for Mero Field's Innovative Subsea Tech</u> Libra Consortium has taken the final investment decision (FID) to develop an innovative natural gas and CO2 separation and reinjection facility for the Mero 3 project in the Brazilian deep offshore pre-salt. The pilot unit, using a pioneer high pressure subsea separation technology (HISEP), will separate oil from CO2-rich gas at the bottom of the ocean and reinject the gas directly into the reservoir. This technology has the potential to reduce the amount of gas sent to the topside FPSO, thus enabling to reduce the GHG emissions intensity while increasing the field production capacity. Petrobras, operator of the Mero field (38.6%), has earlier in January awarded a contract worth over \$1 billion to TechnipFMC, covering engineering, procurement, construction, and installation (iEPCI) of the HISEP at Marechal Duque de Caxias FPSO (Mero 3 project), which is currently under construction. "TotalEnergies is proud to participate to the development of this new technology in the Mero field. In addition to its benefits in Brazil, it should find applications for other projects within the Company. Such innovation fits with TotalEnergies' approach to develop its businesses while reducing its emissions and costs, to improve its competitiveness in a sustainable way", said Namita Shah, President, OneTech at TotalEnergies. Mero is a unitized field, developed by Libra Consortium, which aside from Petrobras, includes TotalEnergies (19.3%), Shell Brasil (19.3%), CNPC (9.65%), CNOOC (9.65%) and Pré-Sal Petróleo S.A (PPSA) (3.5%). 8th January 2024.</p>
MEXICO	<ul style="list-style-type: none"> <p><u>Pemex Gives Processing Forecast for Newest Oil Refinery</u> Mexico's state-run oil company Pemex said on Thursday that its newest refinery with a nameplate processing capacity of 340,000 bpd, will process 243,000 bpd this year before achieving full capacity in 2025. According to a presentation given by Pemex CEO Octavio Romero, the Olmeca refinery is expected to be producing 274,000 bpd of diesel, gasoline, and jet fuel by September, when President Obrador is set to leave office—a feat that will help solidify his legacy. The presentation also said, however, that by year's end, fuel output would dip to 208,000 bpd. For 2024, the new Olmeca refinery will increase Pemex's overall processing to 1.5 million bpd—a sizeable 40% increase over 2023 processing rates. The Pemex presentation estimated that the company's petroleum liquids production averaged 1.88 million bpd last year and that its proven oil reserves will stay at 7.4 billion boe in 2024. The Olmeca refinery also referred to as Dos Bocas refinery, is located in the state of Tabasco and originally had an estimated cost of \$8 billion. But billions in cost overruns and delays saw the price tag reach upwards of \$12 billion by the time the project was complete. The refinery was originally scheduled to begin in mid-2022, but eventually delayed into late 2023. 4th January 2024.</p> <p><u>UK contractor wins prestigious engineering role at \$7.2 billion Mexico project</u> Wood to carry out topsides engineering on Woodside Trion floating production unit. UK-based Wood has been awarded a major contract to carry of engineering work on Woodside Energy's floating production unit to be installed at the deepwater Trion field in Mexican waters of the Gulf of Mexico. Late last year, the Australian operator sanctioned the landmark US\$7.2 billion development which is expected to produce up to 100,000 barrels per day of oil and is due on stream in 2027. 8th January 2024.</p>
USA	<ul style="list-style-type: none"> <p><u>First giga-scale project using novel 'ultra-low-carbon' blue hydrogen tech announced</u> 8 Rivers plans to build a billion-dollar ammonia complex in Texas, with more than 99% of CO2 captured. US-based technology firm 8 Rivers has announced plans for a massive \$1.2bn blue ammonia complex in Texas, the first commercial plant using its novel process to produce low-cost hydrogen from fossil gas while</p>

capturing more than 99% of emissions. Its unique “8RH2” process uses an “oxy-fired combustor” to heat carbon dioxide, which is then processed with natural gas and steam in a “CO2 convective reformer” to form syngas, a mixture of carbon monoxide and hydrogen that will then be separated. Carbon emissions from the process are continuously recycled, similar to a design for zero-emission power generation co-invented by 8 Rivers’ chief inventor Rodney Allam. Although a small amount of CO2 exits the cycle during each run, it can be easily captured owing to its pressure and purity, and recycled. 8 Rivers has also told Hydrogen Insight that the process has an overall gas-to-hydrogen efficiency of more than 80%, compared to 65-75% for steam methane reforming, the most common method of grey hydrogen production. It has previously stated that its technology “is cheaper and cleaner than traditional steam methane reforming [SMR] approaches that also release all their carbon dioxide”. The company’s Cormorant Clean Energy Project in Texas will produce 880,000 tonnes a year of ammonia, requiring around 156,000 tonnes of H2 — equivalent to the production capacity of about 1.5GW of electrolyzers. However, 8 Rivers is still evaluating several different options for how it will sequester CO2. **9th January 2024.**

- **Samsung Heavy Industries secures 2 Trillion Won FLNG Order**

Samsung Heavy Industries has secured an order worth about 2 trillion won for a Floating Liquefied Natural Gas (FLNG) facility. With this order, Samsung Heavy Industries now commands 71% of the global market share for new FLNG construction contracts. On Jan. 2, Samsung Heavy Industries disclosed that it had signed an engineering, procurement, and construction (EPC) contract for one FLNG unit with a North American client. The order, amounting to 2.101 trillion won (US\$1.603 billion), was made via a consortium with the American design firm Black & Veatch. Samsung Heavy Industries will handle the design and construction process of the FLNG hull and superstructure. This contract expands the company’s FLNG orders to two units, diversifying its portfolio to include marine plants in addition to LNG carriers. Previously, in January of last year, they secured a US\$1.5 billion contract for one FLNG unit with Malaysia’s Petronas. This year, the company plans to continue its active bid for orders in locations like Mozambique, Africa, and the United States. Currently, seven new FLNG units have been ordered and contracted worldwide, with Samsung Heavy Industries having secured five (71%) of these, dominating the market. FLNG facilities enable the complete on-sea processing of LNG production. **5th January 2024.**

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