

Le premier parc solaire flottant en haute altitude au monde est en Suisse



Dans les Alpes valaisannes en Suisse, le lac des Toules accueille le premier parc solaire flottant en haute altitude au monde. Ses panneaux produisent 50% d'énergie en plus que ceux installés en vallée.

"Ce projet pilote produit 800 000 kWh par an," explique Maxime Ramstein, responsable de projets chez Romande Energie, l'entreprise, premier fournisseur d'électricité de Suisse romande, qui est à l'origine de cette installation. *"Ce qui correspond aux besoins de 220 foyers,"* précise l'ingénieur.

Des conditions avantageuses en montagne

A 1810 mètres d'altitude, les coûts de mise en place plus élevés sur l'eau qu'au sol sont en partie compensés par des

conditions plus avantageuses : en effet, en montagne, le rayonnement solaire est plus fort.

“Le rayonnement solaire est meilleur en montagne,” souligne Maxime Ramstein. *“Les températures plus faibles entraînent de meilleures performances et il y a aussi l’albédo, cet effet réfléchissant du rayonnement solaire, qui est très élevé au sol, sur la glace et sur la neige,”* fait-il remarquer.

Limitation de l’impact environnemental

Le parc solaire est installé sur un réservoir artificiel pour la production hydroélectrique et non sur un lac naturel, limitant ainsi son impact environnemental.

“Il se vide chaque année et il se remplit à la fonte des neiges au printemps et en été,” indique le responsable de projets. *“Donc il y a très peu de flore et de faune et l’impact est très faible sur l’environnement,”* dit-il.

“Une durée de vie de 50 ans”

En cas de succès, ce projet pilote mis en service en décembre 2019 sera agrandi pour produire de l’énergie pour couvrir les besoins de plus de 6000 foyers.

“Nous avons développé une structure d’une durée de vie de 50 ans avec deux cycles de 25 ans pour les modules solaires,” déclare Guillaume Fuchs, codirecteur Solutions Energie chez Romande Energie.

“On compte agrandir ce projet sur le lac des Toules, mais aussi reproduire ce type de technologie sur un autre lac,” annonce-t-il.

Opec+ signs off on July increase at meet as oil market tightens



LONDON (BLOOMBERG) – The Opec group of oil producers and its allies, or Opec+, stuck to its plan to hike oil output next month, as Saudi Arabia’s energy minister struck a bullish tone about the global recovery.

The group will press ahead with an increase of 841,000 barrels a day next month, following hikes in May and June, according to delegates.

As the market tightens, a more difficult decision looms for the group as it tackles the deficit that is set to emerge later this year.

“The demand picture has shown clear signs of improvement,” Saudi Energy Minister Abdulaziz bin Salman said as the meeting

started.

Russian Energy Minister Alexander Novak also spoke of the “gradual economic recovery”.

The Organisation of Petroleum Exporting Countries (Opec) and its allies have spent more than a year rescuing prices from historic lows and only cautiously adding supply.

Now the story is shifting: Oil prices above US\$71 are fuelling inflation concerns and if Opec does not add more oil, there is a risk the market becomes too tight, undermining the global recovery.

But the cartel is also embracing caution. Prince Abdulaziz echoed the concerns of his fellow delegates when he said there are still “clouds” on the horizon. Iran’s potential return to international markets is one factor weighing on ministers’ decision-making. The impact of new variants of Covid-19 is another.

And while there is a wide deficit in the market to fill in the second half of the year, those two considerations could see some producers argue for a pause before further hikes.

“Covid-19 is a persistent and unpredictable foe and vicious mutations remain a threat,” Opec secretary-general Mohammad Barkindo said.

After next month, Opec+ is scheduled to hold supply until April 2022, according to the deal signed a year ago to rescue producers from a bitter price war.

While the agreement can be renegotiated – and there will be pressure to do so as demand continues to recover – it provides a fallback position for the group.

Tuesday’s meeting did not tackle the period after next month, according to two delegates.

If the alliance does not boost output later this year, prices will face further upward pressure, International Energy Agency executive director Fatih Birol told Bloomberg Television earlier on Tuesday.

“One thing is clear: In the absence of changing the policies, with the strong growth coming from the United States, China, Europe, we will see a widening gap” between demand and supply, Mr Birol said.

LNG Makers Get Hint to Go Greener From U.S. Energy Secretary



The days of promoting liquefied natural gas as “freedom gas”

or “molecules of freedom” have ended at the U.S. Department of Energy.

During a Friday visit to Houston, U.S. Secretary of Energy Jennifer Granholm said the Biden administration would rather promote and sell a cleaner version of the superchilled power plant fuel. The statement marks a policy shift from the Trump administration, which rolled back environmental regulations and heavily promoted U.S. LNG around the world.

The energy industry has been under mounting pressure from investors and governments to step up efforts to reduce greenhouse-gas emissions, with some spectacular victories for activists over Big Oil this week. U.S. LNG makers are seeking to green their image in order to land supply deals with environmentally conscious customers in Europe and Asia.

The Biden administration, Granholm said, is looking closely at carbon capture and sequestration technology, which would take emissions from LNG plants and other facilities, move them by pipeline and then inject them underground.

“We want to be able to promote and sell clean technologies,” Granholm said following a tour at an Air Liquide SA hydrogen plant in La Porte, Texas. “That could be natural gas that has been decarbonized, or that could be natural gas where the methane flaring has been eliminated.”

Houston-based Cheniere Energy Inc., the largest U.S. LNG exporter, recently announced that it would be including carbon emission tags with its cargoes, allowing customers to audit the environmental footprint of a shipment. One of the company’s LNG tankers recently participated in a study analyzing emissions on a roundtrip between Texas and Europe.

Arlington, Virginia-based Venture Global LNG announced Thursday that it plans to implement carbon capture and sequestration at three export terminals in Louisiana, where one is already under construction and expected to produce its first drops of the fuel later this year.

Still seeking to sell enough contracts to support its proposed Rio Grande LNG export terminal in South Texas, Houston-based LNG developer NextDecade Corp. has also pledged to add carbon capture and storage to its plant.

This Time Is Different: Outside OPEC+, Oil Growth Stalls



(Bloomberg) – “This time is different” may be the most dangerous words in business: billions of dollars have been lost betting that history won’t repeat itself. And yet now, in the oil world, it looks like this time really will be.

For the first time in decades, oil companies aren’t rushing to

increase production to chase rising oil prices as Brent crude approaches \$70. Even in the Permian, the prolific shale basin at the center of the U.S. energy boom, drillers are resisting their traditional boom-and-bust cycle of spending.

The oil industry is on the ropes, constrained by Wall Street investors demanding that companies spend less on drilling and instead return more money to shareholders, and climate change activists pushing against fossil fuels. Exxon Mobil Corp. is paradigmatic of the trend, after its humiliating defeat at the hands of a tiny activist elbowing itself onto the board.

The dramatic events in the industry last week only add to what is emerging as an opportunity for the producers of OPEC+, giving the coalition led by Saudi Arabia and Russia more room for maneuver to bring back their own production. As non-OPEC output fails to rebound as fast as many expected – or feared based on past experience – the cartel is likely to continue adding more supply when it meets on June 1.

'Criminalization'

Shareholders are asking Exxon to drill less and focus on returning money to investors. "They have been throwing money down the drill hole like crazy," Christopher Ailman, chief investment officer for CalSTRS. "We really saw that company just heading down the hole, not surviving into the future, unless they change and adapt. And now they have to."

Exxon is unlikely to be alone. Royal Dutch Shell Plc lost a landmark legal battle last week when a Dutch court told it to cut emissions significantly by 2030 – something that would require less oil production. Many in the industry fear a wave of lawsuits elsewhere, with western oil majors more immediate targets than the state-owned oil companies that make up much of OPEC production.

"We see a shift from stigmatization toward criminalization of investing in higher oil production," said Bob McNally,

president of consultant Rapidan Energy Group and a former White House official.

While it's true that non-OPEC+ output is creeping back from the crash of 2020 – and the ultra-depressed levels of April and May last year – it's far from a full recovery. Overall, non-OPEC+ output will grow this year by 620,000 barrels a day, less than half the 1.3 million barrels a day it fell in 2020. The supply growth forecast through the rest of this year “comes nowhere close to matching” the expected increase in demand, according to the International Energy Agency.

Beyond 2021, oil output is likely to rise in a handful of nations, including the U.S., Brazil, Canada and new oil-producer Guyana. But production will decline elsewhere, from the U.K. to Colombia, Malaysia and Argentina.

As non-OPEC+ production increases less than global oil demand, the cartel will be in control of the market, executives and traders said. It's a major break with the past, when oil companies responded to higher prices by rushing to invest again, boosting non-OPEC output and leaving the ministers led by Saudi Arabia's Abdulaziz bin Salman with a much more difficult balancing act.

Drilling Down

So far, the lack of non-OPEC+ oil production growth isn't registering much in the market. After all, the coronavirus pandemic continues to constrain global oil demand. It may be more noticeable later this year and into 2022. By then, vaccination campaigns against Covid-19 are likely to be bearing fruit, and the world will need more oil. The expected return of Iran into the market will provide some of that, but there will likely be a need for more.

When that happens, it will be largely up to OPEC to plug the gap. One signal of how the recovery will be different this time is the U.S. drilling count: It is gradually increasing,

but the recovery is slower than it was after the last big oil price crash in 2008-09. Shale companies are sticking to their commitment to return more money to shareholders via dividends. While before the pandemic shale companies re-used 70-90% of their cash flow into further drilling, they are now keeping that metric at around 50%.

The result is that U.S. crude production has flat-lined at around 11 million barrels a day since July 2020. Outside the U.S. and Canada, the outlook is even more somber: at the end of April, the ex-North America oil rig count stood at 523, lower than it was a year ago, and nearly 40% below the same month two years earlier, according to data from Baker Hughes Co.

When Saudi Energy Minister Prince Abdulaziz predicted earlier this year that “‘drill, baby, drill’ is gone for ever,” it sounded like a bold call. As ministers meet this week, they may dare to hope he’s right.

Exxon Mobil’s last-ditch attempt to stave off a climate vote coup



It was a stunning moment for Exxon Mobil Corp and the wider

corporate world: a tiny activist fund had succeeded in changing the company's board.

But in the hours leading up to this week's annual shareholders meeting, Exxon went to extraordinary lengths to head off the threat from a campaign about which it had been largely dismissive months earlier.

Exxon telephoned investors the morning of the ballot – and even during an unscheduled, hour-long pause during the virtual meeting – asking them to reconsider their votes, according to several of those who received calls.

Some said they found the last-ditch outreach and halt to the meeting unorthodox and troubling.

"It was a very unusual annual general meeting," said Aeisha Mastagni, a fund manager at the California State Teachers' Retirement System, a major Exxon investor that backed the activist campaign from the beginning. "It didn't feel good as an investor."

The May 26 meeting concluded with Exxon stating that two of the dissident's four director nominees had been elected, a coup for Engine No 1, a little-known investment firm calling for the company overhaul its strategy, cut costs and come up with a plan to address climate change.

Its victory is widely seen as a warning to the rest of the industry that investors will now hold energy companies to account for environmental concerns.

The full results of the vote still haven't been disclosed; a third Engine No 1 nominee is still in the running to fill one of the two remaining board seats.

While there's no suggestion Exxon broke any rules during Wednesday's meeting, such tactics are unusual for a blue-chip company.

In response to questions about the meeting, the company said it's been "actively engaged" with investors and welcomes the newly elected directors.

Net Zero Exxon opposed Engine No 1 from the outset.

The fund holds a stake in Exxon of just 0.02%, valued at about \$54mn.

The oil company described the fund's four candidates as unqualified and said its proposals would imperil Exxon's dividend.

Still, the company made a concession in March to another investor, D.E. Shaw & Co, appointing two new directors, including activist investor Jeff Ubben.

But Exxon still refused to meet with the Engine No 1 candidates.

A significant hurdle faced by the company was winning support of large institutions including its top three investors, Vanguard Group Inc, BlackRock Inc and State Street Corp, which collectively hold a stake of more than 21%. BlackRock has been vocal about its voting guidelines on climate change.

Discussions with many large investors in the run-up to the vote were primarily focused on Exxon's strategy to get to net zero emissions by 2050, and not the company's financial performance, according to people familiar with the talks.

Chief Executive Officer Darren Woods got down in the trenches during the proxy fight and made commitments to keeping the dialog going after the meeting, the people said.

But Vanguard, BlackRock and State Street ultimately supported a partial slate of nominees from Engine No 1. An indication the fight might be tilting in Engine No 1's favour came mid-May with the partial backing from two leading proxy advisory firms.

Two days before the vote, Exxon said it would appoint two new directors, one with "climate experience" and another with industry expertise.

On the morning of the meeting, Engine No 1 issued a statement alerting shareholders that Exxon may try, "in a targeted manner," to persuade them to change their vote.

Sure enough, by the time the virtual meeting began at 9:30am. Dallas time, Exxon representatives were ringing investors. In some cases, those calls entailed cajoling holders to at least reduce their support to one or two dissident nominees rather than all four, according to people familiar with the

conversations, who asked not to be identified because the discussions were private.

At about 10:15 a.m., investor relations head Stephen Littleton announced proceedings would be paused for 60 minutes, citing the volume of votes still coming in.

As classical music played on the webcast, emails started flying between investors left bewildered by the halt.

One executive at a major Exxon shareholder said they were contacted during this hiatus and pushed to change their vote.

The person, who has decades of experience dealing with boardroom elections, said that while such appeals a day before a vote are commonplace, it was the first time they'd fielded such a request during a meeting.

Meanwhile, Engine No.1 released another statement saying shareholders should "not be fooled by ExxonMobil's last-ditch attempt to stave off much-needed board change." Charlie Penner, head of active engagement at Engine No 1, went on television to complain. "They're doing a tactic called the whittle-down, where they tell a shareholder to draw down your votes for this person, they tell another shareholder they'll draw down their votes for this person, and they gradually try to whittle people down," he told CNBC. "It has a very banana-republic feel."

The pause was something that Anne Simpson – the California Public Employees' Retirement System's managing investment director for board governance and sustainability – had never seen before in her three-decade career.

Simpson didn't get a call from Exxon about altering her votes. But the practice still disturbed her. "If the comments are true, this raises the question about the sanctity of the ballot box and whether companies should have privileged access," she said.

The meeting didn't conclude until almost three hours after it first began, with Littleton reading out a summary of the preliminary tally of votes.

"We welcome the new directors Gregory Goff and Kaisa Hietala to the board," Woods said in his concluding remarks, "and look

forward to working with them constructively and collectively on behalf of all shareholders.”

Spain to invest 1.5B euros in ‘green hydrogen’



PHOTO COURTESY OF EC.EUROPA.EU

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Spain will spend 1.5 billion euros (\$1.8 billion) from a European Union recovery fund to develop green hydrogen production over the next three years, Prime Minister Pedro Sanchez said Monday.

The goal is for Spain to become Europe’s leading hydrogen producer using renewable sources instead of fossil fuels to

curb greenhouse gas emissions and create jobs, he said.

“The Spanish government is firmly committed to green hydrogen,” the Socialist premier said at a ceremony in Toledo, just south of Madrid.

His government expects the outlay will stimulate 8.9 billion euros of mainly private-sector investment to develop the technology by 2030.

Madrid has already received over 500 “green hydrogen” project proposals from energy firms, a government statement said.

Creating “green” or emissions-free hydrogen is seen as a key step towards developing sustainable energy sources and slashing carbon emissions.

One reason for the strong interest in hydrogen technology is when used to fuel motors, the only emission is water vapour.

But it is expensive to produce and the electricity needed generates a lot of carbon dioxide emissions or other pollutants.

Green hydrogen is produced via electrolysis – an electrical current passing through water – with wind, solar or hydro-electric power providing the electricity.

Europe in particular is anxious to get a handle on the new and still costly fuel, having missed the boat on solar and battery technology, which is dominated by China.

Experts predict green hydrogen using renewable energy will soon plunge in cost and become cheaper than natural gas in many areas.

US engine maker Cummins announced Monday it would spend 50 million euros to build one of the world’s biggest electrolyser plants for the production of green hydrogen in Spain.

The plant, which will be built in the central region of Castilla-La Mancha, is expected to open in 2023.

“Spain offers a strong and dynamic local environment for hydrogen production, and we are excited to invest,” said Cummins chairman Tom Linebarger.

Spain is set to receive 140 billion euros – half in direct payments, half in loans – from the 750 billion-euro recovery plan adopted by EU leaders last year as the economy reeled under virus lockdown restrictions. (AFP)

Climate change goals: green art of the possible



By Daniel Gros/Brussels

US President Joe Biden recently gathered 40 world leaders for a summit on combating climate change, a welcome sign of

progress on forging a global strategy. But tackling global warming is a marathon, not a sprint. And while the recent increase in climate ambition from the United States and the European Union is welcome, more difficult choices lie ahead.

Back in 2009, for example, the US led the global effort to achieve the Copenhagen Accord at the COP15 climate-change summit, which was attended by more than 100 world leaders. But hopes of a meaningful US contribution were subsequently killed by bipartisan opposition in Congress, which balked at the perceived cost of reducing emissions.

Biden, who was then vice president, faces a similar problem today: how to make good on his pledges while knowing that Congress will not approve any serious climate measure. He has therefore chosen the path of least political resistance, which is why Biden's climate plan carefully avoids notions such as a "carbon tax" or a "cap-and-trade" emissions scheme, both of which are politically toxic in the US.

Biden's target of halving US emissions by 2030 sounds ambitious, but the substance is actually much less demanding. Governments invariably choose the benchmark year that makes the biggest headlines. The US has chosen 2005, because that represents the high-water mark for US emissions. Since then, emissions have already declined by about 25%, thanks to the substitution of shale gas for coal. Reducing emissions by 50% from 2005 levels requires a further fall of about 30%.

The EU also has chosen a convenient baseline, namely, its own peak emissions year of 1990. But its target of lowering emissions by 55% by 2030 entails a further reduction of over 40% from today's level.

Given that US per capita emissions are currently about twice the European level, achieving Biden's pledge would reduce them only to the EU's level of today by 2030. By that year, US per capita emissions would still be more than double those of the EU.

The key to the Biden administration achieving its 2030 target is its pledge to make the US power sector emissions-free by 2035. But this might be difficult to achieve, given that

fossil fuels currently account for about 60% of US electricity (compared to about 34% in the EU).

Moreover, making one sector totally emissions-free while taking little action in other areas increases the cost of reaching the overall target. This is a mistake the EU previously tried to avoid when establishing its Emissions Trading System (ETS), which covers both industry and the power sector.

The Biden plan boldly asserts that decarbonising the power sector “can be achieved through multiple cost-effective pathways.” This is difficult to believe. For starters, it took more than a decade of subsidies before renewables made a meaningful contribution to the overall energy mix in Europe.

The cost of renewables has fallen greatly over the last decade, in many cases by a factor of five, partly thanks to these subsidies setting in motion a cost-reduction process as demand for solar panels and batteries increased.

The Biden administration also says that carbon capture and storage can make a potentially important contribution. But CCS remains an expensive technology, with a much smaller potential for cost reductions.

US climate policy thus makes little sense from an economic point of view. Biden’s approach is instead best understood as a political strategy aimed at so-called battleground states such as Pennsylvania, where coal remains economically and politically important. A carbon price will become possible in the US only when the last coal mine has closed.

The European approach – with the ETS and its emissions allowances that can be traded across sectors and countries – looks much more sensible at first sight. But a closer look reveals similarities with Biden’s plan. When the ETS was created, industrial firms argued that sectors subject to international competition should receive their allowances for free to avoid so-called “carbon leakage.” Predictably, the risk of carbon leakage was found to exist in almost all industries. EU industry thus obtained most of the allowances for free. The ETS worked only because the EU’s power sector

was treated differently, given that there is no international competition in this sector.

The implicit deal underpinning the ETS was thus that industry would be spared the pain of emissions reductions. The entire burden of adjustment fell on power generation, where an increasing supply of renewables made it possible to reduce emissions by about a quarter over the last decade. EU industrial emissions have not fallen significantly. But this might change now that the price of emissions certificates, which for many years had remained in the single digits, has reached almost €50 (\$60) per ton.

Free allocation of emissions allowances also meant that the EU has had little justification for introducing a carbon border tax. Such a measure would be justified (and should be approved by the World Trade Organisation) only if the free allowances were abolished at the same time – but this is vehemently opposed by industry.

The underlying political deal is thus similar on both sides of the Atlantic: decarbonise the power sector first, while sheltering industry from higher costs. Europe's experience suggests that this can generate some modest progress in reducing emissions, but achieving the more ambitious targets ahead will require tougher choices. The US will not be able to rely on renewables providing all its power, and the EU will have to start putting pressure on its own industry. – Project Syndicate

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يحق للبنان مراجعة حدود منطقته البحرية... بارودي: على فريقي التفاوض الانطلاق من نقاط جديدة



شهدت الجولة الاخيرة من المفاوضات غير المباشرة لترسيم الحدود البحرية الجنوبية تباينات في آراء الوفود المشاركة، حيث طالب الوفد الأميركي بان يكون التفاوض محصورا فقط بين الخط الإسرائيلي والخط اللبناني المودعين لدى الأمم المتحدة، أي ضمن المساحة البالغة 860 كيلومترا مربعا، وهو ما يرفضه لبنان ويعتبره معارضا لمبدأ التفاوض من دون شروط مسبقة.

وبينما تنشغل السلطات السياسية اللبنانية بخلافاتها، وهذه المرة حول ما إذا كان ينبغي للبنان تزويد الأمم المتحدة بإحداثيات جديدة تحدد المنطقة الاقتصادية الخالصة الخارجية للبلاد EEZ، تستمر اسرائيل بالعمل على تطوير حقولها النفطية البحرية. وهنا سؤالان يطرحهما المراقبون: هل يملك لبنان الحق في مراجعة حدود منطقته الاقتصادية الخالصة وتحسينها وبالتالي تعديل لوائح إحداثياته وتقديمها الى الامم المتحدة؟ وإذا كان الأمر كذلك، هل ينبغي للبنان أن يقدم على ذلك في ظل الظروف الحالية؟

من المعروف ان لهذه المسألة أهمية كبيرة، ليس فقط لأنها تتعلق مباشرة بمحادثات الحدود البحرية اللبنانية مع إسرائيل، ولكن أيضاً لأنها تحدد التاريخ الذي سيتمكن فيه لبنان من بدء الحصول على فوائد ملموسة من أي هيدروكربونات موجودة تحت البحر داخل المنطقة الاقتصادية الخالصة، خصوصاً مع الوضع الاقتصادي الصعب الذي يمر به. وبالفعل، يحق لبنان مراجعة حدود منطقتة الاقتصادية الخالصة وتحسينها وبالتالي تعديل لوائح إحدائياتها لدى الأمم المتحدة، وهذا ليس منصوصاً عليه فقط في اتفاقية الأمم المتحدة لقانون البحار (UNCLOS)، ولكنه أيضاً محمي بموجب القانون الدولي العرفي (CIL) من خلال سوابق لا حصر لها لدول تسعى الى تحديد مطالبها البحرية والدفاع عنها، ولأسباب ليس أقلها أن التقدم التكنولوجي المستمر يسمح برسم خرائط دقيقة بشكل متزاي، وأيضاً المرسوم 6433 الصادر في العام 2011، والذي يركز عليه لبنان لإخبار الأمم المتحدة بتحديث حدوده مع إسرائيل، نص صراحة على إمكانية إجراء تحديثات مستقبلية. فالمادة 3 من المرسوم لا تترك مجالاً للتفسير على الإطلاق، حيث لحظت إمكانية مراجعة حدود المنطقة الاقتصادية الخالصة وتحسينها وبالتالي تعديل لوائح إحدائياتها عند توافر بيانات أكثر دقة ووفقاً للحاجة في ضوء المفاوضات مع دول الجوار المعنية. علاوة على ذلك، وعندما قدمت بعثة لبنان لدى الأمم المتحدة المطالبات المسموح بها بموجب المرسوم 6433، تضمنت رسالتها المصاحبة الحاجة لإجراء مسح تفصيلي، باستخدام نظام تحديد المواقع العالمي، للشاطئ الحدودي الجنوبي، بما في ذلك جميع الجزر والعقد، بهدف تحديث الخرائط الملاحية وخط الأساس وفقاً لذلك في المستقبل. وبالفعل، أجري هذا المسح وظهرت الحاجة الى تقديم احداثيات جديدة اكثر دقة.

في هذا السياق، يشير الخبير النفطي الدولي رودي بارودي الى انه "بينما يسعى المسؤولون الإسرائيليون الى التشكيك في حق لبنان في تحديث مطالبته، فإن اتفاقية المنطقة الاقتصادية الخالصة الخاصة ببلدهم والموقعة مع قبرص في تشرين الاول 2010، تستند إلى الإحداثيات الإسرائيلية التي نعرف الآن أنها غير صحيحة، وبالتالي سيتم رفضها من قبل أي محكمة او تحكيم، كما تعترف صراحةً بحقيقة أنه بموجب CIL، فإن هذه الإحداثيات عرضة للتغيير. وتنص المادة 1 (هـ) من هذا الاتفاق على انه ومع مراعاة مبادئ القانون الدولي العرفي المتعلقة بتعيين حدود المنطقة الاقتصادية الخالصة بين الدول، يمكن مراجعة و/ أو تعديل الإحداثيات الجغرافية للنقطتين 1 أو 12 على النحو الآتي: في ضوء اتفاق مستقبلي بشأن ترسيم المنطقة

الاقتصادية الخالصة من قبيل الدول الثلاث المعنية في ما يتعلق بكل من النقاط المذكورة. اضافة إلى ذلك، وفي تقديم لاحق أحادي الجانب إلى الأمم المتحدة، لم تشر بعثة إسرائيل إلى الهيئة العالمية إلى الأحكام ذات الصلة من المادة 1 (هـ) فقط، بل قامت أيضاً بإعادة اللغة نفسها، حرفياً تقريباً. حتى أن الطلب كرر ذكر "الدول الثلاث المعنية"، والتي في سياقها لا يمكن إلا أن تشير إلى لبنان كدولة ثالثة. بالتالي، يؤكد بارودي "حق لبنان في تقديم إحدائيات جديدة". ويقول: "من الناحية الواقعية، فإن أي فريق أو طرف يجادل بخلاف ذلك فهو اما يعارض المصالح الفضلى للبنان الذي يحتاج إلى تطوير هذا المورد، واللبنانيين الذين يستحقون جني الثمار الاقتصادية التي ستنتج من هذا المورد، والجيش اللبناني الذي يقوم بجهد كبير في المحافظة على حقوق لبنان؛ واما يجهل الحقائق والقواعد؛ أو يسعى وراء بعض المزايا السياسية والمالية أو الشخصية أو الحزبية. اذاً يحتاج الفريقان الى الانطلاق من #نقاط جديدة لكي تثمر المفاوضات نتائج إيجابية. في هذا الاطار فان لبنان سلم الأمم المتحدة في 14 تموز 2010 احداثيات تبدأ على مسافة 61.5 متراً من رأس الناقورة. اما النقطة الإسرائيلية الاحادية الجانب كما قُدمت إلى الأمم المتحدة في 12 تموز 2011 فتبدأ أيضاً في منطقة خاطئة قبالة الشاطئ بمسافة 37.7 متراً من نقطة رأس الناقورة، ما ينبغي تصحيحهما كما اشرنا سابقاً".

عام 2011، وبعد أشهر قليلة من الاتفاق الإسرائيلي - القبرصي على ترسيم حدودهما وآخر طلب قدمه لبنان إلى الأمم المتحدة، تلقت الحكومة اللبنانية تقارير الخبراء والمشورة ومخططات من مكتب المملكة المتحدة الهيدروغرافي والذي يعتبر منذ فترة طويلة المعيار الذهبي لرسم الخرائط البحرية للمنطقة. ما وجده الخبراء هو أن كلاً من لبنان وإسرائيل استخدمتا إحدائيات خاطئة كنقطة انطلاق لحدودهما البحرية. فبينما يجب أن تكون هذه النقاط على الساحل، ارتكز البلدان على نقاط تبعد عشرات الأمتار عن الشاطئ. قد لا يبدو هذا كثيراً، ولكن عندما يصل فيه الخط المرسوم إلى البحر من نقطة البداية في غير محله إلى ما ينبغي أن يكون المفترق الثلاثي - حيث تلتقي المناطق الاقتصادية الخالصة لقبرص وإسرائيل ولبنان - يصل الخطأ إلى أميال بحرية عدة.

تعليقا على هذا الموضوع يعتبر بارودي انه "بحكم الأمر الواقع، استند كل من لبنان وإسرائيل في مطالبتهما البحرية السابقة إلى إحدائيات خاطئة، مما يجعل كل ما نتج عنها عفا عليه الزمن، اي ما

يسميه الفرنسيون CADUC "كادوك" - أي لاغ وباطل بالنسبة لكليهما. ولا يمنح هذا فقط الحق في تحديث مطالبتهما أمام الأمم المتحدة، ولكنه يمنح أيضًا التزامًا بالقيام بذلك بناءً على المصلحة الوطنية لكل جانب. وإلى ذلك، تُظهر التجارب أنه، لا سيما مع وجود مثل هذه الأدلة على أن ادعاءات كل منهما كانت معيبة بشكل قاتل، إذا فشلت المحادثات الحالية وذهب البلدان إلى المحكمة أو التحكيم بشأن هذه القضية، فإن أول ما يُطلب منهما هو استبدالهما الخاطئ للخرائط الموجودة في حوزتهما من خلال إجراء مسوحات وتحليلات مفصلة من أجل تحديد نقاط الخلاف بدقة". وبالمعنى التقني إذاً يؤكد بارودي أنه "نعم، يجب على لبنان أن يتحرك بسرعة لتحديث المطالبات البحرية التي سبق أن قدمها الى الأمم المتحدة. لكن هناك اعتبارات أخرى يحتاج أيضًا إلى اخذها في الاعتبار. على سبيل المثال، في حين أن لبنان دولة ذات سيادة، لا يمكنه أن يتجاهل كلياً مواقف الجهات الخارجية. عندما تتعارض هذه المواقف مع رغباتها وحاجاتها، يجب أن يزن الإيجابيات والسلبيات ويقرر وفقاً لذلك. في هذه الحالة، سعى المسؤولون الإسرائيليون إلى ثني لبنان عن تحديث مزاعمه أو تأخير استئناف المحادثات المذكورة أعلاه بطريقة أو بأخرى، مما أثار احتمال أن يؤدي ذلك إلى إعاقة التقدم، وتفاقم التوترات، وإجبار لبنان على الانتظار فترة أطول لأي تطوير في حقوله النفطية والغازية البحرية.

أما بالنسبة لما يدعو لبنان الى التنازل عن بعض حقوقه من أجل الاسراع في التوصل الى إتفاق يسمح له ببدء جني بعض الإيرادات من ثرواته، يرفض بارودي بشكل قاطع هذا الخيار، مؤكداً ان "المنطقة الحدودية تحتوي على بعض من أكثر المساحات البحرية الواعدة في لبنان، وعلى أي حال، ليس هناك ما يضمن أن التخلي عنها سيؤدي إلى تحقيق اختراق دبلوماسي، وحتى لو حدث ذلك، فإن الاستثمار الخارجي المطلوب لتنشيط صناعة الطاقة يعتمد على مجموعة أخرى كاملة من المتطلبات الأساسية، ليس أقلها الإصلاحات التي لم يتمكن أحد من تحقيقها".

بالإضافة إلى تحليل عام 2011، أجرى الجيش اللبناني دراسات مفصلة عززت موقف لبنان، وبالتوازي مع الإحداثيات المودعة حديثاً، قد تُسرّع جودة عمل الجيش عملية التفاوض من خلال إثبات أن الجانب اللبناني لن يهدد، ولن يتعرض للخداع. فيما لا أحد يتوقع أن تتخلى واشنطن عن علاقتها الوثيقة بإسرائيل، لكن نهج الجيش اللبناني في المفاوضات يشجع الأميركيين على أن يكونوا منصفين قدر الإمكان.

New Trends on the Global Market of LNG Carriers



The Covid-19 pandemic has brought new challenges for the global gas industry, with the LNG shipping market not being an exception. Because of the Covid-19 pandemic, the market witnessed a reduction in the global gas demand in 2020, which resulted in a slowdown of the global LNG trade and lower-than-expected demand for LNG carriers. These developments, coupled with the commissioning of a large number of new carriers, led to the oversupply of LNG carriers in the shipping market. However, a recovery of LNG demand in early 2021 has raised a question: where is the LNG shipping market drifting, and whether in the short- and medium-term there will be enough LNG carriers on the market to transport liquefied natural gas.

The last three years witnessed the record commissioning of LNG

carriers, with 134 LNG carriers coming on line. As a result, at the beginning of 2021, there were over 600 LNG carriers operating in the global market (Figure 1).

In the short- and medium-term, the global LNG shipping market is anticipated to be balanced due to the upcoming commissioning of new LNG carriers. At least 142 LNG carriers, ordered recently, are expected to come on line between 2021 and 2025. Out of the total number, 46 LNG carriers are to be commissioned in 2021 followed by 38 carriers in 2022. South Korean shipbuilders account for the majority of LNG carriers on the order book. Hyundai, Samsung and Daewoo are going to build 110 carriers, while the Russian firm Zvezda has orders for 15 carriers and China's Hudong for 11 carriers.

The ratio of global LNG exports to the number of LNG carriers gives an indication of the average volume of LNG transported by one LNG carrier throughout a specific year. A higher ratio indicates a tighter LNG shipping market. Over the last decade, the LNG shipping market has loosened, supported by the increasing availability of LNG carriers. From 2011 to 2020, the ratio fell from 0.73 to 0.59, which implies that in 2020 one LNG carrier transported on average 0.59 million tonnes per annum (mtpa) (Figure 2).

The global LNG carrier fleet is renewed on a regular basis, with old carriers being scrapped and new ones continuously being added. The construction of LNG carriers has always been associated with the commissioning of new LNG liquefaction capacity. The building of LNG carriers in the mid-2000s was largely driven by the completion of LNG plants in Qatar, while in the late 2010s it was driven by the completion of LNG plants in Australia, U.S., and Russia. As a result, various groups of LNG carriers operate on the market depending on commissioning date. Currently, at least four (4) carriers in operation today were commissioned in the 1970s, 10 carriers in the 1980s, 54 carriers in the 1990s, 244 carriers in the 2000s, and 294 carriers commissioned in the 2010s.

The combined capacity of LNG carriers has also increased consistently. Over the last decade, capacity more than doubled – to 43 mtpa in 2020 – driven by the commissioning of a large number of LNG carriers and higher capacity of new LNG carriers (Figure 3).

There are different types of LNG carriers depending on their capacity. Various factors have an impact on the choice of shipping companies to build and charter LNG carriers with specific capacity. The liquefaction and regasification capacity of LNG plants and terminals, depth of berths, movement through Suez and Panama canals or through Northern Sea Route, all play an important role in the vessel design. The larger the capacity of the involved LNG carriers, the less LNG shipments and carriers are needed for specific trade routes.

In this context, the largest group of LNG carriers is the one with capacity ranging from 166,000 million cubic metres (cbm) to 182,000 cbm, which comprises 219 carriers. Besides, 191 LNG carriers have capacity from 125,000 to 150,000 cbm, while 125 LNG carriers have capacity of 150,000 cbm up to 165,000 cbm. It is worth highlighting that Qatar's gas transportation company Nakilat owns all 45 Q-Flex and Q-Max LNG carriers operating in the world – with capacity of 210,000-217,000 cbm and 263,000-266,000 cbm, respectively – individually or jointly with international shipping companies. The average capacity of LNG carriers reached 71.2 kilotons (158,200 cbm) in 2020 compared to 54.4 kilotons (120,900 cbm) in 2000. Thus, the rising capacity of new LNG carriers leads to lower demand for new LNG carriers.

Various types of LNG carriers exist depending on the propulsion systems. Steam turbine LNG carriers, which dominated the LNG shipping market for many decades, remain the most popular ones, with 239 carriers operating on the global market. However, their dominance has been broken over the last decade, driven by the emergence of alternative, more efficient

propulsion systems. Suffice to note that only 15 LNG carriers of this type were commissioned in the 2010s. Because of these new trends, today many of steam turbine LNG carriers, especially the old ones, are being converted into FSU or FSRU (floating storage/ regasification unit). Since the mid-2000s, the global shipping industry developed alternative types of LNG carriers, driven by its aspiration to increase operational efficiency, decrease the consumption of bunker fuels, optimise the size of engine room, and expand cargo capacity. The first of them was a dual-fuel diesel electric (DFDE) propulsion system, which came on line in 2004. Later, the industry introduced other propulsion systems for LNG carriers, including tri-fuel diesel electric (TFDE), M-type, electronically controlled, gas injection (MEGI), diesel with re-liquefaction (DRL), in addition to some other types (Figure 4).

The anticipated increase in global liquefaction capacity, LNG trade and number of LNG shipments are key factors that will influence the LNG shipping market and incentivise market players to build new LNG carriers in the short- and medium-term. In this context, the GECF Member Countries will remain key players in the market. These countries have various policies towards the transportation of LNG. First, some of them do not own or operate LNG carriers. Second, others do not own but operate the fleet. Third, others own but do not operate LNG carriers. Finally, some of them both own and operate the fleet.

The planned expansion of LNG liquefaction capacity in some GECF Member Countries, mainly in Qatar and Russia, will have a huge impact on the LNG shipping market in the medium-term.

Today, the leader of the global LNG transport market is undoubtedly Qatar's Nakilat. It owns 69 LNG carriers, individually or jointly with other international shipping companies, with a combined capacity exceeding four mt. Other companies, such as Maran Gas from Greece, GasLog from Monaco, and MISC from Malaysia, lag far behind the Qatari company. Qatar plans to expand its LNG liquefaction capacity by 49 mtpa

to 126 mtpa by 2027. Such huge additions to the country's LNG liquefaction capacity will require new LNG carrier fleet to transport LNG to the global markets. In this context, in 2020, Qatar entered into agreements with global shipbuilders, mainly from South Korea, for over 100 new LNG carriers. These contracts will be worth nearly US\$20 billion, which means that it will be the largest LNG-shipbuilding programme in the industry's history. As a result, Qatar secured around 60% of the global LNG ship construction capacity through 2027. That could lead to the tightening of the LNG shipbuilding market, which should be taken into account by other shipping companies planning to order new LNG carriers.

Russia also has plans to expand its LNG liquefaction capacity, which will require additional LNG carrier fleet. The Russian shipping company Sovcomflot has already ordered 15 icebreaking LNG carriers for the Arctic LNG 2 project from the Russian Zvezda Shipbuilding Complex, with the South Korean Samsung Heavy Industries being a technology partner of Zvezda in this project. These LNG carriers will be delivered between 2023 and 2025. Sovcomflot will own one vessel individually and 14 other carriers jointly with its partner Novatek. These carriers will enable the delivery of LNG to buyers in Asia in 15 days through the Northern Sea Route, which reduces transportation costs and transit time by half, compared to the traditional Suez Canal route. This instance will be the first time a Russian shipbuilding company will construct LNG carriers.

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New QFC member set to become global portfolio manager of spot LNG



A Qatar Financial Centre (QFC) newcomer will establish its position as a global portfolio manager of spot LNG, or liquefied natural gas trades that will have immediate local knock-on effects, after Doha expands its LNG production from the present 110mn tonnes per annum.

This outcome is one among the “unsung” economic benefits that will follow North Field Expansion (NFE), which is also set to enhance the prospects of asset management industry in the country, the QFC said in an article.

The NFE project will not only bring up natural gas from underground, but also other valuable hydrocarbons for export and domestic use, it said, pointing out that associated hydrocarbons destined for export include 260,000 barrels per day of condensate and 11,000t/d of liquefied petroleum gas, valued at roughly \$3.05bn annually (using posted 2020 average prices).

“The additional income earned through hydrocarbon exports will

increasingly make Qatar a destination for asset managers and other financial institutions,” the QFC said. As imports of construction inputs and machinery wane with most infrastructure projects coming close to completion, Qatar’s trade surplus is likely to register bigger in the years ahead. “Once NFE-related exports commence in late 2025, export earnings are destined to reach still higher. Whereas much of the immediate proceeds are destined to the Ministry of Finance and Qatar Investment Authority, there is a progressively stronger case for specialised asset managers to locate in Doha close to their future investors,” QFC said.

In tandem, it said, financial institutions in the country will increasingly be called upon to provide a variety of sophisticated products to Qatari firms with a growing international footprint.

As Qatar’s economy continues to grow at home in terms of complexity, and abroad with its varied connections, the financial sector is set to grow substantially.

As Qatar looks ahead, it is destined to leverage its natural gas-focused competitive cost advantages, global network, existing industrial base, innovative focus and high-profile investments to become an attractive and rewarding business destination.

The QFC plays a key part of the country’s development journey, which it looks forward to supporting with vigour and indirectly offering firms on its platform noteworthy prospects.

The first certain phase concerns the North Field East that comprises an approximate \$28.75bn of investments – half of which has received a final investment decision as of February 2021.

Beyond that, Qatar Petroleum, or QP, is appraising different areas of the North Field to possibly award a subsequent expansion phase within the next three years.

The QP has made this NFE investment at an opportune time, which will allow it to capture more global LNG market share and gain footholds in new markets as many competitors pull

back from major projects, according to the QFC article. Another “unsung” benefit is the North field’s expansion would drive local manufacturing opportunities. Additionally, there will be 4,000t/y of ethane for use as feedstock in Qatar’s growing petrochemicals sector. This hike equates to nearly 50% of existing 2020 export capacity, or 36.4% of current domestic base quantities.

A combination of these NFE ethane volumes and those from Barzan enables Qatar to produce in future a greater variety as well as more complex petrochemicals, such as those that will originate from the joint venture with Chevron Phillips (70% owned by QP) using the Middle East’s largest 1.9mn t/y ethane cracker in Ras Laffan to start production in 2025.

This is critical to the local economy, according to Gulf Petrochemicals and Chemicals Association, which recently outlined that with oil at \$65 a barrel, crude producers can earn \$15 per barrel by refining their output and an extra \$30 a barrel on top of that by converting it into petrochemicals.

“As Qatar continues its drive to diversify economically, local manufacturing will play a key role,” the QFC article said.