

How Ethanol and E15 Gas Fit Into Biden's Plans to Fight Inflation



Ethanol, the intoxicating alcohol found in beer, wine and liquor, has been powering automobiles in the U.S. since the era of the Model T more than a century ago. Since the 1970s, when oil became more expensive and subject to international disputes – and as worries rose about the environmental damage caused by fossil fuels – the U.S. government has used tax policy and regulations to encourage use of ethanol and other environmentally friendly alternatives to gasoline. U.S. President Joe Biden, as part of his efforts to combat rising prices, is making it easier to sell more ethanol in the coming summer months, even as critics raise concerns about the corn-based fuel.

1. What does ethanol do?

It provides oxygen, making gasoline burn more cleanly in engines. The biofuel E10, so named because it contains 10% ethanol and 90% gasoline, is widely accepted and available at U.S. gas stations. E15, with its 15% ethanol, is currently 5 to 10 cents cheaper per gallon than E10, a discount that's especially appealing in these times of sky-high fuel prices. However, ethanol is corrosive, and some critics believe that E15 can cause damage to cars. In 2011, the EPA authorized the use of E15 for newer cars made in 2001 and later. But it's still not common at U.S. service stations; just about 2,300 of the nation's more than 150,000 filling stations sell E15. And E15 is typically banned in most areas of the U.S. during the summer months.

2. Why is summer an issue?

Since the heat of summer increases the evaporation of all liquids, including gasoline, the EPA has had more stringent rules in place between June 1 and Sept. 15 to regulate Reid vapor pressure, the propensity for gasoline to evaporate and lead to smog. The EPA has granted E10 a waiver from the vapor pressure limit, but not E15.

3. What change is Biden making?

The U.S. Environmental Protection Agency, which regulates air pollution from gasoline, is issuing a national emergency waiver to allow E15 fuel to be widely sold this summer, even in areas where it's typically off-limits. The move temporarily exempts E15 from air pollution requirements that block the fuel's sale in most areas of the country from June 1 to Sept. 15.

4. Why is this change temporary?

The EPA tried making the change permanent in 2019 under former President Donald Trump, issuing a rule allowing year-round

sales of E15 even in areas where smog is a problem. The nation's top refining trade group successfully challenged the regulation in federal court, and the rule was tossed out two years later. Ethanol producers have lobbied the Biden administration to try again. The three-and-a-half-month summer blackout period deters some retailers from offering E15 at all, since they'd need to change pumps and warning labels at the start and end of each summer.

5. Who supports year-round use of E15?

Mainly agricultural interests in the Midwest. Corn use for ethanol has more than tripled since 2005, when President George W. Bush enacted the Renewable Fuel Standard that compels refiners and fuel importers to use a variety of biofuels. Ethanol now accounts for about 10% of U.S. gasoline usage, up from less than a 10th of 1% in 1993. Demand also was given a boost by the Clean Air Act amendments of 1990, which spurred the use of ethanol as an oxygenate to combat pollution. Support for ethanol is a political litmus test in the Midwest U.S.; while campaigning for the presidency in 2020, Biden promised to "promote and advance renewable energy, ethanol and other biofuels."

6. Who opposes year-round use of E15?

Oil companies have battled it for years, warning about potential engine damage from motorists inadvertently pumping the fuel into vehicles and other equipment not approved to use it. Some automakers warn that car warranties would be voided if motorists use E15. Oil refiners worry that increased use of ethanol will pare their share of the fuels market. (This risk is less acute for refiners that also produce ethanol, such as Valero Energy Corp.) Some environmental activists argue that expanding the availability of E15 will drive the production of more corn, resulting in more prairies being plowed and waterways polluted by agricultural runoff.

7. What would broader use of E15 mean for industry?

Not very much, especially right away under the emergency waiver, since the necessary equipment to distribute E15 is limited and concentrated in the Midwest. For refiners and fuel importers obligated to blend renewable fuels into their products, the move could trigger the generation of more biofuel credits and modestly lower the price of compliance. A long-term shift to allow E15 sales year-round could mean a gradual reduction in U.S. demand for petroleum, which refineries can offset with increased exports.

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**Russia-Ukraine war could
delay Europe's
decarbonization plans for a
decade**



Russia's invasion of Ukraine could force Europe to delay key decarbonization efforts for up to a decade, a prominent regional energy expert has warned in Greece.

"They don't have many choices left," said Roudi Baroudi, CEO of Doha-based Energy and Environment Holding, an independent consultancy. "Unless some European countries pull out all the stops, much of the continent could soon be looking at crippling shortages, prohibitively high prices, or both."

Now that Europe is moving to reduce imports of Russian oil and gas, he explained, some of the measures expected to reduce carbon emissions may have to be put off "for eight, nine, maybe 10 years," as would planned shutdowns of nuclear generating stations.

"The European Union will need to provide the necessary permissions in some cases, plus financing in others," he said. "Eight to 10 nuclear plants and as many as 30 coal stations slated for decommissioning will have to remain online to keep up with electricity demand, and several projects required to replace Russian gas will need to be accelerated with additional funding and/or guarantees."

If and when gas stops flowing through pipelines from Russia, Baroudi told the 7th Delphi Economic Forum last week, "it cannot be replaced by simply ordering more liquefied natural gas from Qatar, the US, and/or other producers. Europe doesn't have enough receiving facilities to re-gasify such huge amounts, which is why efforts to expand capacity in Germany and the Netherlands are so urgent."

Coordinated releases of strategic oil reserves by the US and other countries are helping to contain upward pressure on crude and other energy prices, he said, but reasonable levels "cannot be maintained unless more supply makes it to market and that means oil producers –primarily OPEC but others as well – have to start pumping more."

On yet another front, "Spain has both spare LNG receiving capacity and an undersea pipeline for imports of gas from North Africa – but very little of that can reach the rest of Europe unless and until a new pipeline connects the Iberian Peninsula to the rest of Europe via France," said Baroudi, who has been advising companies and governments on energy policy for decades. "Paris has recently voiced new openness to that idea, but the EU can and should do more to facilitate it. It should also do more to establish an agreed route for another pipeline to carry gas from the Eastern Mediterranean to Greece and/or Turkey."

Baroudi also argued that the EU would be wise to ensure adequate capital flows into renewables such as wind and solar. "We might have to retain fossil fuels longer than we had planned, but that's no reason to stop funding a cleaner future," he said. "In fact it's a reason to move as quickly as possible."

"The whole situation is very sad," he added. "Ever since the Paris Agreements of 2015, and especially since the Glasgow climate summit last year, Europe had been on the right track to be ready for a decarbonized economy. But now those plans are being pushed temporarily to the back burner. Apart from the lives being lost in the fighting, the energy and economic

implications will mean severe hardships across the continent, especially for lower-income people. And much of the cause is due to the fact that Europe had delays to diversify its sources of supply. Now it finds itself scrambling to prevent an economic disaster.”

Russia April Gas Exports Fall On Spot Price Drop, Warmer Weather



(Bloomberg) – Gazprom PJSC’s average daily exports to key foreign buyers so far in April fell to lowest in three months, as warmer weather and lower spot prices started to lure European clients away from Russian gas. The gas giant exported an average of 407 million cubic meters a day to countries outside the former Soviet Union in the first 15 days of April,

according to Bloomberg calculations b

The gas giant exported an average of 407 million cubic meters a day to countries outside the former Soviet Union in the first 15 days of April, according to Bloomberg calculations based on a Gazprom statement published Friday. That's nearly 18% below the daily average for the month of March. The company's year-to-date exports to its key markets tumbled more than 26% compared to the same period of 2021 to 44.6 billion cubic meters, Gazprom said.

"Russian flows have been reduced and LNG imports strengthened in the last few days, as a result of the TTF day-ahead price falling, making spot volume prices more competitive compared to TTF-indexed Russian pipeline gas," Rystad Energy analyst Vinicius Romano said in a research note earlier this week.

The European Union depends on Russia for 40% of the gas it consumes, which makes it challenging for the alliance to stop the purchases immediately in retaliation for Moscow's invasion of Ukraine. However, the bloc is trying taking steps to wean itself off Gazprom supplies, with EU governments starting to assess alternative supply sources.

Moscow's demand that so-called "unfriendly" countries pay for gas deliveries in rubles starting from April is creating additional pressure on its clients to find alternative supplies, as the Kremlin has threatened to cut off exports to buyers that refuse to comply.

Gazprom doesn't provide a detailed export breakdown by country, making it difficult to assess supplies to Turkey and most of Europe, the key market for the company's foreign deliveries. Russian daily flows toward the borders with European nations have averaged nearly 324 million cubic meters between April 1-12, compared with 361.5 million cubic meters per day in March, according to Gazprom data.

Gazprom said it continues to supply gas in line with requests

from consumers and is in full compliance with its contractual obligations.

The EU Commission's plan to eventually have the continent's gas storages 90% full by the start of winter is "very ambitious," Gazprom said in the statement. That would imply reinjections of 63 billion cubic meters, which is higher than the volume of gas stored during the warmer months in recent years and still would not cover peak demand if winter is abnormally cold, according to the Russian company.

Gazprom's daily output between April 1-15 averaged 1.393 billion cubic meters, according to Bloomberg calculations. That's 4.3% below the average over the whole of April 2021. Since the start of the year, the producer pumped 155.9 billion cubic meters of natural gas, down 1.3% year on year, according to Gazprom's data.

Russia's year-to-date domestic gas consumption declined 3.6% compared to the same period in 2021 amid warmer weather in February, Gazprom said.

– With assistance by Helen Robertson

Morocco considers onshore, offshore options for LNG import facility



RABAT, April 15 (Reuters) – Morocco is studying options at several ports to build a floating or land-based facility to import liquefied natural gas (LNG), Energy Minister Leila Benali said on Friday.

Morocco relied for much of its gas needs – about 1 billion cubic metres (bcm) annually – on a pipeline that used to channel Algerian gas to Spain, until it was halted last October by Algiers, against the backdrop of worsening relations between the Maghreb's most populous countries.

Whether floating or onshore, studies are underway to choose the “most immediate solution”, Benali told reporters.

The country tendered in January for a study on the upgrade of Mohammedia port near Casablanca to host an LNG floating storage and regasification unit (FSRU).

Mohammedia and the Mediterranean port of Nador appear to be best equipped to host regasification terminals, she said.

“But we can prepare four ports at least,” she said, citing Kenitra and Jorf Lasfar ports.

“It is important for Morocco's energy sovereignty to have

regasification capacity on our territory and in our maritime space,” she said.

Morocco will enter the international LNG market “in the upcoming days,” making use of unused capacity at Spanish terminals, she said, without giving further details.

Though she said: “We are not importing Spanish or European LNG.”

“Transit issues have been settled,” she said.

In addition to Spain, Morocco discussed in November with Portugal and France about tapping into the under-used regasification capacity.

“They have regasification terminals that are under-used, and we have a pipeline that has to be used,” Benali said.

The pipeline is key to feeding two small power plants that supply Morocco’s northwest and northeast, which currently rely on the national grid.

Draghi is betting on Africa for Italy’s exit from Russian gas



Italian Prime Minister Mario Draghi is chasing a raft of natural gas deals in Africa as he seeks to cut energy ties with Russia.

Draghi will travel to central and southern Africa this week in pursuit of further supplies after Italy struck agreements for Algerian and Egyptian gas.

His tour may ruffle some feathers as European partners vie to displace Russian energy following Moscow's invasion of Ukraine.

Potential deals in the Republic of Congo and Angola could bring Italy an additional 5bn cubic metres and 1.5bn cubic metres a year, respectively, people familiar with the matter said, asking not to be identified discussing private information.

Together with the extra volume it secured from Algeria, which would replace more than half the amount it gets from Russia as early as next year.

Talks are ongoing and details of any accords may change, the people said.

Italy currently gets about 40% of its gas from Russia, and Draghi – together with local energy giant Eni SpA – has sought alternative sources since President Vladimir Putin launched an invasion of Ukraine in February.

With Eni already present in more than a dozen countries in Africa, the continent is an attractive option. Yet the former central banker's energy diplomacy is causing some anxiety among European Union allies.

The Algeria deal stoked concerns in Spain that its own access to the country's gas could be affected, prompting talks between Rome and Madrid.

It's also unclear how Italy's plans square with a push to centralize gas-purchase negotiations at the EU level.

"It's really important that the EU sticks together at the moment, that's essential," said Oliver Sartor, senior industry adviser at think tank Agora Energiewende. "There are some countries that are more exposed than others, so it's normal that they would look to protect themselves. But there's a higher priority here."

Draghi's discussions in Congo and Angola this week will focus – among other things – on boosting deliveries of liquefied natural gas, the people said.

That trip could be followed by travel to Mozambique, though plans haven't yet been confirmed, they said.

Gas discoveries off Mozambique have attracted international operators, including Eni, to its waters.

While work in the country is risky – with attacks by an insurgency group threatening onshore developments – Eni's Coral Sul offshore LNG plant is expected to start production in the second half of 2022.

The company's deal with Algeria's Sonatrach Group, signed during Draghi's first official visit to Algiers, sees Italy buying an extra 9bn cubic metres of gas annually by 2023-2024.

On Wednesday, the firm struck an agreement with Egypt to increase flows of LNG to Italy. It has also said it's ready to invest billions of euros across the Mediterranean Sea in Libya, where it has been present for decades.

Draghi isn't the only EU leader to court gas-rich countries in a bid to ease dependence on Moscow.

Germany, which relies on Russia for 40% of its gas imports, is creating its own LNG infrastructure.

Others from France to Croatia plan to build or expand import terminals, while the US has also agreed to boost shipments to the bloc.

“Everyone is moving very fast,” said Simone Tagliapietra, a senior fellow at the Bruegel think tank in Brussels. “It makes sense for Draghi to act now, and he is doing it very well.”

Iraq may make decision on Halliburton gas deal in May



(Bloomberg) – Iraq’s cabinet may reactivate a deal with Halliburton Co. to drill wells in a western gas field in Akkas next month, Oil Minister Ihsan Abdul Jabbar told local media.

An agreement with Halliburton would enable the oil ministry to get clear data on the production capacity of the Akkas field and it may reach a decision after the Islamic holy month of Ramadan, which ends in early May, the minister said.

If the government decides to develop the field, which has been idle since Baghdad retook it from Islamic State militants in late 2017, it would have to pick a production company for the project.

Officials have been in talks with Chevron Corp. and Saudi Aramco about investment in the region. That “will depend on the data we get from the exploration and well-drilling operations,” Abdul Jabbar said in an interview on Al-Forat channel.

Kurdistan Talks

Abdul Jabbar said 80% of the contracts that the Kurdistan Regional Government signed with oil companies are correct and the rest need to be reviewed. The KRG has no problem with half the solutions the federal government offered to resolve the oil issues in Kurdistan.

The Kurdish region exports 430,000 barrels of oil per day, Abdul Jabbar said.

Baghdad has long sought to bring Kurdish production under its control in exchange for funds from the national budget. A February ruling in Iraq’s top court asserted the central government’s right to the semi-autonomous region’s hydrocarbons. The KRG has said its rights to control the region’s oil and gas are enshrined in the Iraqi constitution.

High Oil Prices

Iraq will probably sell its oil for an average of \$106-\$107 a barrel this month if prices remain at current levels, the minister added.

The oil ministry is providing 30 million liters of gasoline a day for local consumption, which Abdul Jabbar called a “big” number. Work on a new refinery in Karbala has been delayed by Covid-19 but the facility is expected to enter service in the

first quarter of 2023, he added. The country will continue to import gasoline until 2024.

Qatar, Iran and Saudi Arabia 'bright spots' for Middle Eastern gas output until 2050: GECF



Pratap John

Qatar, Iran and Saudi Arabia are the “bright spots” for Middle Eastern gas output over the next three decades, the Gas Exporting Countries Forum (GECF) has said in a report.

In its Global Gas Outlook 2050, GECF said between 2020 and 2050, the natural gas supply is set to climb by an annual average growth rate of 2.4% in Iran, 2.2% in Qatar and 1.2% in Saudi Arabia.

It said Qatar aims to maintain its status as the top LNG

producer and exporter in the world. The planned expansion of production from the North Field and other fields will increase Qatar's total gas production by an overall of 91%, from about 175 bcm last year to 330 bcm in 2050.

National oil companies in the Middle East are focusing on developing their gas fields. As most of the countries in the Middle East are also crude oil producers, the majority of natural gas production in the region is associated gas.

With almost 17% of global gas production, the Middle East is the third-largest gas-producing region worldwide after North America and Eurasia. The region is a net exporter of gas, and supply has been growing rapidly by an annual average growth rate of 6.3%, from about 190 bcm in 2000 to around 650 bcm in 2020.

According to GECF, associated-dissolved natural gas (gas obtained from crude oil reservoirs) has always been accounted for as a share of total gas production. This gas can be found as free gas (associated) or in solution with crude oil, referred to as dissolved gas.

Like the impact that Covid-19 had on non-associated gas production, the demand for oil also declined in 2020, resulting in a lower level of associated gas production in that year.

According to the EIA, associated gas production in the US fell in 2020 by 1.5% reaching a level of around 140 bcm, following three years of growth. For the first time since 2016, the share of associated gas production in the US was reduced to almost 37.7%.

The GECF report forecasts that the demand for oil will stabilise through to 2050 and the level of global oil production will peak at slightly more than 100 mboe/d in around 2035 and will steady at around 90 mboe/d by 2050.

This lower level of crude oil production will consequently affect the level of associated gas production. Furthermore, the need for EOR measures by the injection of associated gas into oil wells will be magnified by the ageing oil reservoirs.

"So a lower level of associated gas will reach the market, and

the total volume of production from this category in the future is forecast to be lower than current levels,” GECF said.

Currently, it is estimated that slightly less than 500 bcm of marketed natural gas is sourced from oil wells, and this level excludes the volume of the gas obtained from unconventional crude oil production.

The total level of associated gas production is even higher than this, as injection and recirculation do not count in marketed production, GECF noted.

Sanctioning a nuclear foe is a studied endeavour



By Ana Palacio/ Madrid

Western governments must be clear about what sanctions can and cannot achieve – and how much sacrifice is acceptable

The grim scenes left behind after Russia's withdrawal from Bucha, where Ukraine accuses Russian troops of torturing and slaughtering civilians, have intensified pressure on the West to provide more offensive weapons to Ukraine and for Europe to ban Russian energy imports. But beyond the legitimate question of Europe's willingness to pay such a high price on Ukraine's behalf lies the stark reality that sanctions are hardly a silver bullet.

Calls for sanctions began well before the invasion. When Russia was massing troops near Ukraine's border, the Ukrainian government – and some American lawmakers – urged the United States and Europe to impose preemptive sanctions and offer Ukraine stronger security guarantees. But Western leaders demurred, arguing that sanctions would impede their ability to reach a diplomatic solution.

Of course, in geopolitics, as in life, hindsight is 20/20: we now know that those diplomatic efforts were in vain. What we do not know is whether preemptive sanctions would have motivated Russian President Vladimir Putin to rethink his plans, especially given that preemptive sanctions most likely would not have been as severe as the package of measures imposed after the Kremlin launched the invasion.

That package, after all, is the most comprehensive and co-ordinated punitive action taken against a major power since World War II. Overcoming initial reservations, the European Union joined the US in cutting off Russian banks from the arteries of global finance in a matter of days. The West also froze much of the Russian central bank's foreign-exchange reserves – an unprecedented step that surely triggered a red alert in China, with its \$3.25tn in official reserves.

At first, the sanctions seemed to be having the intended effect. Within a week, the rouble had fallen by a third against the US dollar. Tumbling share prices forced the authorities to suspend trading on the Moscow stock exchange for nearly a month. Russia's GDP is expected to contract by 10-15% this year.

But, even as the sanctions vise continues to tighten, Russian

markets appear to be stabilising. Thanks to robust intervention by the authorities, the rouble is now trading close to its pre-war levels, and the stock market has recovered some losses. With the violence showing no sign of abating, Western governments must be clear about what sanctions can and cannot achieve – and how much sacrifice is acceptable.

Sanctions, first used in the Peloponnesian wars, have been an instrument of foreign policy for some 2,500 years. While their sophistication and complexity have increased over time, the basic mechanism has remained the same: inflict enough economic pain to force the target to change its behaviour.

But the most comprehensive analysis of sanctions use, conducted by researchers at Drexel University, found that the goals of sanctions were completely met in only 35% of cases. Where sanctions have had an impact, such as in South Africa during apartheid, they have been combined with other measures to advance a specific foreign-policy objective.

Moreover, even well-targeted sanctions and asset freezes have limited efficacy against autocracies. From North Korea to Iran, regimes shield themselves from economic pain through convoluted schemes to evade sanctions. Putin's regime – including his cronies – has proved adept at ensuring that sanctions do not affect them.

Instead, it is ordinary Russians who will pay the price for today's sanctions. And, contrary to the hopes of some in the West, this is unlikely to lead to Putin's fall from power. Dictators are not particularly vulnerable to shifts in public opinion. And a revolution does not seem forthcoming, not least because of the work of the Kremlin's increasing repression and powerful propaganda machine.

By "cancelling" Russian culture and mounting "unprovoked" attacks on the country's economy, the Kremlin narrative goes, the West is trying to destroy Russia – just as Putin had long warned. Anyone in Russia who opposes the "special military operation" in Ukraine is a "traitor" or a "gnat," ready to "sell their souls."

With no independent media left to refute these narratives, Russians seem to be largely convinced. A recent poll by the Levada Center indicates that 83% of Russians approve of Putin's actions in Ukraine, compared to 69% in January – a relevant statistic, notwithstanding the complex realities in Russia.

While Putin's regime insulated itself from the pain of sanctions, Europe is facing high costs of its own. In today's economically interdependent world, sanctions often imply hefty costs for both sides. Though Western economies are not particularly dependent on Russia overall, Europe relies on it for a large share of its energy. So, while the US Congress votes to ban all Russian energy imports, EU leaders have targeted only Russian coal, not oil or gas.

A comprehensive ban on Russian energy imports to Europe would undoubtedly increase the pressure on the Kremlin. But such a decision must be approached with care. As German Chancellor Olaf Scholz recently warned, the economic and social costs of a sudden embargo would be massive. It will take time to wean Europe off Russian natural gas while also maintaining European social and economic stability.

Equally important, sanctions are an integral part of a broader negotiating strategy. Once the West has launched all its biggest economic weapons, it will have no remaining leverage. There must be room to escalate in response to Putin's actions, particularly the deployment of chemical or tactical nuclear weapons.

The West's arsenal in Ukraine is clearly limited. Sanctions are an important and powerful weapon, and they are putting some pressure on the Kremlin. But given their limitations – and the costs that must be borne by both the West and ordinary Russians – they must be used judiciously. Otherwise, Putin, who appears to believe his paranoid propaganda and oversees the world's largest nuclear arsenal, may conclude that he has nothing to lose. – Project Syndicate

- *Ana Palacio, a former foreign minister of Spain and former*

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Why Gulf Dollar Pegs Survive Through Wars, Oil Shocks



Gulf Arab nations have pegged their currencies to the dollar for decades. There's a reason for that: they reduce foreign-exchange risk for states in the region because so much of their revenue comes from oil, which is priced internationally in the U.S. currency. Periodically the mechanisms are tested, as they were in 2020 when a price war sent crude plummeting below \$20 a barrel. With oil back around \$100 in 2022, they appear to be in good shape, despite questions about the dollar's role in the global economy.

1. Who has currency pegs and why?

The six members of the Gulf Cooperation Council – Bahrain,

Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates – have been running currency pegs or managed foreign-exchange regimes since the 1970s and 1980s. Kuwait's dinar tracks the value of a basket of currencies believed to be dominated by the dollar, while others are linked solely to the greenback. The pegs have helped to shield the region's economies from the volatility of energy markets and allowed central banks to accumulate reserves in the good times. Those reserves, along with foreign assets held by the region's sovereign wealth funds, are used in turn to defend the pegs.

2. What could put the pegs under stress?

Fixed exchange-rate regimes in Asia were swept away during the currency crisis of the late 1990s, when speculators forced the likes of Thailand and South Korea to abandon their links with the dollar. They're now largely confined to the major oil producers in the Middle East along with Hong Kong, whose dollar has been pegged to the U.S. currency since 1983. The Gulf pegs mean local central banks often take a cue on monetary policy from the U.S. Federal Reserve, which creates the risk of policy misalignment when business cycles are out of step. Today, the Gulf region is grappling with heightened inflation and the prospect of global interest-rate increases led by the Fed. There is disquiet about global dollar dominance, and the U.S.'s willingness to use the dollar as a weapon in sanctions to punish Russia for its invasion of Ukraine.

3. What might the Gulf states do next?

None of the region's governments have suggested they might abandon the pegs and let markets decide the value of their currencies. However, Saudi Arabia, the biggest economy in the region, is said to be considering accepting yuan payments for its oil exports to China. If the kingdom does take that step, the petrodollar system would be tested, especially if neighbors follow suit, with China accounting for over 20% of

the bloc's total oil shipments. Currency strategists said Saudi Arabia appeared to be sending a political message to the U.S. with the yuan reports, amid strained relations with Washington, and played down the likelihood of any immediate action.

4. What stresses have there been in the past?

The system has survived stern tests, including successive years of low oil prices in the 1990s, a period of dollar weakness before the financial crisis in 2008 and an oil-price crash in 2014. Speculators jumped in at that point in a failed effort to challenge the Saudi peg, boosting the price of 12-month forward contracts used by investors to bet on the peg breaking or to hedge in case it does.

5. How did Saudi Arabia react?

Instead of choosing to devalue the riyal, the kingdom cut spending and subsidies and turned to debt markets to fund its budget deficit. Its neighbors have adopted similar strategies. The Saudi forward contract jumped again in 2020 amid the double-hit of weaker crude prices and the pandemic. Oman's rial forwards reached a record high that year, before edging lower.

6. What happens to Gulf economies if the U.S. hikes rates?

The risk is that, to maintain their pegs, the region's governments are forced to follow the Fed with a succession of interest rate rises that end up hammering their own economies. If they do, there's still a way for them to avoid recessions: Oil prices are riding high, leaving them with plenty of ready cash to boost state spending and support growth.

7. Which pegs appear most vulnerable to speculators?

The weakest economies in the region have for long been Oman and Bahrain, with the latter being the only nation in the

region needing oil above \$100 a barrel to balance its budget, according to the International Monetary Fund. The two countries have fared better recently, with S&P Global Ratings raising Oman's credit ratings in April. The oil rally has eased concerns about the sultanate's ability to keep the rial pegged, prompting traders to slash bets on a devaluation. Saudi Arabia, the UAE, Kuwait and Qatar have for the most part always had firepower in the form of sizable currency reserves to defend their pegs.

8. What if dollar pegs were abandoned?

While the pegs give the region's governments less freedom to pursue policy goals like reviving growth or creating jobs, they provide more predictability for investors and foreign residents. The dollar's status as a global reserve currency would be undermined if GCC countries dismantled the pegs. Middle East countries account for between 10% and 15% of global foreign exchange reserves outside of China, according to Goldman Sachs. Saudi Arabia alone makes up around 5%. If Saudi Arabia accepted yuan for oil, it would accumulate big yuan reserves that it would then need to allocate, Goldman pointed out in a research note in March. This could pose challenges of its own, given the size of China's bond market.

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Germany faces \$240bn hit if

Russian energy cut off

Bloomberg / Berlin

Germany was warned it could face a €220bn (\$240bn) hit to output over the next two years in the event of an immediate interruption in Russian energy supplies over the war in Ukraine.

Economic institutes advising the government in Berlin said on Wednesday in a joint forecast that a full halt in Russian natural gas imports would result in a “sharp recession.”

“The decision to become independent from Russian supplies of raw materials is likely to remain valid even when the military and political situation calms down again,” the report said. “That means part of the energy supply and energy-intensive industry must realign itself.”

While the €220bn estimate is the equivalent of 6.5% of annual output, it’s nowhere near the almost €890bn in borrowing Germany carried out in 2020 and 2021 to shield the economy from the fallout of the pandemic.

Amid mounting casualties and reports of brutal atrocities, Germany has been under increasing pressure to justify its resistance to an embargo on Russian gas – widely seen as the ultimate leverage against President Vladimir Putin.

Ukraine snubbed a request by Frank-Walter Steinmeier, Germany’s president, to visit Kyiv this week following criticism for his past support for the Nord Stream 2 gas pipeline from Russia to Germany and for his role when foreign minister in encouraging reconciliation and dialogue with the Kremlin.

Finance Minister Christian Lindner highlighted the huge challenges facing Germany as it tries to wean itself off Russian energy as quickly as possible while also pursuing a goal of climate neutrality by 2045.

“Our world will not be the same again as it once was,” Lindner, who’s chairman of the pro-business Free Democrats,

wrote in a guest article for the Handelsblatt newspaper published on Wednesday.

"We need new business models, new ideas, new supply chains and new trade relationships," he said. "We have to reduce one-sided dependencies, be it when it comes to importing energy from Russia or exporting to China."

Berlin-based DIW, one of the institutes involved in the estimate, said on Friday that Germany could be in position to survive without Russian gas, which currently accounts for two-fifths of its gas deliveries. The group said a combination of high storage, bolstering other energy supplies and implementing programmes to lower demand could offset Russia as soon as this winter.

That's not a view that's generally shared by the business community, with industry leaders including Deutsche Bank AG Chief Executive Officer Christian Sewing warning of dire economic consequences if Russian supplies are severed.

Even absent a cutoff, Wednesday's report pared the outlook for Germany's economy, predicting growth this year of 2.7% and 3.1% in 2023. Those numbers compare with previous projections for expansion of 4.8% and 1.9%. Inflation will average 6.1% in 2022 – the most in 40 years.

"The shock waves from the war in Ukraine are weighing on economic activity on both the supply side and the demand side," said Stefan Kooths, vice president of the Kiel Institute for the World Economy. "Increasing prices of critical energy commodities following the Russian invasion further fuel the upward pressure on prices."

Germany's industry-heavy economy faces considerable hurdles after the war sent energy prices higher while disrupting supply chains that had already been suffering from pandemic-related snarls. Inflation reached 7.6% in the first full month of the war – the highest level since records began after reunification in the early 1990s.

Companies are seen as particularly vulnerable because of Germany's reliance on Russian gas. The ruling coalition last week agreed on an aid package for suffering businesses that

includes loans, loan guarantees and capital injections, and is meant to help energy firms in particular.