

# GERAB

# BULLETIN

## Weekly News



### EXECUTIVE SUMMARY

#### The Commodity summary

- Steel HRC (North America) prices are in downtrend and trading lower by 64% than a year ago prices.
- Iron ore prices are down by 10%WTD.
- Natural gas prices have gone up by 15% WTD.
- Crude Oil Brent prices went up by 7% WTD but Crude Oil WTI prices went down by 9% WTD.

#### The Currency summary

- Euro gained little strength against dollar over the week but still Dollar is stronger by more than 13% YTD
- The US Dollar against CNY is stronger by more than 14% YTD.

#### The Rig count summary

- The Rig counts in Europe have gone up by 28% 3MTD.

#### Project summary

- ADNOC Signs \$9.5bn Agreements with 25 Companies
- Hyderabad's Megha Engineering Ltd to Build Mongolia's First Greenfield Oil Refinery
- 84.7bn set aside for Makonde plateau water project in Tanzania
- Diamond Offshore confirms lucrative multi-year Brazil contract
- Aker Solutions wins subsea frame agreement with Petrobras

### COMMODITY UPDATES

COMMODITY	UOM	LATEST PRICE	WTD %	MTD %	3MTD %	6MTD %	YTD %
Chromium	USD/MT	9,593.80	2.45	-0.95	-10.29	-17.10	-16.47
Coal	USD/MT	373.68	-5.57	-13.20	-16.86	-13.05	118.24
Cobalt	USD/MT	50,662.23	-9.17	-10.02	-4.63	-41.61	-20.13
Copper	USD/MT	8,025.50	7.76	6.19	0.63	-14.25	-16.37
Crude Oil	USD/BBL	91.39	3.49	1.49	-3.36	-18.05	14.87
Crude Oil Brent	USD/BBL	94.61	6.69	1.52	-3.11	-15.88	17.77
Crude Oil WTI	USD/BBL	88.16	-8.57	1.45	-3.63	-20.25	12.49
Iron Ore	USD/MT	85.33	-10.05	-10.50	-20.52	-36.54	-9.63
Molybdenum	USD/MT	40,505.85	-3.06	-1.84	24.31	-2.86	-3.52
Natural Gas	USD/MCF	6.39	15.31	0.75	-29.43	-25.44	19.09
Nickel	USD/MT	24,120.00	9.07	9.61	8.85	-13.54	21.49
Steel HRC (FOB China)	USD/MT	520.00	-5.20	-6.35	-15.33	-31.23	-34.82

Steel HRC (N. America)	USD/MT	730.78	-12.77	-13.37	-18.11	-51.57	-63.60
Steel Rebar	USD/MT	548.40	2.57	-3.72	-16.32	-31.63	-27.48
Steel Scrap	USD/MT	340.00	-4.23	-4.68	-11.44	-28.50	-28.42

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	1.0013	2.70	3.12	-2.80	-4.93	-12.82
USDCNY	1 USD to CNY	China	CNY	7.2744	0.75	-1.71	-8.20	-7.83	-13.67

Source- Trading Economics

#### CRUDE OIL STOCK

Region	Unit	Latest Count	WTD %	MTD %	3MTD %	6MTD %	YTD %
US Stocks of Crude Oil & Petroleum Products	Thousand Barrels	16,19,505.00	-0.27	-0.27	-2.67	-3.67	-11.25

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	24.05	USD	12.80	13.98	-1.76	-13.36	-22.34
Glencore PLC	508.20	GBP	-2.08	3.00	8.87	11.57	43.01
NYSE American Steel Index	1,583.59	Index	4.24	6.64	-2.92	-3.75	4.22
Rio Tinto PLC	5,111.00	GBP	9.33	-0.18	3.72	-1.01	14.98
Tenaris SA	32.14	USD	1.01	13.69	25.89	8.22	34.87
Tubacex SA	2.12	EUR	-0.47	7.61	6.00	-4.07	31.35

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	52	*	4.00	8.33	10.64	23.81
GCC	222	*	6.73	8.82	9.90	20.65
Middle East	324	*	5.54	5.54	8.00	17.82
Africa	77	*	4.05	6.94	6.94	5.48
Asia-Pacific	192	*	0.00	3.78	10.34	10.34
Europe	101	*	1.00	27.85	40.28	7.45
Latin America	187	*	4.47	16.88	15.43	23.84
North America	977	-0.10	-0.10	1.35	18.00	32.03
Total	1,858	*	1.53	5.15	15.55	23.29

## NEWS OF THE WEEK

## GULF COOPERATION COUNCIL ( GCC)

UAE

- Site construction underway at TA'ZIZ and next major phase of growth launched**

Abu Dhabi National Oil Company (ADNOC) and ADQ, the majority shareholders in TA'ZIZ, launched the next phase of growth at the TA'ZIZ Industrial Chemicals Zone, in Al Ruways Industrial City, which will be more than double the number of chemicals produced at the industrial hub. The centerpiece of the expansion will be a new world-scale, low-carbon footprint steam cracker to supply feedstocks for the various downstream production units, bringing multiple new product value chains to the UAE for the first time. The project is in the feasibility study phase, with the design phase set to commence in Q1 2023. The first phase of TA'ZIZ growth continues to progress, with a new strategic agreement signed at the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC) to advance the development of world-scale facilities for the production of ethylene dichloride (EDC) and chlor-alkali, polyvinyl chloride (PVC). Site preparation at TA'ZIZ is underway and final investment decisions on the first phase of projects are expected before year end. In line with the UAE Net Zero by 2050 Strategic Initiative, TA'ZIZ will leverage low carbon electricity sources such as cogeneration from the on-site utility facility, grid power from nuclear and solar clean energy and use best available technology to drive manufacturing growth with lower carbon emissions. During ADIPEC, the TA'ZIZ EDC/PVC partners, TA'ZIZ, Reliance Industries and Shaheen signed a Joint Venture incorporation agreement for the development of a world-scale ethylene dichloride (EDC), chlor-alkali, polyvinyl chloride (PVC) production facility, with a total investment in excess of \$2 B. The Engineering, Procurement and Construction (EPC) contract for the utility facilities and the EPC contract for the logistics facilities marine works have both been tendered, with EPC awards expected shortly. The total investment in the first phase of TA'ZIZ will be in excess of \$5 billion (AED18 billion), with most of the chemicals produced in the UAE for the first time. **3<sup>rd</sup> November 2022**
- Made In Italy Engineering supports UAE's circular economy, Maire Tecnimont begins a polymers reprocessing plant in Abu Dhabi**

On the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC), one the most important international event of the natural resources industry, Maire Tecnimont's subsidiary NextChem, through the associate company GCB Polymers, inaugurates a new re-processing and upcycling plant for polymers today in the Kezad Industrial Zone, in the UAE capital city Abu Dhabi. This new plant processes a very wide range of polymer products, from near to prime to the lower end of plant scraps, post-industrial and post-consumer waste, and also recycled polymers. The plant is capable of both improving and upgrading lower-quality polymers (such off-spec products, plant scraps) and upcycling plastic waste into higher-value, qualified products fit for specific industrial applications, thus representing an effective contribution to the development of a circular economy. Located between Dubai and Abu Dhabi in the largest industrial and free trade zone in the Middle East, the plant was built by GCB Polymers, a joint venture between NextChem, P2 Polimeri and Polyme General Trading. **1<sup>st</sup> November 2022**
- ADNOC Signs \$9.5bn Agreements with 25 Companies**

Abu Dhabi National Oil Company (ADNOC) has signed agreements with 25 companies potentially worth AED 35 billion that will stimulate investment in local manufacturing of critical products in support of the diversification of the United Arab Emirates (UAE's) industrial and manufacturing infrastructure. The agreements set out the suppliers' intention to manufacture 21 products in the UAE, supporting the delivery of ADNOC's 2030 strategy, as it cements its position as one of the world's leading low-cost, lower-carbon intensity energy producers. Leading companies who have signed agreements with ADNOC include Siemens, Halliburton, Celeros FT, Emerson, Proton R&D and Schneider Electric. Among the products, which could be manufactured in the UAE, are pressure vessels; compressors; pipeline inspections gauges; specialist valves; industrial pumps; switchgears; variable speed drives and flame and

gas detectors. The agreements could also see investments made in machining, reverse engineering and nondestructive testing equipment. The announcement was made at ADNOC's 6th annual Business Partnership Forum, held during the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC), at which His Excellency Omar Ahmed Suwaina Al Suwaidi, Undersecretary of the Ministry of Industry and Advanced Technology said the UAE's 'Make It In the Emirates' program is a key part of the country's strategy to double the contribution of the industrial sector to the UAE's GDP to AED 300 billion by 2031. **3<sup>rd</sup> November 2022**

- **ADNOC, Baker Hughes Signed Agreement to Explore New Technology for a Clean Energy Future**

Baker Hughes, an energy technology company, and the Abu Dhabi National Oil Company (ADNOC) signed a strategic technology collaboration agreement during ADIPEC 2022 to explore collaboration opportunities around research and development (R&D) for technologies that can help drive a sustainable energy future in the UAE. The agreement aims to support the development of technology proofs of concept, technology scale-ups and technology pilots while exploring the feasibility of their deployment across key projects at ADNOC. In line with the objectives of the UAE's In-Country Value program, the agreement supports the development of homegrown innovations, with an opportunity to leverage the ADNOC Research and Innovation Center to foster these R&D projects. **3<sup>rd</sup> November 2022**

- **Adnoc Reaches Out to Potential LNG Partners**

Abu Dhabi National Oil Co. (Adnoc) has reached out to potential partners for an equity position in its planned new LNG export terminal to be built in the emirate of Fujairah. The new facility, which will make the United Arab Emirates the Mideast Gulf's second-largest exporter of the super-cooled fuel, is set to come online by around 2026. "It is an extremely aggressive timeline," said one source at an international oil company (IOC) interested in joining the project, adding that Adnoc had reached out to potentially interested parties. Adnoc declined to comment. The project is moving ahead at a time when world energy markets are in upheaval and global demand for the super-chilled fuel is on the rise.

**8<sup>th</sup> November 2022**

- **Contractors prepare bids for prized Adnoc offshore framework agreement**

Bids for coveted deal are likely to be submitted to the operator later this month. Leading domestic and international contractors are preparing to submit bids later this month to Abu Dhabi National Oil Company (Adnoc) for a key framework agreement, which involves work on multiple wellhead towers offshore Abu Dhabi. Two people familiar with the development told Upstream that Adnoc is swiftly progressing with the bidding process and is expected to finalise its preferred contractors for the framework agreement within weeks. "Bids for the framework deal are due on 18 November and at least three engineering, procurement and construction contractors are likely to be eventually selected by the operator," one person told Upstream. **8<sup>th</sup> November 2022**

KUWAIT

- **Kuwait's Burgan Drilling awarded \$78.8m Contracts**

Burgan Company for Well Drilling, Kuwait announced in a statement that it has received official letter of award for drilling rigs. The Combined value of the contracts are KWD 20.35 million. The Contracts was awarded from the Kuwait Oil Company . According the statement, the project is related to a 550 Horsepower drilling rig worth KWD 10.17 million and another drilling rig worth of KWD 10.17 million Dinar. Burgan Company also announced that it has received extension of drilling rig contracts with the Kuwait Oil Company for a period of one year, for a total of approximately 10 million dinars. **7<sup>th</sup> November 2022**

OMAN

- **Galfar awarded \$83.1m Contract from Shell Oman**

Galfar Engineering & Contracting SAOG, Oman announced in a statement that JV of Galfar and Catering & Supplies Co. LLC has awarded a contract for the Construction of the Field Operating Base in (Block 10). Shell Development Oman awarded the Project. The value of the Contract for Galfar Share is approximately OMR 32 million (USD 83.1 million). Project Scope of Works includes Design, Build & Operate Contract for the Field Operating Base in (Block 10). The duration of the project is 12 months. We are pleased to extend our sincere thanks to Shell Development Oman for the confidence it has placed in Galfar by awarding this project, statement mentioned. **6<sup>th</sup> November 2022**

QATAR

- **QatarEnergy awards LNG Carriers to Malaysia's MISC Berhad and its consortium partners**

MISC Berhad (MISC), through its wholly-owned subsidiary, Portovenere and Lerici (Labuan) Pte Ltd (PLL), together with its consortium partners, Nippon Yusen Kabushiki Kaisha (NYK), Kawasaki Kisen Kaisha, Ltd. (K-Line) and China LNG Shipping (Holdings) Limited (CLNG), today announced that they have been awarded long-term time charter contracts by QatarEnergy for five additional newbuild Liquefied Natural Gas (LNG) carriers to be built by Hudong-Zhonghua Shipbuilding (Group) CoLtd. Together with the seven long-term time-charter contracts that were secured earlier in August, this brings to a total of 12 newbuilding LNG carriers awarded by QatarEnergy to the consortium. These LNG carriers will be equipped with eco-efficient technologies such as X-DF 2.1 engines with Intelligent Control by Exhaust Recycling (iCER) System, which will reduce greenhouse gas (GHG) emissions. These 174,000 cubic metres (cbm) LNG carriers are expected to be delivered commencing 2025 and will serve the needs of QatarEnergy in the transportation of LNG to various countries around the world. MISC's President & Group Chief Executive Officer, Captain Rajalingam Subramaniam said, "We would like to thank QatarEnergy for their continuing trust and confidence in our joint capabilities and expertise in delivering safe, efficient and reliable LNG shipping solutions. **3<sup>rd</sup> November 2022**

- **ViTO has joined in the Qatar's natural gas field expansion project**

ViTO Construction announced in a statement that it has selected as a subcontractor in the 3<sup>rd</sup> quarter of 2022 for the North Field Expansion (NFE) project carried out in the industrial city, Ras Laffan and led by the world's largest liquefied natural gas (LNG) company, Qatargas Operating Company Limited OPCO. The company just signed an EPC contract worth over \$100 million for the construction of storage tanks in this project during a period of 36 months, in cooperation with Técnicas Reunidas, the main contractor of the project under the EPC-3 package. In the said project, as ViTO, we will provide with the creation of 8 tanks, including 3 double-walled LPG tanks, 2 MEG (mono-ethylene glycol) tanks, 2 naphtha tanks and 1 condensate tank, thereby creating a total storage capacity of 600 thousand m<sup>3</sup> by carrying out EPC contract basis as engineering, purchasing and construction. Particularly when examining the LPG tank constructions, it can be said that the external equipment of double-walled LPG tanks is mostly made of reinforced concrete, and steel material is preferred for the internal equipment. There are a rare number of tanks with both steel hardware, and only a limited number of companies, especially the world's leading companies in the energy sector such as McDermott, IHI, Samsung that have the capacity to offer this modern design. ViTO is one of the few companies in Turkey and in the world that holds such technical knowledge and expertise to construct the relevant kind. **9<sup>th</sup> November 2022**

SAUDI ARABIA

- **ACWA Power achieves financial close for \$821mn Shuaibah 3 IWP project**

Once complete, the IWP project, which is located 110km south of Jeddah will become the world's largest reverse osmosis desalination facility. Saudi-based ACWA Power has announced the financial close for the Shuaibah 3 independent water project (IWP), with a total investment of US \$821mn. The company said the project is a joint venture (JV) between itself (with a 68% equity stake) and Water and Electricity Holding Company (Badeel). The project involves the development, financing, design, engineering, procurement, manufacture, factory testing, transportation, construction, erection, installation, completion, testing, commissioning, insurance, ownership, operation and maintenance of desalination, the statement said. It added that the JV will complete the development, financing, design, engineering, construction, procurement, testing and commissioning, operation and maintenance of the project, under a 25-year off-take contract with Saudi Water Partnership Company (SWPC). In June 2022, ACWA Power signed a \$1.15bn deal to develop one of the largest windfarms in the world and, in August 2022, Doosan Enerbility won an EPC contract for the Shuaibah 3 IWP. SWEC has successfully replaced both dollar and riyal tranches of existing outstanding senior debt (\$415mn) and (SR285mn) respectively, with \$420mn and SR285mn facilities respectively, repayable semi-annually with the final instalment to be paid in January 2026. **4<sup>th</sup> November 2022**

**ASIA EXCLUDING GULF COOPERATION COUNCIL (GCC)**

CHINA

- **China launches first 10-million-ton CCUS project for decarbonization solutions**

Sinopec, Shell, China Baowu and BASF will explore open-source CCUS development to achieve carbon goals. China Petroleum & Chemical Corporation (Sinopec) has signed a non-binding MoU with Shell, China Baowu and BASF capture, utilization and storage (CCUS) project in East China at CIIE 2022. The open-source project will support industries in the region to decarbonize their operations and establish low-carbon development and achieving the region's "dual carbon" goals. The project will explore the feasibility of transporting the CO2 produced by industrial plants in the middle and lower reaches (chemical, power, cement companies) to a CO2 receiving station, then transport the CO2 to onshore or offshore storage offer a flexible and efficient carbon reduction solution for industrial companies. Sinopec, Shell, China Baowu and BASF current industries and building of low-carbon product value chains, but also accelerate the development of low-carbon economy. "Sinopec will work together with Shell, China Baowu and BASF to expand commercial decarbonization and actively promote industry chain, not only making contributions to the green development of China, but also the world. Sinopec will continue with global partners, fulfill our high-level opening-up and green development goals, and work towards realizing our carbon peak and carbon neutrality goals. Ma Yongsheng, President of Sinopec. **5<sup>th</sup> November 2022**

- **First Commercial Scale Carbon Dioxide to Methanol Plant Streams in China**

The world's first commercial scale carbon dioxide-to-methanol plant has started production in Anyang, Henan Province, China. The cutting-edge facility is the first of its kind in the world to produce methanol, a valuable fuel and chemical feedstock, at this scale from captured waste carbon dioxide and hydrogen gases. The plant's production process is based on the emissions-to-liquids (ETL) technology developed by Carbon Recycling International (CRI), based in Reykjavik, Iceland. The ETL technology was first demonstrated in Iceland. The Chinese facility in Anyang, Henan Province, can capture 1,60,000 tons of carbon dioxide emissions a year, which is equivalent to taking more than 60,000 cars off the road. The captured carbon dioxide is then reacted with the recovered hydrogen in CRI's proprietary ETL reactor system with the capacity to produce 1,10,000 tons of methanol per year. **8<sup>th</sup> November 2022**

- **China: Shell, Sinopec, Baowu and BASF to explore open-source carbon capture, utilisation and storage project in China**

Shell has signed a non-binding Memorandum of Understanding (MoU) with Sinopec, Baowu and BASF to explore the feasibility of developing an open-source carbon capture, utilisation and storage (CCUS) project in the East China region. An open-source project could potentially offer industrial companies in the middle and lower reaches of the Yangtze River contractual opportunities to capture and store their

CO2 emissions. The four parties intend to conduct a joint study to assess the technical solutions and develop a commercial model for the project. The study will also explore to establish high-integrity, verified low-carbon product supply chains, and propose enabling policies. If successful, it will be China's first large-scale open-source CCUS project with a potential capacity of tens of million tonnes of CO2 per year. 'Carbon capture and storage (CCS) offers a way to reduce emissions in hard-to-abate sectors and we are actively exploring such opportunities with our partners,' Huibert Vigeveno, Shell's Downstream Director, said. This means CCUS capacity will need to increase more than 400 times in the next four decades. While this is technically possible, as many of the CCUS technologies in China are close to or have reached commercialisation, the main challenge lies in creating conditions to support substantial investment in large-scale CCUS, particularly as a solution to industrial decarbonisation. **7<sup>th</sup> November 2022**

INDIA

- **Assago Industries to set up bioethanol plant in Andhra Pradesh**

Assago Industries, a bio-fuel producing company, has announced that it is setting up an ethanol-producing plant at the Andhra Pradesh Industrial Infrastructure Corporation (APIIC) Industrial Park, Gummalladoddi, East Godavari. The greenfield project will be a grain-based zero-liquid discharge plant with a capacity of 200 kilolitres per day. To be built with an investment of Rs 270 crore, the project will be generating employment for over 100 direct and 400 indirect employees with support from the Andhra Pradesh government's industries department, APIIC, and district officials. Chief Minister of Andhra Pradesh Y S Jagan Mohan Reddy will be taking part in the ground-breaking ceremony on November 4 at the project site. The new plant will be spread across 20 acres and equipped with state-of-the-art machinery. Assago Industries will be producing BioEthanol through residual broken rice and grains procured locally from Andhra Pradesh. **4<sup>th</sup> November 2022**

- **Supreme Petrochem plans Rs. 1200 Cr investment to fund expansion plans**

In order to meet increased demand, Supreme Petrochem Limited (SPL), a producer of Styrenics and Expandable Polystyrene (EPS), has planned a capex of Rs. 1,200 crore. The company is investing capital to increase the Masterbatches, Compounds, and XPS capacities at its Amdoshi Plant, Raigad, Maharashtra. This brownfield expansion for enhancing its polystyrene and expandable polystyrene is complete and is awaiting consent to operate from the State Pollution Control Board. Meanwhile, the brownfield expansion in Chennai is almost finished, and it is anticipated that it will be ready for commissioning by the end of November 22. The company has an agreement for License and Basic Engineering Design with Versalis for Mass ABS, the preferred engineering plastic for use in automobile parts. The basic engineering package for this plant's first line is currently being created. With Versalis, the company has signed into a license and basic engineering design agreement for Mass ABS, the preferred engineering plastic for use in automobile parts. The basic engineering package for this plant's first line is currently being created. **2<sup>nd</sup> November 2022**

- **JMC Projects wins ₹2,277-cr EPC contracts**

JMC Projects has bagged new contracts worth ₹2,277 crore including water infra projects in India worth ₹1,497 crore and building and factories projects worth ₹780 crore. The new orders in the water business will help the player to strengthen its leadership and capabilities in the water infra business. In the business and factory segment, it continues to diversify its clientele by adding reputed and marquee customers. The contracts will boost confidence to achieve the targeted growth in the immediate future. JMC Projects is a subsidiary of Kalpataru Power Transmission Ltd and is a leading engineering, procurement and construction (EPC) company commanding over three decades of experience and work expertise in the given segments. **7<sup>th</sup> November 2022**

INDONESIA

- **Empyrean Energy JV receives approval of updated Plan of Development for the Mako Gas Project**

**Empyrean Energy**, the oil and gas development company with interests in China, Indonesia and the United States, has advised that the Indonesian Ministry of Energy and Mineral Resources has now approved the updated Plan of Development for the Mako Gas Project within the Duyung PSC (the



	<p>'Updated Mako PoD'). The Company announced details of the Updated Mako PoD on 9 September 2022. Highlights Indonesian Government has approved the Updated Mako PoD, representing an important milestone in the Mako Gas Project's development. Updated Mako PoD based upon Contingent Duyung PSC Resources of 384 billion cubic feet gross within the Duyung PSC area which represents some 297 billion cubic feet net attributable* to 100% of the Duyung PSC Joint Venture. Indonesian government approval to export up to 100% of gas production to Singapore. The Operator is targeting production from the Mako Gas Project to commence in 2025 under the Updated Mako PoD at up to 120 million cubic feet of gas per day. Empyrean holds a 8.5% interest in the Duyung PSC in which the Mako Gas Project is located. The Operator of the Duyung PSC is West Natuna Exploration, a 100%-owned subsidiary of Conrad Asia Energy, who hold a 76.5% interest in the Duyung PSC. <b>8<sup>th</sup> November 2022</b></p>
MONGOLIA	<ul style="list-style-type: none"> <li> <p><b><u>Hyderabad's Megha Ltd to Build Mongolia's First Greenfield Oil Refinery</u></b> Hyderabad-based Megha Engineering and Infrastructure Limited (MEIL) has taken up a project to build Mongolia's first Greenfield oil refinery in Ulaanbaatar. Hyderabad-based Megha Engineering and Infrastructure Limited (MEIL) has taken up a project to build Mongolia's first Greenfield oil refinery on the outskirts of the capital city, Ulaanbaatar. The project is aimed at reducing the East Asian country's dependency on Russian oil imports. The company would provide EPC (Engineering, procurement, and construction) services and EPC-3 (captive power plants) for \$790 million using advanced technology. <b>5<sup>th</sup> November 2022</b></p> </li> </ul>
SINGAPORE	<ul style="list-style-type: none"> <li> <p><b><u>Manali Petrochemicals to Invest in AMCHEM Speciality Chemicals Private Limited</u></b> Manali Petrochemicals Limited (MPL) will be investing up to \$35 million in its wholly-owned subsidiary AMCHEM Speciality Chemicals Private Limited, Singapore, for potential overseas acquisitions. The Chennai based petrochemical manufacturer informs that the investment would be as a division or portion or in totality. Set up in 2015-16 to expand Manali Petrochemicals' global footprint, AMCHEM Speciality Chemicals Private Limited, Singapore holds the foreign assets of the parent company. The company has invested ₹110.32 crore in the wholly-owned subsidiary to partly fund the acquisition of Notedome Ltd, UK, and also for further exploratory work. During 2016-17, AMCHEM Singapore set up AMCHEM Speciality Chemicals UK Limited as its fully-owned subsidiary, which acquired Notedome Ltd. AMCHEM, UK and Notedome are step down subsidiaries of MPL. AMCHEM Singapore continues to explore further opportunities for acquisition of overseas facilities for enhancing MPL's global presence, and also has interests in trading, transaction facilitations, business and project consultancy. <b>3<sup>rd</sup> November 2022</b></p> </li> </ul>
VIETNAM	<ul style="list-style-type: none"> <li> <p><b><u>LyondellBasell's polypropylene technology selected for new plant in Vietnam</u></b> LyondellBasell Industries N.V. (Rotterdam, the Netherlands) announced that its leading polypropylene (PP) technology has been selected by Stavian Quang Yen Petrochemical, Ltd. (Stavian) for a new world-scale production facility. The facility will include a 600,000 metric tons per year (m.t./yr) polypropylene plant using LyondellBasell's Spheripol technology. The facility will be built in Quang Ninh Province, Vietnam. "We are delighted Stavian Quang Yen Petrochemical selected LyondellBasell as its polypropylene licensor for their first polyolefin facility," said Neil Nadalin, director of licensing at LyondellBasell. <b>3<sup>rd</sup> November 2022</b></p> </li> <li> <p><b><u>Tokyo Gas, Marubeni set up JV for LNG-to-Power project in Vietnam</u></b> Japan's Tokyo Gas and Marubeni have established a joint venture together with the Vietnamese manufacturer Colavi and PetroVietnam Power to build an onshore LNG receiving terminal and 1.5 GW gas-fired power station in Quang Ninh province. The project will cost an estimated \$1.92 billion, with commercial operations slated to start in the second half of 2027. <b>8<sup>th</sup> November 2022</b></p> </li> </ul>



<p>EGYPT</p>	<ul style="list-style-type: none"> <li> <p><b><u>Belgian consortium to build center for green hydrogen production &amp; storage in Egypt</u></b></p> <p>A consortium of Belgian companies revealed Monday on the sideline of the ongoing COP27 plans to set up a center for the production and storage of green hydrogen in Egypt, meant for export to Europe. The Belgian Alliance for Companies, made of DEME Group, Fluxys, and Antwerp Port met with Egyptian Prime Minister Mustafa Madbouli in the presence of Belgium’s Premier Alexander de Crowe, the Egyptian government said in a statement. “During the meeting, representatives of the Belgian companies reaffirmed their interest in cooperation with the electricity and renewable energy sector in Egypt, especially in the light of Europe’s expanding interest in the production, transport and storage of green hydrogen as part of efforts to remove and reduce carbon in the air,” the statement said. The consortium is willing to cooperate with Egypt in this field owing to the North African country’s natural assets and investment climate, the statement said, noting that the consortium already conducted a feasibility study for the project. The project also includes a green energy segment; the generation of 700 megawatts of wind power and 800 megawatts of solar energy. According to the initiators, the project in its first phase will avoid the climate 30,000 tons of CO2, or the equivalent of the emissions caused by 6,000 cars. Egypt is expected to benefit from the project in many ways, including the creation of many indirect jobs, namely more than 2,000 jobs under the project construction and more than 500 permanent jobs during operation. <b>8<sup>th</sup> November 2022</b></p> </li> </ul>
<p>MOROCCO</p>	<ul style="list-style-type: none"> <li> <p><b><u>Chariot increases green hydrogen pitch with Morocco project</u></b></p> <p>London-listed Chariot has increased its focus on Africa by entering into a collaboration agreement to develop a green hydrogen project in Morocco. In partnership with the Mohammed VI Polytechnic University of Morocco and UK-based hydrogen startup Oort Energy, Chariot will assess the feasibility of proof of concept projects and their potential implementation in large-scale production of green hydrogen and ammonia. The projects will use Oort’s patented polymer electrolyte membrane electrolyser system, which splits water to produce hydrogen and oxygen using renewable energy. One of the pilot projects will be based at a research facility in OCP Jorf Lasfar, Morocco. Oort chief executive Nick van Dijk said the work will be focused on “bringing the cost of green hydrogen production down”. Chariot chief executive Adonis Pouroulis said the partnership allows the company to “expand our footprint beyond our work in Mauritania into Morocco”. In September, Chariot teamed up with French supermajor TotalEnergies’ part-owned renewables player Total Eren to develop Project Nour, <b>a 10 gigawatt green hydrogen project</b> in Mauritania. Active in gas, power and hydrogen, Chariot <b>recently achieved access</b> to the Maghreb Europe Pipeline, which runs from eastern Morocco through to Tangiers in the north and into Spain. <b>4<sup>th</sup> November 2022</b></p> </li> </ul>
<p>TANZANIA</p>	<ul style="list-style-type: none"> <li> <p><b><u>84.7bn set aside for Makonde plateau water project in Tanzania</u></b></p> <p>The Tanzanian government recently allocated 84.7 billion shillings to the Makonde plateau water project in the Mtwara Region, for the construction and rehabilitation of water infrastructure. The scheme is expected to carry out the government’s pledge to improve the region’s public water supply and put an end to water shortages. Since most of the equipment is outdated, the water scheme is currently undergoing a crisis with its water infrastructure. The scheme is in the Mitema area of the Newala District. Eng Bwire, the director of the Water Authority Makonde Plateau Project, revealed that the authority has already received \$12.7 billion to carry out the project. The Makonde plateau water project provides services to people from four towns in the Mtwara Region. These towns include Newala, Tandahimba, and Nanyamba Town Council. It will also serve numerous scattered homesteads. The Makonde plateau water project’s contractor China Civil Engineering Construction Company, according to Eng Bwire, is responsible for constructing and rehabilitating the infrastructure. The scheme produces 65 million liters per day. According to him, residents of Tandahimba, Newala, and also Nanyamba demand about 25 million liters of water each day. <b>4<sup>th</sup> November 2022</b></p> </li> <li> <p><b><u>Tanzania to sign key \$40 billion LNG-project accords next month</u></b></p> </li> </ul>

Tanzania will sign key agreements with oil majors including Equinor ASA and Shell plc next month to pave the way for a planned \$40 billion liquefied natural gas export project, according to the nation's Energy Minister January Makamba. It's happening," January Makamba said in an interview in Sharm el-Sheikh, Egypt, where he is attending the COP27 international climate summit. "In December, we will conclude the conversation. We are in the fiscal package discussions now. The project, delayed by years of prolonged negotiations, has gained urgency as European countries look for liquefied natural gas projects that can be long-term replacements for energy supplies from Russia. The accords will include the final Host Government Agreement, which spells out terms of the project, the project law and the benefit-sharing agreement, Makamba said. A final investment decision could be reached in January 2025, allowing exports to start before 2030, he said. Gas will be delivered from three blocks to the plant planned with capacity to produce 15 million tons of liquefied gas a year. The other companies involved are Exxon Mobil Corp. and Pavilion Energy. **7<sup>th</sup> November 2022**

**AUSTRALIA**

AUSTRALIA

- SPONSORED: Equinox awarded FEED by Santos for onshore Bayu-Undan CCS Project**  
 Santos Ltd has awarded the Front End Engineering Design (FEED) Equinox Engineering Ltd (Calgary) for the onshore Bayu-Undan Carbon Capture project. The FEED study includes the onshore gas processing facility design to capture, compress and dehydrate a volume of 2.3 million tonnes per year of carbon dioxide for transport and sequestration. The new grassroots facility will tie-in to the DLNG facility at Darwin, Northern Territories, Australia. The Bayu Undan CCS project has the potential to safely capture and permanently store 10 million tonnes per year of carbon dioxide, making it one of the largest CCS projects globally. The Moomba Carbon Capture project in South Australia is designed to capture, compression, dehydrate, transport and inject 1.7 million tonnes per year of carbon dioxide. **About Equinox Engineering Ltd** Equinox Engineering is a global leader in gas processing, and Carbon Capture with offices in Canada, Australia, United States and India. Equinox provides expertise and direct project experience for design of Carbon Capture & Sequestration (CCS) facilities – including CO2 Capture, CO2 Compression, CO2 Transportation and CO2 Sequestration. **25<sup>th</sup> October 2022**

**EUROPE**

GERMANY

- Germany Wants to Grab Property to Speed Up LNG Projects**  
 Germany wants to give itself the right to seize property as it seeks to speed up the build-out of liquefied natural gas projects. The country's cabinet passed a draft law on Wednesday, which would allow expropriation of "movable property" and grant greater access to information if needed for connecting infrastructure, according to a copy of the document seen by Bloomberg. The effort could possibly make it easier to link floating LNG terminals -- the first of which is set to open in December in the coastal port of Lubmin -- to idled Nord Stream pipeline infrastructure, which belong to Russia's Gazprom. An Economy Ministry spokesperson said seizing such assets was "not the intention behind the changes," but that outdated regulations had to be adjusted. Since Russia curtailed gas shipments to the continent over the summer, Germany has been scrambling for alternatives, in particular by turning toward supply of LNG by ship. The floating terminal in Lubmin is on track to deliver gas across the country via the first Nord Stream pipeline apparatus when it opens later this year. **2<sup>nd</sup> November 2022**

POLAND

- South Korea to build a nuclear power plant in Poland**  
 Polish and South Korean officials have signed preliminary agreements to build a nuclear power plant in Poland. The aim is part of Poland's efforts to reduce carbon emissions and achieve energy security. Thus, South Korea's participation in the Polish project is a means of reviving the country's nuclear power industry. The country's most recent export agreement was with the United Arab Emirates in 2009. The agreements were signed in Seoul. It happened just days after Poland announced that it had chosen the United States and Westinghouse to build the country's first nuclear power plant in northern Poland. On

Monday, officials from the Polish and South Korean governments, as well as representatives from energy companies, met in Seoul to sign agreements outlining their collaboration on the construction of the second nuclear power plant. Thus, it will be built in Patnow, southwestern Poland. The location is about 230 kilometers (140 miles) from Warsaw. The project will be to develop Korean technology. Additionally, a legally binding contract is expected to be signed next year. Plans for the nuclear power plant in Poland Jacek Sasin, Poland’s minister of state assets and deputy prime minister, signed an agreement with Lee Chang-Yang, South Korea’s minister of trade, industry, and energy. **6<sup>th</sup> November 2022**

UK

- Easington Gas Terminal to convert to hydrogen hub**  
 Equinor and Centrica are working to develop the Easington Gas Terminal into a blue and green hydrogen hub in the UK’s Humber area. Easington takes in about a third of the UK’s total gas supply, much of it from Equinor’s facilities in Norway. Gas will be available to produce blue hydrogen with carbon capture, while nearby offshore wind developments could provide electricity for green hydrogen production. “The Humber is in a unique position to lead the way on industrial decarbonisation, with Equinor’s Hydrogen to Humber (H2H) projects at the forefront of this transition,” said Grete Tveit, senior vice president for low carbon solutions at Equinor. “Partnering with Centrica to potentially develop a new hydrogen hub at one of the UK’s most significant industrial sites could help to transform this region’s energy mix whilst preserving and creating jobs and skills.” The Humber region and the nearby Teesside region are making major moves to decarbonise their industrial operations, with alliances including the East Coast Cluster, Net Zero Humber and Humber Zero working on carbon capture and hydrogen schemes. **3<sup>rd</sup> November 2022**
- UK: Centrica and Equinor sign co-operation agreement for East Yorkshire hydrogen hub**  
 Centrica and Equinor have signed a co-operation agreement to explore developing a low-carbon hydrogen production hub at Easington in East Yorkshire, further strengthening the region’s growing status as the UK’s foremost hydrogen super place. Under the co-operation plan, the Centrica-operated area at Easington could transition to a low carbon hydrogen production hub over the coming decade. This would support the Humber’s decarbonisation ambitions and help the UK meet its Net Zero goals and hydrogen production targets. Such a transition would also safeguard many of the existing jobs within this historical gas terminal whilst creating new jobs for the future. Currently up to one third of the UK’s total gas supply enters via Easington, much of it from Equinor’s Norwegian facilities. Easington is also situated close to some of the world’s largest offshore wind farm developments, offering huge potential for both blue and green hydrogen production. The area is also earmarked as one of the landing point for the East Coast Cluster’s carbon capture pipeline, which would transport CO2 for safe storage deep under the seabed. As such, it is a key location within the Zero Carbon Humber partnership which is planned to provide regional hydrogen and CO2 pipelines between the area’s major energy producers and carbon intensive industries. **3<sup>rd</sup> November 2022**

**NORTH & SOUTH AMERICA**

BRAZIL

- Diamond Offshore confirms lucrative multi-year Brazil contract**  
 Four-year firm charter has options for additional years. Houston-based offshore drilling company Diamond Offshore has confirmed it has been awarded a very lucrative four-year deep-water campaign with Petrobras offshore Brazil. Upstream on 17 October reported that Diamond was one of seven qualified bidders for high-specification drilling rigs to work offshore Brazil. Diamond in its third-quarter report said it had received notification of award from Petrobras of the new programme for the semi-submersible Ocean Courage. **8<sup>th</sup> November 2022**
- Aker Solutions wins subsea frame agreement with Petrobras**  
 Aker Solutions has been awarded a frame agreement from Petrobras and Partners (consortiums) to provide subsea production systems (SPS) and subsea lifecycle services (SLS) for Petrobras-operated oil and gas fields offshore Brazil. The frame agreement has a fixed period of 5 years, from the fourth quarter

of 2022 to the fourth quarter of 2027. The framework agreement will be managed from Aker Solutions' locations in Brazil. The scope of the agreement covers the delivery of complete subsea production systems, including equipment such as subsea trees, the company's latest generation of subsea controls called "Vectus", subsea distribution units and spare parts, for Petrobras-operated fields offshore Brazil. Over the duration of the frame agreement, it is estimated that the number of subsea trees to be called off could be up to 33 trees. This estimate does not represent a minimum or maximum amount. The scope also covers the full range of subsea lifecycle services for Petrobras-operated fields offshore Brazil. The frame agreement continues Aker Solutions' longstanding commitment to drive local partnerships, with more than 50% local content rate for both SPS and SLS. This range does not represent a minimum or maximum amount, the total value will depend on the customer's future demands. **7<sup>th</sup> November 2022**

CANADA

- **ExxonMobil and QatarEnergy win prime deep-water exploration block in Canada**

US giant ExxonMobil and Qatari state-owned QatarEnergy have won a key offshore exploration block in an offshore play offered by the province of Newfoundland and Labrador in Canada. The Qatari giant confirmed the development on Thursday as the pair emerged as the successful bidder for the Parcel 8 deep-water acreage in the Orphan basin region. "The Parcel 8 winning bid by QatarEnergy and ExxonMobil was announced by the Canada-Newfoundland and Labrador Offshore Petroleum Board as part of the 2022 Newfoundland and Labrador Call For Bids NL22-CFB01," a statement read. ExxonMobil will operate the offshore tract with a 70% stake, while QatarEnergy holds the remaining 30% participating interest. Located offshore Eastern Canada, the Parcel 8 deep-water exploration block lies in water depths between 2,500 to 3,000 metres and covers about 2,700 square kilometres. QatarEnergy said that eventual "entry to the Parcel 8 licence is subject to customary government approvals". QatarEnergy holds a 40% participating interest in Block EL 1165A, while ExxonMobil's Canada unit holds the balance 60% stake. The Block EL 1165A agreement marked QatarEnergy's first entry into offshore Canada, where the operator is eyeing a wider footprint. **3<sup>rd</sup> November 2022**

- **Fluor Awarded Contract For Imperial Renewable Diesel Project In Canada**

The New Complex Is Expected To Be The Largest Renewable Diesel Production Facility In Canada And Will Produce Approximately 20,000 Barrels Of Renewable Diesel Per Day From Locally Sourced Feedstocks. Fluor Corporation (Fluor) was awarded a reimbursable front-end engineering and detailed design, engineering, and procurement services contract for Imperial as the company progresses plans to develop a renewable diesel complex at its Strathcona refinery near Edmonton, Alberta, Canada. The new complex is expected to be the largest renewable diesel production facility in Canada and will produce approximately 20,000 barrels of renewable diesel per day from locally sourced feedstocks. Fluor booked the undisclosed contract value in Q3 2022. **26<sup>th</sup> October 2022**

- **Enbridge announces B.C. pipeline expansion as gas production soars**

Canadian energy infrastructure firm Enbridge Inc. on Friday announced a \$3.6 billion expansion of the southern segment of its British Columbia gas pipeline system after strong demand from customers. The Calgary-based company, which posted higher third-quarter earnings on Friday, also launched an open season to gauge shipper interest in a potential \$1.9 billion expansion of the northern section of the same system. Gas production in Western Canada this year neared record levels of 18 billion cubic feet a day. Enbridge chief executive Al Monaco said that supply growth coupled with future demand from planned liquefied natural gas (LNG) export projects was underpinning the expansions. Enbridge is also looking at adding about 500 million cfpd of capacity to the northern section of the system, T-North, which connects the gas-producing region around Fort Nelson in northeastern B.C. to the southern part of the pipeline network. The open season for T-North is expected to end on Jan. 10, 2023. Enbridge shares were trading 1.6 per cent higher at \$54.51 on the Toronto Stock Exchange on Friday after the company reported a higher third-quarter adjusted profit. **4<sup>th</sup> November 2022**

GUYANA

- **Guyana sets new scheme for upcoming bid round**

The bid round will see 11 shallow-water and three deepwater blocks put on offer. The shallow-water assets are located in the Guyana-Suriname basin adjacent to the prolific Stabroek block in which ExxonMobil has encountered 11 billion boe in recoverable resources. The deepwater concessions lie northeast of the Canje block and east of the Kaieteur block. Blocks on offer range between 1,000 square kilometres and 3,000 square kilometres, with an average of 2,000 square kilometres. Guyanese companies will be allowed to bid on the 11 shallow-water blocks with minimum technical and financial qualifications. Under the new scheme, companies that fail to begin work programmes in three years will be required to return the blocks to the Guyanese government and pay 20% of the seismic work prepared in their proposals. After the first three years of planned seismic activity operators must relinquish 50% shares of the concessions before moving towards drilling and production phases. **7<sup>th</sup> November 2022**

USA

- **Six Liquefaction Trains For Commonwealth LNG Project**

The Federal Energy Regulatory Commission (FERC) has prepared a final environmental impact statement for the Commonwealth LNG project, proposed by Commonwealth LNG LLC (Commonwealth). The project includes constructing and operating a natural gas liquefaction and export terminal and an integrated Natural Gas Act Section 3 natural gas pipeline in Cameron Parish, Louisiana. The purpose of the Commonwealth LNG Project is to liquefy domestic natural gas for export to foreign markets as liquefied natural gas (LNG). The project will include one LNG plant comprised of six liquefaction trains, each with a designed production capacity of approximately 65.1 Bscf ( $1.8 \times 10^9$  m<sup>3</sup>) per year (equivalent to 1.4 million MTPA); six LNG storage tanks (each with a capacity of 1.4 MMscf [40,000 m<sup>3</sup>]); one marine loading berth (capable of loading LNG carriers with a capacity ranging from 353,147 scf to 7.6 MMscf [10,000 to 216,000 m<sup>3</sup>]); and a 3.04-mile (4.9-km), 30-in. (762-mm) pipeline. Under optimal operating conditions the project will have a peak capacity of up to 441.4 Bscf ( $12.5 \times 10^9$  m<sup>3</sup>) per year. The LNG storage will include six 1.4-MMscf (net capacity) full-containment LNG storage tanks, an earthen berm/dike providing tertiary containment for the tank farm, two submersible cryogenic send-out pumps per tank, and a radiant heat deluge system. Marine facilities feature a single berthing dock with the capacity to service vessels from 353,147 scf to 7.6 MMscf, four 16-in. (406-mm) marine loading arms — three LNG liquid and one vapor return, a gangway and mooring system, and a separate spill containment system. Electric power includes a 180-MW simple-cycle electric power generator for the LNG Facility auxiliary loads, an emergency power generator, and a backup battery system for uninterrupted power supply. Commonwealth LNG plans to have its new facility up and running by 2026. **3<sup>rd</sup> November 2022**

- **New Compression For Commonwealth Energy Connector Project**

Transcontinental Gas Pipe Line Company (Transco) is seeking Federal Energy Regulatory Commission (FERC) approval to construct, install, modify, operate, and maintain its Commonwealth Energy Connector project. The purpose of the project is to provide an additional 105,000 dekatherms per day (Dth/day) of firm transportation service beginning with the 2025/2026 winter heating season. Modifications at Compressor Station 168 in Mecklenburg County, Virginia, will include the installation of one 33,000-hp (24,618-kW) electric motor-driven compressor with gas cooling and a vent gas reduction system to increase the existing certificated compressor station horsepower from 33,000 to 66,000 hp (49,236-kW). This is in addition to the compression introduced in Transco's Southside Reliability Enhancement project, which includes one 30,500-hp (22,753-kW) electric motor-driven compressor unit driving a Solar centrifugal gas compressor added to Compressor Station 168. Transco will also add approximately 6.35 miles (10-km) of 24-in. (609-mm) pipeline extension to its South Virginia Lateral B-Line (referred to as the Commonwealth Loop) in Brunswick and Greensville Counties, Virginia, and appurtenant facilities such as valves and pigging facilities. Transco will also modify and install new facilities at the existing Emporia metering and regulating station in Greensville County, Virginia, to increase delivery quantities by 105,000 Dth/day. **2<sup>nd</sup> November 2022**

- **Port Arthur LNG project sanction expected in early 2023,**

A final investment decision for the Port Arthur liquefied natural gas terminal in the US is expected in the first quarter of 2023, energy infrastructure company Sempra said in its latest earnings call, held on Thursday. The announcement follows the finalising of the engineering, procurement and construction (EPC) contract for the first phase of the project in the second quarter of this year. The contract, between Sempra Infrastructure and Bechtel Energy, was amended in October and valued at \$10.5 billion. We have made significant progress on advancing development at Port Arthur LNG, where we now expect to take a final investment decision on Phase 1 in the first quarter of next year,” said Sempra chief executive Jeffrey Martin. Port Arthur LNG is to be built on the Gulf Coast in Texas’s Jefferson County. The project was originally scheduled to come online in 2024 but a 50-month extension was granted to June 2028 citing delays related to the Covid-19 pandemic and global supply chain issues. In its third quarter results released on Thursday, Sempra posted earnings of \$485 million, compared to third-quarter 2021 losses of \$648 million. The company reported earnings for January-September at \$1.66 billion, a 155% increase on the \$650 million reported in the same period of last year. **3<sup>rd</sup> November 2022**

- **GE Gas Power and Shell sign Development Agreement to collaborate on LNG Decarbonization Pathway Using Hydrogen**

GE will collaborate with Shell to develop potential lower-carbon solutions aiming to reduce the carbon intensity of Shell’s LNG supply projects around the world. Under this agreement, GE will accelerate development for the use of 100% hydrogen as a low carbon fuel for gas turbines. Focus will be on hydrogen solutions for B&E class gas turbines used in LNG and power generation applications. GE Gas Power (NYSE: GE) and Shell Global Solutions, a pioneer in liquefied natural gas (LNG) for more than 50 years, announced today they have signed a development agreement to pursue potential pathways aiming to reduce the carbon intensity of Shell’s LNG supply projects around the world. With global LNG demand projected to almost double by 2040, decarbonization is crucial in helping the company meet the world’s growing energy needs. The largest source of emissions in an LNG facility stems from firing natural gas in the power generation and mechanical drive gas turbines. Therefore, one of the possible paths to decarbonize LNG production is to use hydrogen as a low carbon fuel in these engines. However, the source and nature of this fuel matters as well, and Shell’s Blue Hydrogen Process is a leading technology that can deliver the lowest carbon intensity fuel of its kind, with technologies and building blocks tested and commercially proven at a large scale, that have been used in various industries for many decades. **7<sup>th</sup> November 2022**

- **NET Power to Build Major Permian Plant for Oxy**

Clean energy technology company NET Power plans to build a utility-scale natural gas-fired power plant to fuel operations for one of its investors, Occidental Petroleum, in the Permian Basin. The roughly 300 megawatt plant would be the world’s first such facility with “near-zero atmospheric emissions,” according to NET Power. It is a significant milestone for the company and its technology, which uses the patented Allam-Fetvedt Cycle to produce power in a process that “inherently captur[es] nearly all emissions.” Natural gas is combusted with pure oxygen, then the produced CO<sub>2</sub> is used to spin a power-generating turbine and is continuously cycled through the system while excess CO<sub>2</sub> is captured, ready for storage. “This plant allows for the quick ramp-up in NET Power’s global deployments, providing a clear and meaningful pathway to near emission-free reliable power,” NET Power CEO Ron DeGregorio said in a statement. The agreement offers an important glimpse into Oxy’s strategy around its plans to produce low-carbon oil and build out its carbon capture and management business in the Permian. In addition to being the primary end-user for the power produced, Oxy will also be the main offtaker of the CO<sub>2</sub> that NET Power emits. The project will transport captured CO<sub>2</sub> to “a secure underground sequestration location” through Oxy’s existing Permian CO<sub>2</sub>-handling infrastructure and operations. It will capture about 860,000 tons of CO<sub>2</sub> per year, NET Power says. Preliminary front-end engineering and design (Feed) studies have been completed, with full Feed work due to begin in the first quarter of 2023. Construction is slated to commence in the third quarter of 2024. **7<sup>th</sup> November 2022**

- **EOG to Drill Ahead on Utica Acreage Next Year**

EOG Resources plans to drill ahead on its recently disclosed Utica shale position in Ohio next year, with an eye toward delineating the acreage. The Houston-based E&P is looking to drill about 20 wells next year on the 395,000 net-acre asset, which chiefly lies within the Utica's volatile oil window, executives said Friday. Liquids are the main target, with oil, natural gas and natural gas liquids (NGL) each making up 25%-35% of the ultimate recoveries, according to Ken Boedeker, EOG's executive vice president of exploration and production. He added that the company anticipates estimated ultimate recoveries of 2 million-3 million barrels of oil equivalent on wells with three-mile laterals. "That type of performance really leads us to a low finding cost and will definitely be additive to our cost basis," he said during the company's third-quarter earnings presentation. **4<sup>th</sup> November 2022**

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