

# GLOBAL LNG-Asian prices hit three-week high; tanker rates rise



- \* CNOOC seeks to charter ships to replace COSCO-linked tankers
- \* Japan's Tohoku buys November-delivery cargo – sources
- \* China's LNG imports could slow due to terminal repairs

By Jessica Jaganathan

SINGAPORE, Oct 11 (Reuters) – Asian spot prices for liquefied natural gas (LNG) rose to a three-week high this week ahead of winter demand, while tanker rates nearly doubled on limited availability of vessels.

Spot prices for November-delivery to Northeast Asia LNG-AS are estimated to be about \$5.80 per million British thermal units (mmBtu), up by 25 cents from last week, said several sources

who are market participants.

Prices for December delivery are estimated to be about \$6.45 per mmBtu, they added.

Higher oil prices and shipping rates, which have nearly doubled in a week could boost spot LNG prices further, sources added.

LNG tanker rates rose after China National Offshore Oil and Gas Company (CNOOC) sought tankers to charter looking to replace ships it had previously hired that are linked to a Chinese company sanctioned by the United States for allegedly transporting Iranian oil, they added.

Several industry sources said CNOOC is seeking to replace some of six COSCO-linked LNG tankers – Dapeng Sun, Dapeng Moon, Dapeng Star, Min Rong, Min Lu and Shen Hai.

Still, apart from a few spot cargoes, demand from North Asia is yet to increase for winter, trade sources said.

In the spot cargo market, Japan's Tohoku Electric Power bought a cargo for November delivery from a trader at \$5.80 per mmBtu, industry sources said, though this could not immediately be confirmed.

"Demand in Japan is low. I think it is only Tohoku who purchases spot cargoes constantly," a Japan-based trader said.

Essar Steel India is yet to award a tender seeking 12 cargoes for 2020 delivery, a company spokesman told Reuters.

China's LNG imports are expected to slow as repairs to the Rudong LNG import terminal is only likely to be done by mid-November after an accident last month, two company sources said.

Kunlun Energy, which operates PetroChina's LNG receiving terminals, cut intake capacity at Rudong LNG terminal since

Sept. 21 when a tanker collided into a bridge that connects the island where the terminal is located to the mainland during a typhoon.

PetroChina's trading unit Chinaoil is diverting some of the LNG meant for the Rudong terminal to its two other receiving terminals in Tangshan and Dalian, one of the company sources said. The company also offered spot cargoes earlier this week, traders said.

BHP Group has offered a cargo for loading in November from the North West Shelf plant in Australia while Angola LNG plant offered two cargoes for delivery in October and November.

---

## **Qatar set to host sixth Gas Summit of GECF in 2021**



Qatar will host the sixth Gas Summit of the Gas Exporting Countries Forum (GECF) in 2021, offering an opportunity for

dialogue at the highest levels on the latest developments and trends related to the global gas industry.

The announcement was made during the conclusion of the 21st GECF ministerial meeting in Moscow. This will be the second summit to be held in Doha after the forum's first summit on November 15, 2011.

"We look forward to a highly successful meeting that reflects our deep belief in dialogue and co-operation in the effort to meet the world's growing demand for energy," said HE Saad bin Sherida al-Kaabi, Minister of State for Energy Affairs, the president and chief executive of Qatar Petroleum.

He said Qatar is committed to the responsibilities it carries as the world's leading liquefied natural gas producer, foremost of which is encouraging regional and international dialogue as well as promoting natural gas as the cleanest of fossil fuels and the destination fuel in the transition to low carbon economies.

Earlier addressing the ministerial meet in Moscow, al-Kaabi had stressed the importance of natural gas in meeting the economic and environmental challenges facing energy consumers around the world.

Drawing attention to unprecedented recurrent climatic conditions, including mean temperatures, turbulent seasonal cycles and extreme events, he had said it is time to take another look at natural gas and the number of advantages it has to make it a pivotal element in any strategy to tackle environmental challenges.

The GECF, which is headquartered in Doha, is an international governmental organisation that provides a framework for knowledge sharing among its member countries. It is made up of the world's leading gas exporting countries and was set up with the objective to increase the level of co-ordination and strengthen the collaboration among its member countries.

---

# Africa May Have 90% of the World's Poor in Next 10 Years, World Bank Says



Africa could be home to 90% of the world's poor by 2030 as governments across the continent have little fiscal space to invest in poverty-reduction programs and economic growth remains sluggish, the World Bank said.

That's up from 55% in 2015 and it will happen unless drastic action is taken, the lender said in its biannual Africa Pulse report released Wednesday, in which it also cut growth forecasts for the region's key economies.

The rate of poverty reduction in Africa "slowed substantially" after the collapse in commodity prices that started in 2014,

resulting in negative gross domestic product growth on a per capita basis, according to the report. "As countries in other regions continue to make progress in poverty reduction, forecasts suggest that poverty will soon become a predominantly African phenomenon."

While the poverty rate in sub-Saharan Africa, defined as the percentage of people living on less than \$1.90 per day, fell between 1990 and 2015, rapid population growth resulted in the number of poor people on the continent increasing to more than 416 million from 278 million over the same period, according to World Bank data.

The lender said pro-poor growth policies are required to accelerate poverty reduction and that fiscal tightening limits governments' ability to spend on social sectors.

"Given the limited scope for redistribution and transfers to raise the incomes of the poor in most African countries, the focus should be squarely on raising their labor productivity, that is, what it will take to increase their earnings in self-employment or wage employment," according to the report.

Government debt increased to 55% of GDP in 2018, from 36% in 2013 due to a lack of fiscal consolidation after countries tried to counter the effects of the global financial crisis by boosting spending, the World Bank said. About 46% of African countries were in debt distress or considered at high risk in 2018 compared with 22% five years earlier.

"For many countries it's not a good idea to borrow non-concessionally because of the risk of the debt distress that they already have," World Bank Vice President Akihiko Nishio said in an interview Oct. 2 in Ivory Coast's commercial capital, Abidjan. "They should instead focus on concessional credits and grants."

The lender lowered its economic growth forecast for sub-Saharan Africa to 2.6%, down from its April projection of 2.8%.

– *With assistance by Katarina Hoije*

---

# Budget realities pressure South Africa to stop policy dithering



South Africa's government has spent months mostly talking about how to save the debt-stricken state power utility Eskom Holdings SOC Ltd, spur economic growth and get its shaky finances back on track. Financial realities may force an end to the dithering.

The government will have to make some decisions by October 30, when Finance Minister Tito Mboweni is due to deliver his mid-term budget policy statement and set out how massive bailouts for Eskom will be funded at a time when growth and tax revenue are falling short of target. That's two days before Moody's Investors Service is scheduled to make a call on the nation's

only remaining investment-grade credit rating.

“We are really running out of time,” Isaac Matshego, an economist at Nedbank Ltd, said by phone. “The number one priority for the government right now should be to stabilise the key state-owned enterprises, not only because they are failing operationally but also because they are a heavy burden on the fiscus.”

President Cyril Ramaphosa’s ability to push through unpopular policies is constrained by his tenuous hold on the deeply divided ruling African National Congress and opposition from its labour union and communist allies, who oppose privatisation, fearing job losses. The slow pace of reform has frustrated investors, driven business confidence to the lowest level since 1985 and weighed on the rand – it’s slipped 23% against the dollar since Ramaphosa took office in February last year.

Progress has been particularly slow when it comes to fixing Eskom, which supplies about 95% of the nation’s power and is seen as the biggest risk to the economy. The utility has been without a permanent chief executive officer since Phakamani Hadebe quit in July, isn’t generating enough revenue to cover its costs and has been allocated 128bn rand (\$8.4bn) in bailouts over three years to remain solvent.

The government signalled its intent to act decisively in August, as the Treasury asked departments to prepare budget proposals to cut their spending by an average 6% over the next three fiscal years – saving as much as 300bn rand. Eskom’s turnaround strategy is now due to be unveiled by the end of this month, as is its new CEO and the energy blueprint.

“Ramaphosa is now fully aware that he must be seen to be doing things and taking control and that the time for treading water is over,” Susan Booysen, director of research at the Mapungubwe Institute for Strategic Reflection, said by phone. “All those comments that he was a lame duck president and he was unable to control the factions in the ANC must have hit home.”

Even so, differences persist within the government and ruling



party over how best to revive the economy.

While the Treasury suggested in August that Eskom could sell power plants to settle its 450bn rand of debt and that other assets be privatised, these proposals failed to win public endorsement from the ANC. The party has traditionally sought to build consensus among its widely divergent constituents, which has all too often resulted in policy paralysis.

“The next steps will require political capital expenditure and that’s where things will get difficult,” said Peter Attard Montalto, head of capital markets research at research firm Intellidex. “Effecting major policy shifts will be both challenging and time-consuming.”

---

## **Eskom risk premium eases as Treasury offers bailout conditions**



Bloomberg/ Johannesburg

Credit default swaps for Eskom Holdings SOC Ltd, South Africa's state-owned power company, are trading near the cheapest level in almost three years relative to the sovereign risk after the Treasury published proposed conditions for funds to bail out the utility.

That suggests investors are comfortable a turnaround plan for the debt-ridden company, which President Cyril Ramaphosa says will be presented to cabinet shortly, will include a sustainable framework to deal with its \$30bn of debt. The government has said it won't allow Eskom to fail or bondholders to take a haircut.

"It's about 10 years too late, but better than nothing," said Rashaad Tayob, a money manager at Abax Investments Ltd in Cape Town. "It's positive that there will be oversight on Eskom's capex, and a requirement that they must work to recover debtors in arrears. But nothing on energy and staff costs, so we must wait for the special paper/white paper to understand the long term plan to fix Eskom."

Eskom, which supplies about 95% of South Africa's electricity,

has been granted 128bn rand of state bailouts over the next three years to help it remain solvent.

Amounts of 26bn rand and 33bn rand will be allocated in portions to Eskom in the 2020 and 2021 financial years on dates determined by the finance minister, the Treasury said in a presentation on its website Wednesday.

The conditions offered include that Eskom publish separate financial statements for its generation, distribution and transmission units. Treasury will also require daily liquidity position updates and for no incentive bonus payouts to be made to executives in the years where equity support is provided.

“The market is taking comfort from the fact that there is increased government oversight,” said Bronwyn Blood, a fixed-interest portfolio manager at Granite Asset Management Ltd in Cape Town. “Conditions imposed on Eskom will ultimately allow for more certainty around repayment of debt, thus minimising the risk of default.”

---

**GLOBAL LNG-Asian prices hit three-week high; tanker rates rise**



- \* CN00C seeks to charter ships to replace COSCO-linked tankers
- \* Japan's Tohoku buys November-delivery cargo – sources
- \* China's LNG imports could slow due to terminal repairs

By Jessica Jaganathan

SINGAPORE, Oct 11 (Reuters) – Asian spot prices for liquefied natural gas (LNG) rose to a three-week high this week ahead of winter demand, while tanker rates nearly doubled on limited availability of vessels.

Spot prices for November-delivery to Northeast Asia LNG-AS are estimated to be about \$5.80 per million British thermal units (mmBtu), up by 25 cents from last week, said several sources who are market participants.

Prices for December delivery are estimated to be about \$6.45 per mmBtu, they added.

Higher oil prices and shipping rates, which have nearly doubled in a week could boost spot LNG prices further, sources added.

LNG tanker rates rose after China National Offshore Oil and Gas Company (CNOOC) sought tankers to charter looking to replace ships it had previously hired that are linked to a Chinese company sanctioned by the United States for allegedly transporting Iranian oil, they added.

Several industry sources said CNOOC is seeking to replace some of six COSCO-linked LNG tankers – Dapeng Sun, Dapeng Moon, Dapeng Star, Min Rong, Min Lu and Shen Hai.

Still, apart from a few spot cargoes, demand from North Asia is yet to increase for winter, trade sources said.

In the spot cargo market, Japan's Tohoku Electric Power bought a cargo for November delivery from a trader at \$5.80 per mmBtu, industry sources said, though this could not immediately be confirmed.

"Demand in Japan is low. I think it is only Tohoku who purchases spot cargoes constantly," a Japan-based trader said.

Essar Steel India is yet to award a tender seeking 12 cargoes for 2020 delivery, a company spokesman told Reuters.

China's LNG imports are expected to slow as repairs to the Rudong LNG import terminal is only likely to be done by mid-November after an accident last month, two company sources said.

Kunlun Energy, which operates PetroChina's LNG receiving terminals, cut intake capacity at Rudong LNG terminal since Sept. 21 when a tanker collided into a bridge that connects the island where the terminal is located to the mainland during a typhoon.

PetroChina's trading unit Chinaoil is diverting some of the

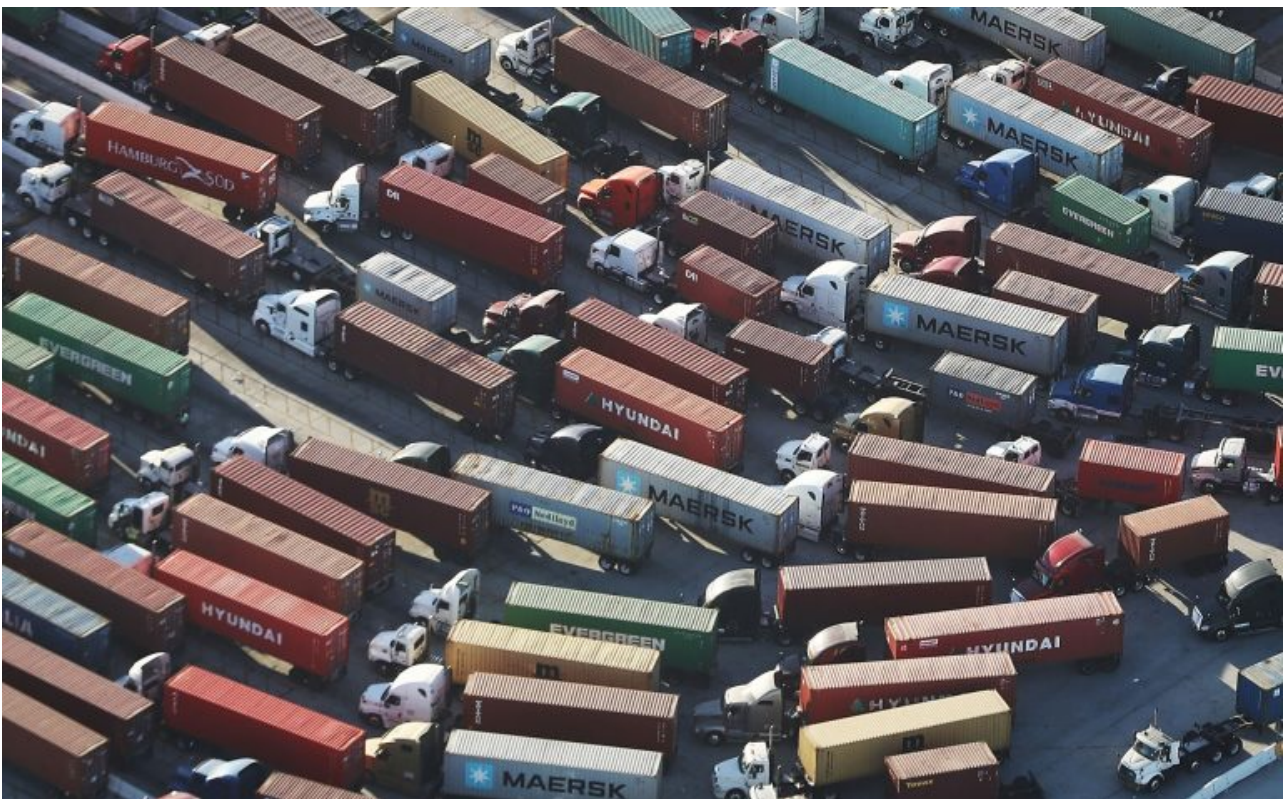
LNG meant for the Rudong terminal to its two other receiving terminals in Tangshan and Dalian, one of the company sources said. The company also offered spot cargoes earlier this week, traders said.

BHP Group has offered a cargo for loading in November from the North West Shelf plant in Australia while Angola LNG plant offered two cargoes for delivery in October and November.

Reporting by Jessica Jaganathan

---

## Oil tanker rates spike is now bleeding into fuels trading



Record-high shipping costs are spilling over into the prices for refined fuels in Europe, Asia and the US. As freight rates rocket amid US sanctions and geopolitical risks, the prices of

oil products such as gasoline and diesel are being forced to adapt in order to enable trade. Europe has long made excess gasoline, giving traders a lucrative opportunity to ship it to the US. Now, the increase in tanker rates is hitting at a time when crude flows have also been disrupted by the same surge in shipping costs.

The cost of hauling freight on the route has soared to its highest since 2015, according to Baltic Exchange data. That helped make US gasoline the most expensive it's been relative to Europe, on a seasonal basis, since 2016. "This is all because the explosion in dirty freight costs creates the risk that larger clean tankers switch to dirty service," said Robert Campbell, head analyst for global oil products markets at Energy Aspects. Clean tankers refer to those carrying refined fuels; dirty tankers haul crude or fuel oil. The cost of shipping oil products such as diesel and jet fuel on a mid-sized tanker on the Middle East-to-northwest Europe route has surged as well. Earlier this week it reached \$50 a tonne, the highest since 2008. Rates from India to northwest Europe have also increased. While the seaborne trade of refined products is only about half that of crude oil, it's still the market's main way of balancing structural surpluses and shortages that routinely emerge in different parts of the world. As such, it performs a vital role in avoiding supply scarcity. The more expensive shipping gets, the higher a buyer has to bid and/or the lower a seller has to offer in order to make the trade viable.

Since the spike in freight rates several weeks ago, the value of diesel relative to crude in Europe – a net diesel importer – has edged up to its highest since 2018. Other factors, such as refinery maintenance and looming ship-fuel rules that are putting upward pressure on diesel prices, may also be playing into that number. At the same time, the price of diesel cargoes in the Middle East is generally falling, a trader said on Wednesday. Ripples are also being felt in the

market for naphtha, a petroleum product used to make gasoline and as a feedstock for petrochemicals. Regularly shipped from Europe to East Asia, the cost of that voyage has surged to \$3.97mn, the highest it's been since at least 2016. How long the situation lasts is unclear.

The cost of hiring tankers that typically ship crude and fuel oil has retreated after spiking last week, with analysts saying the high costs weren't sustainable. Rates initially rose in the wake of the US sanctioning units of China CO-SCO Shipping Corp, the world's largest merchant vessel owner, as well as an attack on an Iranian ship. As shippers get their vessels ready for a sulphur cap on marine fuels, a number of tankers are also at repair yards, further tightening the freight market.

---

**Opec faces serious 2020  
challenge defending oil  
prices, says IEA**





Opec faces a “serious challenge” if it wants to defend oil prices next year, as fuel-demand growth could slow further and rival supplies continue to grow, according to the International Energy Agency.

The IEA – which advises major economies – could lower its forecasts for demand growth again as the economic backdrop continues to weaken, Neil Atkinson, head of the agency’s oil industry and markets division, said in a Bloomberg television interview Wednesday. The agency lowered its projections in its monthly report last week.

At the same time, there is “a wave of new supply growth” from the US, Brazil and the North Sea, Atkinson said. As a result, it will be tough for the Organization of Petroleum Exporting Countries and its allies – who have cut production this year to prevent a surplus – to buoy prices in 2020, he said.

“There is a lot of supply coming into the market, and that suggests that the Opec countries and Russia, who is working with them to manage the oil market, will face a serious challenge as we head into 2020 to keep prices at the level with which they feel comfortable,” Atkinson said.

Brent crude futures traded below \$59 a barrel in London on Wednesday, below the levels needed by most members of Opec to cover government spending.

The group and its partners will do “whatever it takes” to prevent another oil slump, Opec secretary-general, Mohammad Barkindo said in London last week.

The IEA, which is based in Paris, trimmed its 2020 estimate for global oil-demand growth by 100,000 barrels a day to 1.2mn a day last week.

The IEA incorporates forecasts from the International Monetary Fund, which on Monday reduced its outlook for global economic growth next year to 3.4% from 3.5%. The IMF anticipates that this year’s expansion will be the weakest in a decade.

“What the IMF numbers are doing is confirming a picture we have seen as 2019 has developed, and we are now looking at a possibility, no more than that, that the demand outlook could get weaker,” Atkinson said.

Still, oil-demand data in recent months has been surprisingly strong, and so “the jury is still out as to whether we are definitively going to slash oil demand growth any further,” he added.

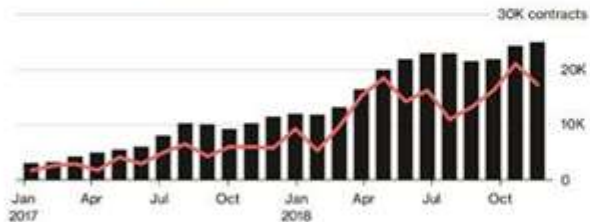
---

## **Spikes in LNG shipping costs highlight need for hedging tools**

### Bright Futures

JKM LNG derivatives trading is taking off as more cargoes are sold on a spot basis

■ Open interest    / Trading volume



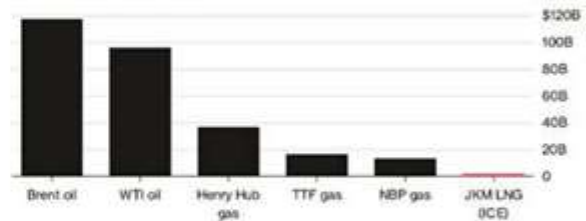
Source: Intercontinental Exchange Inc.

Bloomberg

### Long Way to Go

LNG futures trail other oil and gas benchmarks in terms of open interest

■ Dollar value of open interest



Note: Estimates based on aggregate open interest and front-month prices as of Dec. 31 2018

Source: CME Group, Intercontinental Exchange

Bloomberg

A rally in the cost of chartering liquefied natural gas vessels on the spot market has highlighted the lack of tools available to traders to hedge against volatility.

The market for the fastest-growing fossil fuel is expanding quickly, with cargoes changing hands in increasingly short-term deals the way the crude oil trade matured two to three decades ago. But while physical trading is expanding rapidly, the paper market with derivatives and other financial instruments has lagged. That has made it difficult to hedge and offset potential losses both for the cargoes themselves and the freight cost of the ships that carry them.

The issue has come into high relief in the last week as the price to charter a tanker in the Pacific Ocean for December jumped more than 20% in the week to Tuesday, according to Spark Commodities Pte Ltd, which takes assessments from five LNG shipbrokers. That's drawing attention to work to develop hedging tools, with Spark focusing on a paper market for vessels known as a forward freight agreement.

"The increased volatility continues to highlight the need for an LNG FFA to allow market players to manage freight exposure," said Tim Mendelssohn, managing director of Spark, a venture between European Energy Exchange AG and cargo tracker Kpler. "We are attempting to provide a solution to a major

challenge facing the industry and drive liquidity as LNG develops.”

The move by Spark would align the cost of existing deals with liquid cargo-related financial products. The forward freight costs for December, at \$145,250 a day on Tuesday, threaten to reduce the potential profit of keeping a multimillion-dollar cargo on a boat to benefit from higher forward LNG prices.

The same is true for the LNG cargoes the ships are carrying. Of the almost 200mn tonnes of LNG traded in the last year, about a third was in the form of derivatives on the Japan Korea Marker, an industry benchmark, Pablo Galante Escobar, head of LNG at Vitol SA, said at the Oil & Money conference last week. Much more was hedged on liquid European gas hubs, he said.

“You can trade in a liquid way, but of course it is still developing,” he said.

Developing the paper market is one of the key steps needed to make LNG a fully tradable commodity, according to Galante Escobar. Despite massive growth since 2016, JKM trading draws about 25% of annual production of the super-chilled fuel.

That is in sharp contrast to crude oil, where physical trading has become just 5% of the total market. Deeper paper markets bring in speculators and provide liquidity, giving producers and consumers greater confidence they can shift their physical cargoes when needed.

Other commodities have “far more paper market than physical market,” Patrick Dugas, vice president for LNG trading at Total SA, said at the LNGgc conference in London last week. The so-called churn rate for the JKM market is near one, while the ratio needs to be closer to 10, he said.

---

# Europe needs a serious nuclear-energy debate



Last month, the Akademik Lomonosov, Russia's first floating nuclear power plant, arrived in the remote town of Pevek in the country's Siberian Arctic region. Russian state-run nuclear energy company Rosatom sees this as a pilot project, and hopes eventually to deploy a fleet of such units in Russia and elsewhere – including in developing countries in Asia and Africa that urgently need affordable electricity.

The Lomonosov builds on a long tradition of nuclear-powered icebreakers in the Arctic Ocean. But, as I explain in my book on energy geopolitics, it also is a cutting-edge example of how small modular reactors can be deployed more easily, flexibly and cost-effectively than traditional nuclear facilities.

SMRs hold out the promise of clean energy production not only in remote areas, but also in developing countries that are not equipped to build bespoke nuclear power plants on land.

Floating SMR technologies also could potentially be used in commercial shipping in the thawing Arctic: nuclear-powered container ships would be far cleaner than those powered by heavy fuel oil, which produces emissions of sulfur and heavy metals. Furthermore, growing economic activity throughout the Arctic makes it increasingly important for remote areas like Pevek to have low-carbon energy sources.

Although the Lomonosov will be the world's smallest and most northerly nuclear plant when it comes online, it may soon have competition. Researchers in the United States, South Korea, Russia, France, China, Argentina, Japan and India are currently working on about 50 different SMR designs. Furthermore, the rapid changes in the Arctic, and the global push to replace fossil fuels with low-carbon energy sources, have led Chinese, French and American researchers to join their Russian counterparts in assessing the prospects for sea-based nuclear power.

Unfortunately, Western media have failed to recognize the importance of the Lomonosov. Instead, inflammatory and misleading language from Greenpeace and several other environmental groups has led to breathless reporting on the launch of a "nuclear Titanic" and "Chernobyl on ice."

Greenpeace, which has always opposed nuclear energy because of its supposed risks to the environment and humans, has highlighted the remote location of the Lomonosov and the unpredictable Arctic climate. As with many other nuclear projects in recent decades, the group has again succeeded in framing the terms of debate. But those with actual nuclear expertise have made it clear that Greenpeace's scare tactics have "no basis in science."

As industry experts have repeatedly pointed out, seaborne nuclear reactors are hardly a new concept.

The U.S. used an ex-World War II cargo ship equipped with a

nuclear reactor to generate power for the Panama Canal from 1968 to 1976, and Russia's fleet of nuclear-powered icebreakers uses the same type of reactor as the Lomonosov. These reactors already meet International Atomic Energy Agency requirements, with safety measures including double containment and passive reactor vessel cooldown systems.

In fact, offshore nuclear reactors could even be safer than those on land, because cold water facilitates the rapid cooling of the unit in case of emergencies.

Sadly, the primacy of anti-nuclear sentiment over empirical fact has been a consistent feature of Europe's nuclear-power debate since the '80s. In 1997, for example, France abandoned its own advanced Superphenix "breeder reactor" project because incoming Prime Minister Lionel Jospin required the support of the Green Party to form a government.

Two decades later, France still has not successfully developed the technology. And just last month, the country's Alternative Energies and Atomic Energy Commission decided to abandon the fourth-generation advanced sodium technological reactor for industrial demonstration (ASTRID) that had been launched in 2006 to replace Superphenix.

By succumbing to anti-nuclear pressure from groups such as Greenpeace, Western policymakers have failed to keep pace with Russia and China. Russia's Rosatom, for example, is already a global leader in marketing nuclear energy to emerging economies, and has over a hundred projects in countries including India, China and Belarus.

The alarmist rhetoric surrounding today's emerging nuclear technology is unfortunately par for the course. And it again highlights the contradictory and self-defeating approach of some Western policymakers to the world's largest and most reliable source of low-carbon energy.

According to the United Nations Intergovernmental Panel on

Climate Change, nuclear power generation is second only to onshore wind in terms of carbon neutrality, with median carbon dioxide emissions of just 12 grams per kilowatt hour of electricity generation. Those concerned about CO2 emissions should therefore prefer nuclear energy to fossil fuels such as coal (820 grams/kWh) and natural gas (490 grams/kWh).

Nuclear also outperforms biomass (230 grams/kWh), solar energy (48 grams/kWh), and hydropower (24 grams/kWh). In addition, nuclear power has none of the intermittency problems that plague wind and solar energy, causing ongoing price increases for consumers.

These differences come into sharp focus when we consider the effect of German Chancellor Angela Merkel's Energiewende policy, which aims to increase the country's renewable energy capacity while phasing out nuclear power. The Energiewende is often lauded as one of Europe's leading sustainability initiatives. Yet, in Germany's rush to move away from nuclear power following the 2011 nuclear accident in Fukushima, Japan, the country's energy sector has had to rely on coal for baseload power.

Pressure from German environmentalists helped drive this decision – but using nuclear energy instead of coal would have resulted in Germany releasing approximately 220 million fewer tons of CO2 per year. In fact, since 1990, Germany has managed to achieve only a slow, uneven decline in CO2 emissions, despite a manifold increase in renewable energy capacity.

While Germany continues to phase out its nuclear industry, the Akademik Lomonosov highlights the potential for nuclear-power generation in the Arctic. What Europe in particular needs now is a sensible nuclear-energy debate based on facts rather than fear.

Samuele Furfari is a professor of the geopolitics of energy at Universite libre de Bruxelles, and author of *The Changing*



World of Energy and the Geopolitical Challenges.