

# QatarEnergy enters into 'farm-in' agreement with ExxonMobil Canada for two offshore exploration licences



QatarEnergy has entered into a farm-in agreement with ExxonMobil Canada for two exploration licences offshore the province of Newfoundland and Labrador in Canada. Pursuant to the agreement, QatarEnergy holds a 28% working

interest in licence EL 1167, where the Gale exploration well and associated activities are planned.

ExxonMobil Canada (operator) holds 50% while Cenovus Energy holds 22%. QatarEnergy also holds a 40% working interest in licence EL 1162, while ExxonMobil Canada (operator) holds the remaining 60%.

The transaction has completed all necessary formalities with the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB).

Commenting on this occasion, HE the Minister of State for Energy Affairs, Saad bin Sherida al-Kaabi, also the President and CEO of QatarEnergy, said: “We are pleased to sign this agreement with our strategic partner, ExxonMobil, to further grow our offshore Atlantic Canada portfolio as part of our international growth drive, and look forward to continue working within Canada’s transparent and stable regulatory environment.”

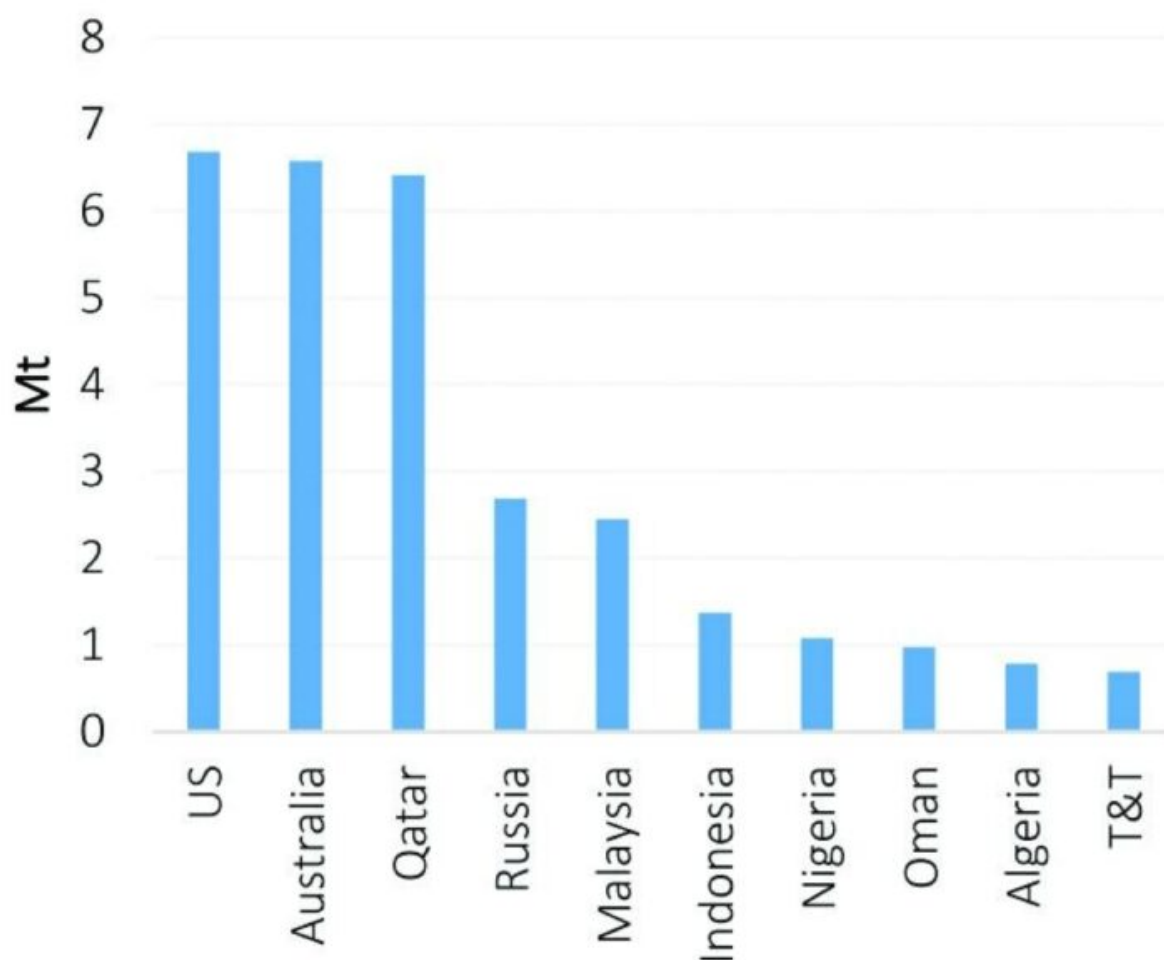
Al-Kaabi added: “I would like to take this opportunity to thank the Canada-Newfoundland and Labrador Offshore Petroleum Board, which has been very supportive of this process, and look forward to a successful exploration campaign with our partners.”

Located offshore Eastern Canada, EL 1167 and EL 1162 lie in water depths ranging from 100 to 1,200 metres and cover an area of approximately 1,420 and 2,400 square kilometres, respectively.

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## **Qatar drives GECF LNG exports to 16.45mn tonnes in February**

## Top 10 LNG exporters in Feb 2023



GECF LNG exports have jumped 12% (1.74mn tonnes) year-on-year (y-o-y) to 16.45mn tonnes in February, driven by Qatar, which is the forum's top liquefied natural gas exporter, Doha-headquartered Gas Exporting Countries Forum said in its latest monthly report.

The surge in GECF's LNG exports was driven by Qatar (+0.84mn tonnes), Norway (+0.36mn tonnes), Malaysia (+0.33mn tonnes), Egypt (+0.15mn tonnes), Mozambique (+0.15mn tonnes), Angola (+0.14mn tonnes), Algeria (+0.10mn tonnes), Trinidad and Tobago (+0.08mn tonnes), Russia (+0.05mn tonnes) and Peru (+0.02mn tonnes).

In contrast, LNG exports declined in the United Arab Emirates (-0.26mn tonnes) and Nigeria (-0.21mn tonnes), GECF noted.

Looking at Qatar and Angola, lower maintenance activity at LNG facilities in both countries compared to a year earlier

boosted the countries' exports.

In Norway, the continued ramp-up in production from the Hammerfest LNG facility, following its restart in June 2022, drove the increase in exports.

Furthermore, higher feedgas availability for LNG exports in Malaysia, Egypt, Algeria and Trinidad and Tobago supported the increase in exports from these countries.

With regard to Mozambique, the ramp-up in production from the Coral South FLNG facility supported the rise in LNG exports.

On the other hand, the decline in LNG exports from the UAE was attributed to maintenance activity at the Das Island LNG facility.

In Nigeria, lower feedgas availability for LNG exports contributed to the lower LNG exports.

NLNG declared force majeure on feedgas supply to the liquefaction facility in January 2023, which remained in effect in February, GECF noted.

In February 2023, global LNG exports rose sharply y-o-y by 11% (3.48mn tonnes) to 34.00mn tonnes.

Stronger LNG exports from GECF member countries, non-GECF countries and higher LNG reloads drove the growth in global LNG exports.

Non-GECF countries were the largest LNG exporters during the month with a share of 49.5% in global LNG exports, followed by GECF (48.4%) and LNG reloads (2.1%).

In comparison to February 2022, the shares of GECF member countries and LNG reloads increased from 48.2% and 0.8% respectively while the share of non-GECF countries declined from 51.0%, the monthly report showed.

At a country level, the US was the largest exporter in February 2023, followed by Australia and Qatar.

For January and February of this year, combined, global LNG exports rose by 6.7% (4.33mn tonnes) y-o-y to 69.44mn tonnes, GECF noted.

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# LNG fleet expansion helps Nakilat eye robust global growth



Nakilat, whose liquefied natural gas (LNG) carriers account for about 10% of the global LNG carrying capacity, has said its greater fleet capacity and increased operational efficiency provide it with a “competitive” edge as it expands its international shipping portfolio through the recent strategic expansion of Nakilat’s fleet with an additional four LNG carriers, and the improved performance of its joint ventures and support services operating in the shipyard, Nakilat has achieved sustainable and long-term growth over the past year, demonstrating its commitment to innovative sustainability and operational excellence, its chairman Abdulaziz al-Muftah told shareholders yesterday at the annual general assembly meeting, which approved the 2022 results and 13% dividend.

“This commitment has provided Nakilat with a greater fleet capacity and increased operational efficiency, providing us with a competitive edge in the LNG shipping sector, as the company expands its international shipping portfolio,” he said.

With a fleet strength of 74 vessels – one of the largest LNG shipping fleets in the world, Nakilat’s portfolio comprises 69 LNG carriers, four liquefied petroleum gas carriers and one floating storage regasification unit – the company is backbone of the transportation link in Qatar’s LNG supply chain, according to him.

“Our LNG fleet has a combined carrying capacity of over 9mn cubic metres, which is about 10% of the global LNG fleet carrying capacity,” he said, adding the majority of Nakilat’s vessels are fixed with long-term charters to reputable counterparties, creating a “steady and healthy” cash flow for the company.

Nakilat followed through its expansion plans with the delivery of “Global Sealine”, a technologically advanced LNG carrier new-build during 2022, demonstrating commitment to innovation, sustainability, and operational excellence.

“This allowed Nakilat to provide greater fleet capacity and flexibility to its customers and gave the company a significant competitive advantage in the energy transportation sector,” al-Muftah said, adding this also contributed towards the company’s efforts at reducing its carbon footprint and operating sustainably apace growing its international shipping portfolio.

He said the company’s resilience and the convergent efforts have enabled its sustained growth momentum and business continuity, creating immense value for both its customers and shareholders.

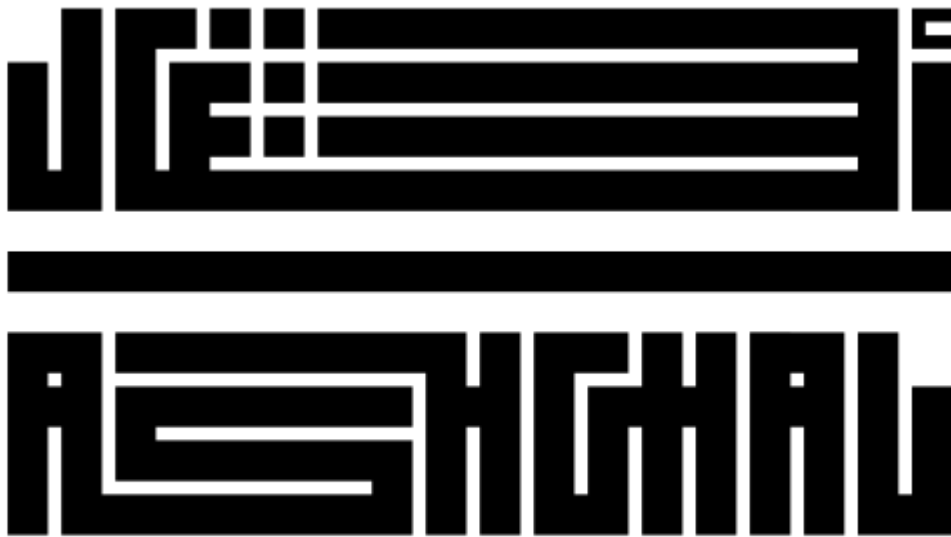
With a solid sense of direction from the company’s long-term expansion strategy and opportunities that re-emphasised its importance in achieving its targets, Nakilat has been smoothly sailing towards making significant contributions and notable accomplishments during 2022, al-Muftah said in the latest

board report.

Supported by its Erhama Bin Jaber Al Jalahma Shipyard, Nakilat's joint venture companies continue adding strategic value to its operations through dedicated services, including ship repair, offshore fabrication, as well as a range of maritime services, all of which contribute towards establishing Qatar as a shipping and maritime hub, in support of the Qatar National Vision 2030, according to him.

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## Another honour for Ashghal



### Qatar Deserves The Best

Yet another feather in the cap for the Public Works Authority (Ashghal). In recognition of its distinguished health and safety performance, and wellness initiatives, Ashghal has been declared the overall winner of two International Safety Awards 2020 by the British Safety Council, in recognition of its commitment to keeping workers and workplaces healthy and safe during the 2019 calendar year. The awards reflect Ashghal's commitment to health and safety in its construction projects

and the leading position that Ashghal plays in the Qatari construction industry in terms of spreading awareness and best H&S practices.

Ashghal is one of the very few organisations to be crowned the overall winner in the following categories: “Wellbeing Initiative” for protecting its employees from the risk of injury and ill health at work, and “Best Team of the Year” for the Roads and Infrastructure project in West Muaither (Package 3) in recognition of its commitment to keeping its workers and workplaces healthy and safe in 2019.

Engineer Yousef Al-Emadi, Director of Projects Affairs, said: “The International Safety Awards are part of numerous awards won by Ashghal during the past few years. They are a result of well-implemented strategies set by Ashghal’s leadership and nurtured at every level across the organisation.”

In 2019, Ashghal succeeded in undertaking the health screening of 78,197 workers, or 96.5% of the entire workforce. The British Safety Council commended Ashghal on the achievement, which is in line with the Council’s vision that no one should be injured or made ill through work – anywhere in the world

In March this year, Ashghal won the Government Sustainability Initiative Award presented by the Qatar Green Building Council (QGBC), a member of the Qatar Foundation, for applying best environmental practices in project implementation works. The Award comes in recognition of Ashghal’s efforts in the field of environmental sustainability, and in the context of several initiatives by the authority within the roads and infrastructure projects implemented by the Roads Projects Department.

Under the five-year plan (2018-2022), Ashghal will implement 25 plans related to the evaluation and follow-up of road safety, including achieving safety at work sites, managing traffic congestion and building an intelligent transportation system.

Ashghal continues to implement sustainable infrastructure for the State of Qatar. The achievements come within the framework of the State’s interest in the infrastructure, construction



and reconstruction sector in line with the aspirations of its National Vision 2030 and to serve its hosting of the 2022 FIFA World Cup Qatar.

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## Warning to polluters: 3.6bn people are now climate vulnerable



While the world population reached 8bn on November 15, 2022 according to the United Nations, nearly 3.6bn people are now climate vulnerable. It is in this context that one should analyse the news that the Intergovernmental Panel on Climate Change (IPCC) Synthesis Report under the Sixth Assessment Cycle will be released on March 20 following negotiations this

week by governments on the 'Summary for Policymakers'.

The report will gather and distil scientific evidence from the IPCC working group reports and special reports published between 2018 and 2022. It will be the last such report from the IPCC in this cycle until further reports are published under the next assessment cycle, which could be only in 2027 or 2028.

Culminating with this Synthesis Report, the science from the IPCC is crucial evidence to governments for this decade on the current state of the climate crisis. It must serve as a warning to polluters that their time is up. The window of time to keep global temperatures below 1.5°C is fast closing in. Current climate targets put the world on a 2.8°C pathway by 2100. A rapid equitable fossil fuel phase out must be top priority for all governments while scaling up investments in renewables and energy efficiency measures. Wealthy nations must substantially increase their international climate finance based on their fair share, the Climate Action Network (CAN) has urged in a statement last Friday.

Past reports under this assessment cycle have underlined the dire situation and stated unequivocally that greenhouse gases – from the reliance on fossil fuels, industrialisation and land-use – is driving up emissions and causing unprecedented levels of global heating. Human actions have caused the last decade to be the warmest decade in the last 125,000 years. Sharpening inequities show that the richest 10% of households contribute about 36%-45% of global greenhouse gas emissions. Communities in many vulnerable regions will experience the limits of adaptation even before 1.5°C warming and sea-level rise poses an existential threat to some small islands and low-lying coastal areas.

“The forthcoming IPCC report should mobilise governments to envision and act towards transitioning into a fully renewable-energy powered society supported by strong energy efficiency measures, based on principles of justice and the protection of human rights,” stated Stephan Singer, senior global specialist on climate science and energy, CAN International, and head of

delegation for CAN at IPCC. Investing in renewables means rapidly divesting from fossil fuels and nuclear energies and phasing them out by mid-century to ensure the least damaging pathway towards climate stability. The IPCC Synthesis Report must reiterate its recent findings that renewable energy, particularly solar and wind, are technologically, financially and economically the key means to fight climate change, he said.

Dr Stephen Cornelius, Global Deputy Lead for Climate and Energy, World Wide Fund for Nature, stated that leaders must heed the science and act immediately with the pace and scale necessary to decarbonise the economies in time. An accelerated phase-out of fossil fuels is needed to limit global warming to below 1.5°C and avoid the worst climate change risks. As he explained, nature is our secret ally in the fight against climate change. Natural systems have absorbed 54% of human-related carbon dioxide emissions over the past decade and have slowed global warming and helped protect humanity from much more severe climate change risks. We can't hope to limit warming to 1.5°C, adapt to climate change and save lives and livelihoods, unless we also act urgently to safeguard and restore nature, a non-negotiable part of the solution to the climate crisis, as Dr Cornelius said.

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**Climate, ice sheets and sea level: The news is not good**



PARIS – Parts of earth's ice sheets that could lift global oceans by metres will likely crumble with another 0.5 deg C of warming, and are fragile in ways not previously understood, according to new research.

The risk, which will play out over centuries, may also be greater than expected for a significant portion of the world's population in coastal regions.

New research suggests that the number of people threatened by sea-level rise has been underestimated by tens of millions because of poorly interpreted satellite data and a lack of scientific resources in developing countries.

Ice sheets in Greenland and Antarctica have shed more than half a trillion tonnes annually since 2000 – six icy Olympic pools every second.

These kilometres-thick ice cubes have replaced glacier melt as the single biggest source of sea-level rise, which has accelerated three-fold over the last decades compared with most of the 20th century.

A 20cm increase since 1900 has boosted the destructive wallop of ocean storms made more powerful and wide-ranging by global warming, and is driving salt water into populous, low-lying agricultural deltas across Asia and Africa.

Up to now, climate models have underestimated how much ice sheets will add to future sea-level rise because they mostly looked at the one-way impact of rising air temperatures on the ice, and not the complicated interaction between atmosphere, oceans, ice sheet and ice shelves.

Using so-called active ice sheet models, scientists from South Korea and the United States projected how much ice sheets would raise global oceans by 2150 under three emissions scenarios: swift and deep cuts as called for by the United Nation's Intergovernmental Panel on Climate Change, current climate policies, and a steep increase in carbon pollution.

Looking only at a 2100 horizon is misleading, because oceans will continue to rise for hundreds of years no matter how quickly humanity draws down emissions.

If rising temperatures – up 1.2 deg C above pre-industrial levels so far – can be capped at 1.5 deg C, the additional impact of ice sheets will remain very small, they found.

## **Doomsday glacier**

But under current policies, including national carbon-cutting pledges under the 2015 Paris Agreement, Greenland and Antarctica would add about half a metre to the global watermark.

And if emissions increase – from human or natural sources – under a “worst-case” scenario, enough ice would melt to lift oceans 1.4m.

Perhaps the most striking finding from the study, published this week in Nature Communications, was a red line for runaway

ice sheet disintegration.

“Our model has a threshold between 1.5 deg C and 2 deg C of warming – with 1.8 deg C as a best estimate – for acceleration of ice loss and sea-level increase,” co-author Fabian Schloesser from the University of Hawaii told Agence France-Presse.

Scientists have long known that the West Antarctic and Greenland ice sheets – which together could lift oceans 13m – have “tipping points” beyond which complete disintegration is inevitable, whether in centuries or millennia. But pinpointing these temperature trip wires has remained elusive.

A pair of studies this week in Nature, meanwhile, showed that Antarctica’s Thwaites “doomsday glacier” – a slab the size of Britain sliding towards the sea – is fracturing in unsuspected ways.

Thwaites is one of the fastest moving glaciers on the continent, and has retreated 14km since the 1990s. Much of it is below sea level and susceptible to irreversible ice loss.

But exactly what is driving the march to the sea has been unclear for lack of data.

## **Misinterpreted data**

An international expedition of British and US scientists drilled a hole the depth of two Eiffel towers (600m) through the thick tongue of ice Thwaites has pushed out over the Southern Ocean’s Amundsen Sea.

Using sensors and an underwater robot, called Icefin, threaded through the hole, they examined the ice shelf’s hidden underbelly.

There was less melting than expected in some places, but far more in others.

The stunned scientists discovered up-side-down staircase formations – like an underwater Escher drawing – with accelerated erosion, along with long fissures being forced open by sea water.

“Warm water is getting into the cracks, helping wear down the glacier at its weakest point,” said Dr Britney Schmidt, lead author of one of the studies and an associate professor at Cornell University in New York.

A fourth study, published last week in the American Geophysical Union journal *Earth’s Future*, found that rising oceans will destroy farmland, ruin water supplies and uproot millions of people sooner than thought.

“The time available to prepare for increased exposure to flooding may be considerably less than assumed to date,” Dutch researchers Ronald Vernimmen and Aljosja Hooijer concluded.

The new analysis shows that a given amount of sea-level rise – whether 30cm or 300cm – will devastate twice the area projected in most models to date.

Remarkably, a misinterpretation of data is mostly to blame: Radar measurements of coastal elevations used until recently, it turned out, often mistook tree canopy and rooftops for ground level, adding metres of elevation that were not in fact there.

Most vulnerable will be tens of millions of people in the coastal areas of Bangladesh, Pakistan, Egypt, Thailand, Nigeria and Vietnam.

Earlier research taking into account more accurate elevation readings found that areas currently home to 300 million people will be vulnerable by mid-century to flooding made worse by climate change, no matter how aggressively emissions are reduced. AFP



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# Development banks must embrace nuclear energy



Multilateral development banks (MDBs) have historically been reluctant to invest in nuclear energy, and the World Bank has not financed a nuclear power plant since 1959. In the absence of MDB funds, the majority of international financing for such projects has come from state banks in Russia and China, establishing Russian and Chinese companies as the primary suppliers of nuclear technology to low- and middle-income countries.

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While this approach has allowed MDBs to avoid controversy, they must acknowledge that the world has changed. The urgent need to curb greenhouse-gas emissions, together with Russia's war in Ukraine and subsequent surge in oil and gas prices, has increased global demand for nuclear power. With the 2011 Fukushima disaster fading in the rearview mirror, even Japan is planning to restart its reactors. France, The Netherlands, and the United Kingdom have all announced plans to build new nuclear power plants, Sweden is considering it, and the European Union now allows nuclear energy to be labelled as a green investment. In the United States, the federal government is expected to pump about \$40bn into the sector over the coming decade, and private investment in nuclear energy is surging.

This change in sentiment coincides with rapid technological advances. The development of smaller and safer reactors has made nuclear power cheaper, faster to deploy, and easier to maintain. Whereas the construction of traditional nuclear power plants has historically been a major national undertaking, with costs frequently running into the dozens of billions of dollars, so-called small modular reactors allow for a more tailored approach and more manageable financing packages.

This is particularly important for developing countries, which must figure out how to expand their power supply while curtailing greenhouse-gas emissions as they become increasingly industrialised and urbanised. The International Energy Agency estimates that demand for energy in Africa will jump by one-third by the end of the decade, owing to population and income growth, as well as improved access.

While increased MDB support for renewable energy has helped put developing economies on the path toward carbon neutrality, most countries still rely on coal-fired power plants and natural gas for baseload electricity production. To complete

the shift away from fossil fuels, governments must complement wind and solar energy with low-carbon sources that are not dependent on weather conditions.

But without nuclear power (or hydroelectricity, but not all countries have that option), governments will find it difficult to replace their fossil-fuel baseload. While it may be possible to achieve this by combining renewable energy with utility-scale battery storage, the costs are prohibitive, and modern batteries come with their own sustainability issues. Geothermal energy could also play this role, but currently it is limited to areas where geothermal heat is available close to the Earth's surface. New technologies could expand access to geothermal power, but they are costly.

By abandoning their reticence about nuclear power, MDBs could help scale up low-carbon energy supply while enhancing global security. Western countries' withdrawal from nuclear energy over the past few decades has enabled Russia to establish itself as the leading international provider of reactors, services, and financing for nuclear-power projects. At a time of heightened geopolitical tensions, it is in the interest of MDBs' democratic shareholding governments to establish an alternative for emerging countries interested in nuclear power but hesitant to make their energy security dependent on Russia. Simultaneously, MDBs would promote better safety and sustainability standards.

Given that international development agencies tend to follow MDBs' lead, and that private financing of energy infrastructure projects in developing countries often depends on multilateral lenders' risk-mitigation policies, MDBs should reverse their position on nuclear power. Otherwise, Russia and China will remain the world's primary suppliers of such projects.

To be sure, MDBs must carefully assess proposed nuclear energy projects to ensure that they meet appropriate technological and sustainability standards. While some under-resourced countries with weak institutions might not be ready to pursue

nuclear power, MDBs are uniquely positioned to support emerging economies seeking alternatives to Russian and Chinese technologies and financing.

The climate crisis, too, has created unprecedented momentum for reform. The US, Germany, a G20 expert panel, and Barbadian Prime Minister Mia Mottley have all called for strengthening MDBs' capacity to support developing countries in mitigating and adapting to climate change and in mobilising private financing for this purpose. Meanwhile, the World Bank recently published an "evolution roadmap" that aims to increase its capacity to respond to climate change.

Reforming MDBs' financing structures and energy policies is crucial to supporting developing countries in mitigating the worst effects of climate change. Moreover, Russia's war against Ukraine has revealed the critical role of the multilateral financial system as a bulwark against tyranny. Since the start of the war, the World Bank has disbursed \$16bn in financial support to Ukraine, with other multilateral finance institutions providing comparable amounts. By explicitly permitting MDBs to finance nuclear power, their shareholding governments could weaken Russia's still-considerable influence in emerging countries.

The momentum generated by nuclear energy's renaissance, the geostrategic imperative to reduce Russia's role as the dominant international provider of nuclear energy infrastructure, and the looming climate crisis, has presented MDBs with a unique opportunity to update their nuclear energy policy. To fight climate change and achieve a safer, more sustainable future, they must seize it. – Project Syndicate

(Disclaimer: The opinions and arguments expressed here are those of the authors and do not necessarily reflect the official views of the OECD or its member countries.)

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## **Qatar is among 'Top 10 LNG exporters' in January; global LNG exports hit 35.5mn tonnes: GECF**



Qatar is among the list of 'Top 10 LNG exporters' in January, data provided by the Gas Exporting Countries Forum (GECF) show. The other LNG exporting countries in the list are US, Australia, Russia, Malaysia, Indonesia, Algeria, Oman, Nigeria and Trinidad and Tobago.

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The other LNG exporting countries in the list are US, Australia, Russia, Malaysia, Indonesia, Algeria, Oman, Nigeria and

Trinidad and Tobago.

In its inaugural edition of the Monthly Gas Market Report (MGMR) GECF said that in January, global LNG exports grew by 2.8% (0.98mn tonnes) y-o-y to 35.56mn tonnes.

The higher LNG exports were driven mainly by non-GECF countries and to a lesser extent from GECF member countries and LNG reloads.

However, GECF member countries were the largest LNG exporter globally with a share of 49.7%, down from 50.9% during the same period a year earlier.

Similarly, the share of LNG reloads in global LNG exports decreased from 1.5% to 1.2% during the same period.

In contrast, the share of non-GECF countries LNG exports globally increased from 47.9% to 48.8%.

GECF cited Rystad Energy's preliminary forecast and said global natural gas production was estimated to have decreased by 0.4% to 4,032 bcm in 2022 due to the decline in production in the CIS and Africa regions.

Several factors, including a decrease in gas demand due to high prices and geopolitical tensions, exerted downward pressure on gas production.

Conversely, natural gas output of North America, the Middle East, Europe, and Latin America increased by 64 bcm, 19 bcm, 7 bcm, and 3bcm, respectively.

The 2022 figures have been slightly revised upward from the previous month's estimates due to upward revisions in natural gas output in Asia Pacific, the Middle East, and North America. Non-GECF natural gas output is estimated to increase by 3.8% to reach 2,388 bcm in 2022, mainly due to a production increase of 47bcm in the US.

In 2023, the forecasts reveal a growth in global gas

production, driven by growth in North America, the Middle East, Africa, Latin America, and Asia Pacific.

GECF said it is pleased to unveil the inaugural edition of the Monthly Gas Market Report (MGMR). This new publication offers a comprehensive analysis of the global gas market on a monthly basis.

The report provides essential insights for industry players, policymakers, and stakeholders, including a detailed analysis of gas demand and supply, international trade flows, gas storage trends, pricing trends, and the impact of the global economy on the gas market.

“The GECF is committed to delivering high-quality information and analysis, and is confident that the Monthly Gas Market Report will be a valuable resource for all those interested in the gas industry,” said Mohamed Hamel, secretary-general, GECF.

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## **GECF member countries’ petrochemical expansion set to boost exports**



**GECF**

The export value of selected petrochemicals such as methanol, ammonia, ethylene, propylene, polyethylene, and polypropylene from GECF member countries was estimated at \$28.8bn in 2021, Doha-headquartered Gas Exporting Countries Forum said in an expert commentary.

Polyethylene exports from GECF member countries accounted for the bulk of the petrochemical export value with a share of 44%, followed by methanol (21%), ammonia (19%), polypropylene (13%), ethylene (2%), and propylene (1%).

“Given the petrochemical sector expansion plans in the GECF member countries and their competitive advantages, petrochemicals exports value may increase in coming years,” GECF’s Gas Market Analysis Department noted in the commentary.

*Export value of selected petrochemicals such as methanol, ammonia, ethylene, propylene, polyethylene, and polypropylene from GECF member countries was estimated at \$28.8bn in 2021; Doha-headquartered Gas Exporting Countries Forum said in an expert commentary*

Moreover, a significant portion of petrochemicals and fertilisers are consumed domestically in GECF member countries. Some endogenous factors are critical for determining whether to export or domestically consume petrochemical products. For example, geographic location, access to the export infrastructure such as seaports, economy’s structure, climate, and agriculture sector’s potential impact decision-making on whether to consume petrochemical products domestically or export them.

Global natural gas consumption continues to be dominated by the power generation, industrial and residential sectors, where it is used as an energy fuel source. In the meantime, non-energy use of natural gas, mainly in the petrochemical industry, represents only 6% of global natural gas consumption – around 230bn cubic meters (bcm) per year.

In this context, there is plenty of room for further penetration of natural gas in the petrochemical sector, with

natural gas used as a feedstock to make higher value-added products.

GECF member countries, endowed with the world's largest proven natural gas reserves, have a prominent potential to monetise their natural gas resources through developing higher value-added petrochemical products.

For many countries, the establishment of a petrochemical value chain can secure a number of potential benefits for their economies and societies.

These include diversification of the national economy away from one major source of export revenues; growth of the national economy, mainly through the addition of value to raw materials; sustainable export revenues amidst the volatility of oil and gas prices; potential socio-economic benefits on the state level (job creation, higher wages) and potential environmental advantages of developing the petrochemical industry.

The petrochemical industry has shown significant growth in recent years, and GECF member countries continued to be the leaders in the global petrochemical industry. While each GECF member country has its own specific strengths, they have some common advantages.

Firstly, the major advantage of GECF member countries is the availability of natural gas resources which is one of the key feedstock in the industry, with more than 70% of global proven natural gas reserves concentrated there.

Secondly, petrochemical producers in GECF member countries are likely to enjoy low-cost feedstock, and in this context they have a competitive advantage compared to other producers, particularly in Europe and Asia, when gas prices are relatively lower than oil and coal prices.

Thirdly, GECF member countries also have the relevant infrastructure and integrated supply networks. In addition, they have the well-established expertise in the managerial and technical aspects of the industry. Moreover, the Forum presents GECF member countries with a unique opportunity to collaborate and share knowledge and best practices.



The GECF analysis shows that there is a great potential for its member countries to monetise their natural gas through the petrochemical industry. This is supported by their leading role as a reliable supplier of petrochemicals globally, abundance of untapped natural gas reserves and a bright outlook for demand for petrochemicals.

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## **Column: Europe faces more high gas prices next winter**



LONDON, Jan 20 (Reuters) – Europe is on course to end the winter of 2022/23 with a record amount of gas in storage, putting downward pressure on futures prices for deliveries this spring and summer.

But even with a record inventory carry over, the region will likely experience higher prices and renewed pressure to conserve gas in the winter of 2023/24.

Europe's storage is designed to smooth out seasonal variations in consumption not to provide a strategic stockpile to protect against an embargo disrupting supplies.

Combined gas consumption in the European Union and United Kingdom was around 5,203 terawatt-hours (TWh) in 2019, the last full year before the pandemic, according to Eurostat.

They have enough capacity to store 1,129 TWh, equivalent to about 21% of annual consumption, according to Gas Infrastructure Europe.

In practice, storage depletion supplies a much smaller share of actual consumption each year, typically around 10%.

## **SEASONAL STORAGE**

Seasonal storage is designed to absorb excess production during summer, discharging during winter to meet peaking consumption.

Using inventories to shift supply from summer to winter in this way is more cost-effective than maintaining lots of extra production capacity that would only be used a few months each year.

Inventories are large enough to cope with the unpredictability of winter heating demand and ensure supply does not run out in the event winter is much colder than average.

But given the relatively small volume of gas that can be stored, the inventory system cannot provide both seasonal and strategic storage at the same time.

## **STOCK CLEARANCE**

Storage follows a two-season cycle of summer (with inventories accumulating from roughly April to September) and winter (inventories depleting from roughly October to March).

Deviations from this are usually reversed within the subsequent season via large changes in prices forcing inventories back to the long-term average within 6-12 months.

If inventories end the summer unusually high, prices fall to boost consumption, ensure inventories deplete faster and end

winter close to average.

Conversely, if inventories end winter low, prices rise to curb consumption, accelerate inventory accumulation and end summer close to normal.

Price changes ensure that inventories normalise within a single storage year rather than over multiple storage years.

## **RECORD CARRYOVER**

Gas conservation policies, high prices and an extended period of unusually warm temperatures between mid-December and mid-January have combined to avert possible gas shortages this winter.

EU and UK storage is on course to end the winter of 2022/23 more than 54% full, well above the average of 35% over the previous 12 years (“Aggregated gas storage inventory”, GIE, January 20).

But that means there will be much less unused space to absorb over-production during the summer season of 2023.

Lack of storage will ensure prices fall to stimulate consumption and discourage production to limit inventory accumulation.

But the futures market is forward-looking; traders are already anticipating, accelerating and amplifying the price decline.

Prices have tumbled to limit excess inventories and create more space for gas to be put into storage during summer 2023.

Futures prices for gas delivered in March 2023 have fallen to less than €65 per megawatt-hour from €177 at the start of October and a peak of €338 in August.

Pressure on storage space is likely to keep prices low this summer even if they then rise again next winter.

Given the limitations of the storage system, a record carryover from winter 2022/23 will lessen but cannot eliminate the need for high prices and conservation in winter 2023/24.

Higher inventories provide more energy security than lower ones, but policymakers should avoid implying inventories alone are enough to prevent shortages or price spikes next winter.