Quarterly Newsletter
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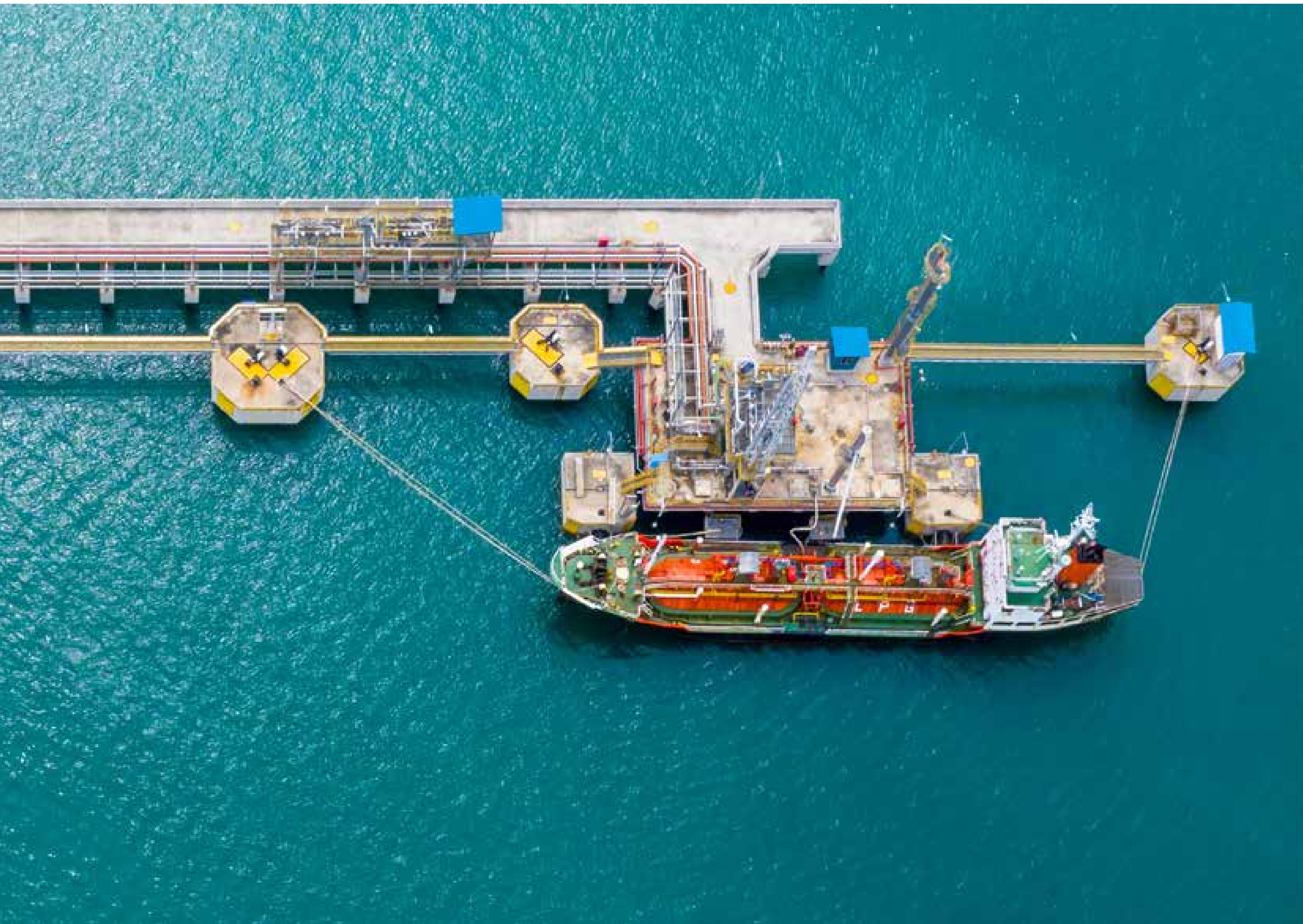

OPINION EDITORIAL

Partnerships Pivotal for Zero Carbon Shipping

By Lars Liebig, Managing Director, Uniper Energy Dubai (UED)

There is no doubt that ammonia and methanol are in the race to be the most viable zero-carbon bunker fuels in the global shipping industry. When you consider the rapid acceleration of the world's transition to a greener future and that shipping facilitates 90% of the world's traded goods, the importance of these budding markets could be colossal. But two ingredients to leverage these urgently needed carbon-free fuels first need leveraging in the Middle East and beyond: collaborations and investment.

Signs of appetite are certainly emerging. Ammonia itself is not new, with 80% of the market used for the fertilizer industry, according to the Royal Society, but using ammonia as a bunkering fuel is very new. The first such ship is yet to be built, so this a very fresh journey – meaning there is plenty of potential for first-mover advantage. Industry expects ammonia usage to grow to 7% of fuels by 2030 and 20% by 2050, detailed a survey by Lloyd's List and LR – making it one of the top three fuels with potential for 2050. Potential customers are also emerging, including those who already share established trade links with the Middle East. For one, Japan has set a formal target to grow the nation's ammonia fuel demand to 3mn t/yr by 2030 – from zero now.

Theory turns to action

Oman's strategic green hydrogen project HYPORT Duqm signed a cooperation agreement with Uniper to provide engineering services and negotiate an exclusive offtake agreement of green ammonia from 2026 – potentially leading to the first ship on the high seas with ammonia bunkering. The $5bn deal in Saudi Arabia between Air Products, ACWA Power and NEOM to produce and export green hydrogen will also produce 1.2mn t/yr of green ammonia. Scheduled to be onstream in 2025, Air Products said it will be the exclusive off taker of the green ammonia.

Methanol is also attracting attention, especially as it can be blended with other bunkering fuels, such as low sulfur fuel oil (LSFO). Moves by Maersk, the world's largest container shipping company, reflects how the market is increasingly open to change. In the first quarter of 2024, A.P. Moller – Maersk plans to introduce the first in a series of eight large ocean-going container vessels capable of being operated on carbon neutral methanol. More than half of Maersk's 200 largest customers have set, or are in the process of setting, ambitious science-based or zero carbon targets for their supply chains – a trend increasingly echoed by other major operators.

The pressure to tick both economic and environmental boxes in the shipping industry is fast rising. The sector produces around 3% of global greenhouse gas (GHG) emissions and emits an estimated 15% of some of the world's major air pollutants annually, highlighted the World Bank. These may not seem like big figures, but in the context of the global pressure on industry's decarbonization, they are big enough. And they have even more weight following the recent report by the UN's Intergovernmental Panel on Climate Change (IPCC) report – a "code red for humanity."

Collaborative clout

We are currently working on the cost side of ammonia bunkering, so that our current and prospective customers can understand cost per volume. We hope that interested parties can share their demand projections with us and then together, with us also leveraging Uniper's global footprint, we can establish a commercially viable supply chain in ammonia or methanol bunkering. Of course, it is a risky sell for some as it proposes investing finances and reputational weight into a bunkering market that does not yet exist. But adopting this collaborative approach means harnessing the coveted first-mover advantage in a scalable market for which their clear political and environmental need. Using this collaborative clout, such a partnership could be the first to use ammonia bunkering in the Middle East, or even worldwide.

It is clear that there is a lot of work to do. For one, marine engines capable of using ammonia are not yet available. There are many routes to market, but one is an obligation by a company that orders a vessel to make it compliant for carbon-free fuel at the same time. Completing such upgrades could take up to three years to complete, meaning customers willing to commit to longer-term ammonia offtakes in 2022 could secure their supplies from 2025 onwards – a relatively quick schedule. Investments in broader infrastructure is also needed, primarily dedicated tankage and ammonia barging. But longer-term commitments from interested shipping clients are pivotal to kick-starting those investment.

The UAE's Port of Fujairah, the world's third largest bunkering hub, holds great potential for ammonia bunkering – but it will likely require investor support to support the entire value-chain. For example, it will require building a terminal and pipelines to the jetties. Much can be learned from the route taken by Singapore, the world's biggest bunkering hub, as it already has ammonia tankage, pipelines, and jetties. Keep in mind, however, that this potential is not restricted to the Middle East and Asia – we are interested in global conversations.

Oil Markets Quarterly Review

New Covid-19 Variant Haunts Oil Markets

World Oil Outlook

Oil prices plunged $10/bl on Friday, November 26, their largest one-day drop since April 2020, as a new variant of the Covid-19 spooked investors and added to concerns that a supply surplus could swell in the first quarter. Morgan Stanley cut its first-quarter 2022 Brent crude price forecast to $82/bl from $95/bl on market expectations that the Omicron variant could turn into a major headwind for oil demand. Throughout the quarter, demand growth remains robust, but supply is catching up and changes in oil stockpiles seen in October suggest "the tide might be turning," according to the IEA's monthly report. If the forecast proves to be correct, it would provide significant relief for harried consumers who are suffering the consequences of price inflation.

Global Oil Demand

The ongoing energy crisis has prompted a switch to oil that could boost demand by 500 kb/d compared with normal conditions. This contributed to an upward revision to our 2021 and 2022 forecast, by 170k b/d and 210l b/d respectively. IEA's global oil demand is now forecast to rise by 5.5mn b/d in 2021 and 3.3mn b/d in 2022 when it reaches 99.6mn b/d, slightly above pre-Covid levels.
OPEC revised world oil demand growth in 2021 lower by around 0.16mn b/d to stand at 5.7mn b/d. Revisions were mainly to account for slower than anticipated demand from China and India in Q3 2021. For 2022, growth in global oil demand remains unchanged compared to the previous month's assessment, to stand at 4.2mn b/d. World total demand in 2022 is now estimated to reach 100.6mn b/d, around 0.5mn b/d above 2019 levels. Marginal upward revisions in OECD Europe, due to better economic views in some European countries, were offset by softer growth in industrial fuel demand, in OECD America and Latin America.

Global Oil Supply

Global oil output increased by 1.4mn b/d in October and will add as much again over November and December as the Gulf of Mexico restores supplies halted by Hurricane Ida. The main drivers of 2021 supply growth continue to be Canada, Russia, China, Norway, Brazil, and Guyana. The forecast for non-OPEC liquids supply growth in 2022 is also unchanged at 3mn b/d to an average of 66.7mn b/d. Russia and the US are expected to be the main drivers of next year's growth, contributing increments of 1mn b/d and 0.9mn b/d, respectively, followed by Brazil, Canada, Kazakhstan, Norway, Guyana, and other countries in the DoC. In October, OPEC crude oil production increased by 0.22mn b/d m-o-m, to an average of 27.45mn b/d. The IEA bolstered forecasts for US production in the fourth quarter by 300,000 b/d, and for next year by 200,000 a day.
Source: OPEC, IEA

	October 2021	November 2021	Change (Dec/Nov)
WTI	$81.22/bl	$78.65/bl	-3.2%
Brent	$83.75/bl	$80.85/bl	-3.5%
Spread	$2.53/bl	$2.20/bl	-13%

Source: OPEC

HYDROGEN

Following the Original LNG Route?

John Roper, CEO, Middle East, Uniper Global Commodities SE

Hydrogen projects need technology partners, investors, and long-term offtakers to get off the ground.
The first projects will require some form of fixed price offtake for a significant period of time, so that projects become bankable. Next, companies would look to ensure they have some form of indexation. If we're talking about green hydrogen projects, that market is not currently there so the expectation would be to follow something similar to the original LNG route. Projects also need to withstand the test of time in terms of cost of production. There's no point in having first-mover advantage if the projects, which come five years later, have lower electrolyzing costs. Contracts to offtake typically have commitments of 15 to 25 years.

Wind and solar resource critical to cost competitiveness

An example is the project that Uniper is involved with in Oman with HYPORT Duqm, where we are the 100% offtaker and planning to take about 360,000 tons of green ammonia by 2026. The yield from the ammonia is significantly higher than if we just had PV.

Europe demand for green hydrogen may have to wait

European economies like Germany will be looking to companies from the Middle East, Australia and South America for hydrogen and ammonia supply. There's also the expectation that they could be ready to pay a premium for green hydrogen. But while most of the EU wants to be green, until its taxonomy is clarified, companies contemplating developing projects in this space will most likely focus on blue hydrogen supply and trading.

7MT

was the total hydrogen consumption of countries in the GCC in 2019.*

50 MT

of hydrogen and derivatives could be supplied by GCC countries to European and East Asian markets by 2050 – equivalent to 30% of Europe and East Asia's market in this scenario.*

$80-$100BN

could be generated in annual export revenues in an aggressive scenario where GCC countries will dedicate 700-1,000 GW of RE capacity, powering 250-500 GW of electrolysis, potentially producing 80-100 Mt/Year of hydrogen by 2050.*

$1-2.3/KG

is the cost of blue hydrogen, which is equivalent to $7.9-18.2/MMBtu of natural gas.*

* "UAE's Role in the Global Hydrogen Economy" Report

IMO 2020 Progress Report

Shipping Industry Must 'Upgrade' Climate Targets

A decision by the International Maritime Organization (IMO) and its member states not to revise its emissions reduction strategy until the spring of 2023 has been criticised as "dangerous" by environmental campaigners. The IMO is currently targeting a 50% cut in greenhouse gas emissions from the global fleet by 2050 compared with 2008 levels, following a 40% reduction in carbon intensity by 2030, but there is growing industry and political pressure to raise the 50% goal to 100%. Many UN member states are already committed to tighter emissions reductions in their shipping sectors. At Cop26, a coalition of countries including the UK, US, France, Germany, Panama and the Marshall Islands, signed a declaration committing to "strengthen global efforts" to reach net zero on shipping emissions by 2050.The EU is also committed to a reduction under its "fit for 55" target to cut shipping emissions by 55% by 2030. Under the proposed law, by 2026 shipping companies will need to pay for the carbon they emit traveling to and from the EU and between EU ports.

The International Maritime Organization (IMO), on Wednesday, December 1st said that it has recognized the need to strengthen the ambition of the Initial IMO greenhouse gas (GHG) Strategy during its revision process and agreed to initiate the revision of its GHG strategy. The MEPC agreed to initiate the revision of the Initial IMO Strategy on Reduction of GHG emissions from ships, recognizing the need to strengthen the ambition during the revision process. The move comes in the wake of the United Nations COP26 held in Glasgow (UK), and in view of the urgency for all sectors to accelerate their efforts to reduce GHG emissions.

In other work, the MEPC adopted a strategy to address marine plastic litter from ships; adopted revised guidelines for exhaust gas cleaning systems (EGCS) and agreed the scope of work on discharge water of EGCS; and considered matters related to the Ballast Water Management Convention.

"We must upgrade our ambition, keeping up with the latest developments in the global community."

Kitack Lim, Secretary-General, IMO

Average Bunker Prices: Fujairah

Oct-Dec 2021	High	Low	Average	Spread
VLSFO (<0.5%)	$642.50/mt	$563.50/mt	$611/mt	$79/mt
HSFO (IFO380)	$524.50/mt	$417/mt	$478.50/mt	$107.50/mt

Source: Ship & Bunker

COP26 Snapshot

COP26 Keeps 1.50°C Alive And Finalises Paris Agreement

- **COP26 ends with global agreement to accelerate action on climate this decade**
- **Two weeks of intense negotiations finally complete the Paris Rulebook**
- **For the first time COP agrees position on "phasing down" unabated coal power**
- **The Glasgow Climate Pact caps two years of diplomacy and raising ambitions**

COP26 has concluded in Glasgow with nearly 200 countries agreeing the Glasgow Climate Pact to keep 1.50C alive and finalise the outstanding elements of the Paris Agreement. The Glasgow Climate Pact, combined with increased ambition and action from countries, means that 1.5C remains in sight, but it will only be delivered with concerted and immediate global efforts. The Glasgow Climate Pact will speed up the pace of climate action. All countries agreed to revisit and strengthen their current emissions targets to 2030, known as Nationally Determined Contributions (NDCs), in 2022.

This will be combined with a yearly political roundtable to consider a global progress report and a Leaders' Summit in 2023. The Paris Rulebook, the guidelines for how the Paris Agreement is delivered, was also completed today after six years of discussions. This will allow for the full delivery of the landmark accord, after agreement on a transparency process, which will hold countries to account as they deliver on their targets.

This includes Article 6, which establishes a robust framework for countries to exchange carbon credits through the UNFCCC. And for the first time, heeding calls from civil society and countries most vulnerable to climate impacts, the COP agreed action on "phasing down" fossil fuels. COP decisions went further than ever before in recognising and addressing loss and damage from the existing impacts of climate change.

There were also commitments to significantly increase financial support through the Adaptation Fund as developed countries were urged to double their support to developing countries by 2025. The final COP26 text follows two years of intense diplomacy and campaigning undertaken by the UK Presidency to raise ambition and secure action from almost 200 countries.

Source: COP26
Read Full Coverage Here: https://ukcop26.org/news/

Energy News Highlights
Top 10 Headlines in Q4, 2021

October

Oct 5th
GAS PRICE SURGES TO A RECORD HIGH IN EUROPE

Natural gas contracts hit new highs in Europe on Tuesday, as soaring prices continue to put pressure on the region's energy sector ahead of the winter period. November contracts at the Dutch TTF hub — a European benchmark for natural gas — were trading at around 118 euros per megawatt hour (MWH) just after midday in London. The front-month contract was up almost 19% on the day, setting a new record high, and has risen almost 400% since the start of the year.

Source: CNBC

Oct 7th
UAE UNVEILS NET-ZERO INITIATIVE FOR 2050

The UAE announced on Thursday an ambitious strategic initiative to reduce carbon emissions by 2050. The plan will mean Dh600bn being invested in clean and renewable energy sources in the next three decades. It comes in a crucial year in the fight to protect the planet, with the UAE building momentum ahead of the Cop26 climate talks in the UK next month. Sheikh Mohammed bin Rashid, Vice President and Ruler of Dubai, said the country would "play its global role in combating climate change".

Source: The National

Oct 13th
IEA SAYS CLEAN ENERGY PROGRESS REMAINS 'FAR TOO SLOW'

The International Energy Agency issued a sobering warning Wednesday, claiming that clean energy progress remained "far too slow to put global emissions into sustained decline towards net zero." The IEA's report said that while electric vehicle sales achieved new records in 2020 and renewable sources such as wind and solar photovoltaic continued their rapid growth, "every data point showing the speed of change in energy can be countered by another showing the stubbornness of the status quo." Photovoltaic refers to a way of directly converting light from the sun into electricity.

Source: CNBC

November

Nov 15th
COP26 CRANKS UP PRESSURE ON OIL, GAS DESPITE DODGING CLOSER SCRUTINY

The global oil and gas industry emerged largely unruffled by specific pledges at the COP26 climate summit, but big oil and gas producers and demand for their fuels were firmly in the sights of pacts seeking a faster transition to cleaner energy at the pivotal Glasgow event. Dubbed a "wake-up call" by OPEC Secretary-General Mohammad Barkindo, the two-week climate talks formally recognized the need to put an end to fossil fuels, even if there were no decisive plans to achieve that aim. After last-minute interventions by India and China, the pacts call for the "phasing down," rather than "phasing out" of "unabated coal power" as well as "inefficient subsidies" for the industry.

Source: S&P Global Platts

Nov 18th
BUSINESS EUROPE WAS ALREADY FACING A WINTER GAS CRISIS. THE RISKS JUST GOT EVEN BIGGER

When Germany announced this week that it had suspended the process of certifying a controversial new Russian gas pipeline called Nord Stream 2, the response in energy markets was immediate. European natural gas futures finished almost 18% higher on Tuesday and rose again on Wednesday. UK wholesale prices also surged. They're now heading back towards record levels seen in early October when some factories in Europe and the United Kingdom were shuttered because their operations had become unprofitable.

Source: CNN

Nov 22nd
US SHALE IS REFUSING TO REINVEST DESPITE RECORD HIGH CASH FLOW

Reinvestment rates among US shale oil producers hit an all-time low in the third quarter of 2021, resulting in a record free cash flow for the quarter, and are projected to fall even lower by year-end according to a Rystad Energy analysis. The analysis focused on a peer group of 21 public US shale oil producers, excluding majors, that together account for 40% of the expected 2021 output. The peer group's combined reinvestment rate in the third quarter of 2021 was 46%, down from 53% over the same period in 2020 and way lower than the historical average of above 130%.

Source: Oilprice.com

Nov 22nd
ABU DHABI APPROVES ADNOC SPENDING, UNVEILS OIL DISCOVERY TO BOOST MURBAN FUTURES PLAN

Abu Dhabi, the oil-rich emirate in the seven-member UAE federation, is forging ahead with expanding its hydrocarbons sector in the face of the coronavirus pandemic, announcing a plan for state producer ADNOC to spend Dirhams $122 billion over the next five years. Abu Dhabi's Supreme Petroleum Council, the emirate's highest energy policy-making body, approved the new capital expenditures, state oil producer ADNOC said in a statement Nov. 22. It is down from the previously announced investment plan, which called for $132bn from 2019-2023.

Source: S&P Global Platts

Nov 28th
OIL RECOUPS LOSSES, FOCUSING ON OMICRON COVID VARIANT SPREAD, IRAN TALKS

Oil prices rose on Monday, recouping some losses after Friday's plunge of about $10/bl, as investors looked for bargains but remained cautious with the focus on the omicron coronavirus variant and Iran nuclear deal negotiations.

Source: CNBC

December

Dec 3rd
OPEC+ CONFIDENCE AND CAVEATS CALM A CRAZED OIL MARKET

OPEC+ managed to stabilize oil prices after what had been an incredibly volatile week, with the cartel adding plenty of caveats to its decision to stick to its plan vis-a-vis oil production increases.

Source: Oilprice.com

Dec 4th
OIL POSTS LONGEST RUN OF WEEKLY LOSSES SINCE 2018 AMID OMICRON

Oil slid for a sixth straight week, marking the longest stretch of weekly declines since 2018, as the omicron variant jolts markets and OPEC+ continues to hike supply.

Source: Bloomberg

Dec 13th
OIL MARKET IN GOOD CONDITION, TO BE WELL-SUPPLIED IN Q1 2022: UAE'S MAZROUEI

The global oil market is "in a good condition" and will be well supplied in the first quarter of 2022, the UAE's energy minister said Dec. 13, as OPEC+ stuck to its planned 400,000 b/d output hike in January. "We think the market is in a good condition. We have made our latest decision based on studying all the fundamentals of the market and we are confident that we are moving to a well-supplied market in the first quarter."

Source: S&P Global Platts

Dec 21st
EUROPEAN GAS PRICES SHOOT TO NEW HIGH AS ENERGY CRUNCH WORSENS

European gas prices have surged to new record highs as flows from a key Russian pipeline stopped, spooking buyers that have been scrambling to secure supplies during a deepening energy crunch. Gas for delivery in Europe next month, which was already trading at record levels, jumped more than 20 per cent on Tuesday to close at €181 per megawatt hour. After four months in which waning confidence in Russian supply had already pushed wholesale gas prices to their highest in history, the latest price rise threatens to drive up energy bills further for households and industry across the continent and add to inflationary pressures just as temperatures are forecast to drop.

Source: Financial Times

Dec 28th
SOUTH AFRICA COURT BLOCKS SHELL'S OIL EXPLORATION

A South African court has halted oil giant Shell's seismic testing for oil and gas along the country's eastern coastline, pending a final ruling. The decision has been hailed by environmentalists who fear that the sound blasting will harm marine life. Shell said it had "paused" operations while it reviewed the judgement. South Africa's Energy Minister Gwede Mantashe had condemned the project's critics, saying they wanted to deprive Africa of energy resources.

Source: BBC

Dec 29th
OIL PRICES EDGE HIGHER AS US OIL INVENTORIES FALL

Oil prices rose on Wednesday, after government data showed U.S. crude and fuel inventories fell last week, offsetting concerns that rising coronavirus cases might reduce demand. Brent crude rose 29 cents to settle at $79.23 a barrel. U.S. West Texas Intermediate (WTI) crude rose 58 cents to settle at $76.56 a barrel. Crude inventories fell by 3.6 million barrels in the last week to 420 million barrels, compared with analysts' expectations in a Reuters poll for a 3.1 million-barrel drop.

Source: Reuters

Dec 31st
UAE'S FUJAIRAH TO MOVE AHEAD WITH ADNOC'S CRUDE CAVERNS IN 2022

The UAE's Fujairah port, which is coming off a record year in terms of liquid bulk throughput, is closer to a major expansion of its crude oil storage capacity in 2022 at the same time refineries are planning additions, while container shipping may get a boost when the Etihad Rail connects to the hub. Abu Dhabi National Oil Co. is building underground caverns in Fujairah to store 42 million barrels of oil, with completion set for 2022.

Source: S&P Global Platts

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