

No 6 | February 22, 2022

# News Analysis

**As military tensions over Ukraine rise so do concerns  
over European gas supply**



## As military tensions over Ukraine rise so do concerns over European gas

As the possibility of war and of a full-blown Russian invasion in Ukraine looms high -especially after yesterday's recognition of Ukraine's breakaway republics by Russia<sup>1</sup>- fears are growing that Russian gas supplies to several European countries are under threat. These fears are not unjustified given that 22% of the 168,5 Bcm that Russia delivered to the wider European market last year went through pipelines crossing Ukraine. So, in the event of military action from Russia's side even if there are no energy related financial sanctions against Moscow the flow of gas through Ukraine or Belarus may be affected.

Quite indicative of the growing concerns over the energy supply situation are German fears that Russia could retaliate against western sanctions in the event of war with Ukraine by cutting off gas supplies. According to Germany's finance minister Christian Lindner such a move could cripple Europe's largest economy. In a latest interview Christian Lindner told the Financial Times that Russia had always been a reliable supplier of natural gas to Germany, even at the height of the cold war. But that could change if Russia invaded Ukraine and the west punished Moscow with a sweeping sanctions package. "If you look at the cold war, whatever happened between NATO and the Warsaw Pact, there was never a situation where political tensions harmed co-operation in the energy sector," Lindner said. "Things might be different now." (1)

The US president reiterated last week that Russia could be poised to invade Ukraine within several days, after massing an estimated 190,000 troops on the Ukrainian border, including those participating in the Belarus drills (2). The west has warned Russian president Vladimir Putin of grave economic consequences if he attacks his western neighbour (3) (4). Germany has made clear these would include a halt to the Nord Stream 2 pipeline licensing process. Nord Stream 2 although fully built is not yet operational. The pipeline brings Russian gas directly to Europe under the Baltic Sea and runs parallel to NSI already in operation since 2012.

Some fear the Kremlin could respond to sanctions by reducing or even stopping gas flows to Europe, which relies on Russia for 40 per cent of its gas. Lindner's remarks suggest such a scenario is being taken seriously in Berlin. The growing tensions over Ukraine have coincided with a surge in European gas prices, amid lower-than-expected deliveries from Russia and rising demand from economies emerging from the Covid-19 pandemic. Some experts believe Russia held back supplies to the spot market and deliberately depleted its gas storage facilities in Europe ahead of winter demand, driving stockpiles to their lowest seasonal level in more than a decade.

"Gazprom, a Russian state-owned company, is deliberately trying to store and deliver as little as possible," Ursula von der Leyen, European Commission president, told the Munich Security Conference on Saturday (19/2). "While prices and demand are skyrocketing, this is very strange behaviour for a company." Such developments have persuaded many in Berlin that Russia is prepared to use its energy exports to exert pressure on the west, regardless of the damage that

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<sup>1</sup> Vladimir Putin orders troops into eastern Ukraine after recognising breakaway republics, Max Seddon, Henry Foy and Demetri Sevastopulo, Financial Times, February 22, 2022

might do to its reputation as a reliable supplier. The EU has said it would be able to cope with a partial cut-off of gas and has spoken with the US, Qatar, Egypt, Azerbaijan and other countries about increasing deliveries of liquefied natural gas (LNG), either through additional shipments or contract swaps (5).

Lindner, in his FT interview, insisted Germany had made adequate contingency plans to source alternative supplies of gas should Russia turn off the tap. But he added that the current crisis underscored the need for Germany to diversify its energy imports, in particular by procuring more LNG. "I'm very much in favour of Germany building LNG terminals, and have been for years," he told the FT. "If we get LNG terminals built then that would be a positive outcome of this situation."

In a call with European leaders last week (15/2), and inspite diplomatic moves by UK, France and Germany, Mr. Biden said the U.S. now believed that Mr. Putin had made a decision to go ahead with an invasion of Ukraine and named specific dates when Washington believed it might happen. Russia has denied that it is preparing to invade its neighbor and has accused NATO of providing Ukraine with sophisticated weaponry, fomenting tension and destabilizing the region.

As Europe faces its most serious security crisis since the end of the Cold War tensions are rising high with the USA president convinced that President Vladimir Putin and his government have already decided to invade Ukraine. However, the U.S. isn't closing the door on diplomacy, following mediation by French president Emmanuel Macron. Vladimir Putin and Joe Biden have accepted "the principle" of a summit to ease tensions over Ukraine (6). However, the recognition by Russia of the Donetsk and Luhansk autonomous regions in Ukraine, casts serious doubt on the summit ever materializing.

Russian foreign-ministry spokeswoman Maria Zakharova, writing recently in her Telegram channel (11/2), responded, "The hysteria of the White House is more revealing than ever. The Anglo-Saxons need a war. At any price. Provocations, misinformation and threats are a favorite method of solving their own problems."

Russian officials have said they don't want any conflicts and Moscow wants to ensure a balance of interests in the region (7). Mr. Putin has spoken of what he sees as the need to revise the entire post-Cold War security order in Europe. The Kremlin is also demanding guarantees that NATO won't expand any further east or deploy weapons close to Russian territory.

Although all signs indicate that a major military conflict has for the time been averted following a reported pull back by Russian troops on February 15 – since disputed by NATO- with Russia focusing on the rebel held provinces of eastern Ukraine, it is important to understand the background of the crisis and the factors that lead to this major military build in first place.

Is Vladimir Putin Gambling?

“Is Vladimir Putin about to invade Ukraine, as the massing Russian troops on its borders suggest? Or is he bluffing, to extort concessions from his neighbour and the West? No one can be sure of Mr. Putin’s intentions”, noted the Economist in a leader (8) suggesting that the Russian president is gambling as if playing Russian roulette.

“Perhaps Mr. Putin is planning a full scale invasion, with Russian forces thrusting deep into Ukraine to seize the capital, Kyiv, and overthrow the government. Or he may seek to annex more territory in eastern Ukraine, carving out a corridor linking Russia with Crimea, the Ukrainian peninsula Mr. Putin grabbed in 2014. Then again, he may want a small war, in which Russia “saves” Kremlin-backed separatists in Donbas, an eastern region of Ukraine, from supposed Ukrainian atrocities -and, at the same time, degrades Ukraine’s armed forces”, adds the Economist with a strong dose of cynicism.

But jokes apart, it seems that Russia has some legitimate concerns over the West. Especially, its European security structure and NATO’s tight surrounding of its southwestern flank.

Map 1.



## What is Russia's current issue with NATO and Ukraine

Ukraine is a former Soviet republic bordering both Russia and the EU. It is not a NATO member, but it is a "partner country" - this means there is an understanding that it may be allowed to join the alliance sometime in the future. Russia wants assurances from Western powers that this will never happen. However, the US is refusing to bar Ukraine from NATO, saying that as a sovereign nation it should be free to decide on its own security alliances.

Ukraine's ambassador to the UK, Vadym Prystaik, suggested recently that Ukraine was willing to be "flexible" over its goal to join the Western military alliance. However, a spokesman for President Volodymyr Zelensky contradicted him, saying Ukraine remains committed to its aspirations to join NATO and the EU as set out in its constitution. Ukraine has a large population of ethnic Russians and close social and cultural ties to Russia. Strategically, the Kremlin sees it as Russia's backyard. On the other hand, Moscow appears to be equally threatened by Washington. Supported defense expansion in the broader region which is related to US missile defense system and how this is structured.

Vladimir Putin's ire at the west and at NATO's eastward expansion ostensibly hinges on a decades-old treaty provision the Russian president maintains is under threat: "the indivisibility of security". The concept broadly states that the security of any state is inseparable from others in its region. Putin's stated belief that NATO strategy puts this principle in jeopardy is at the heart of Moscow's justification for its military deployment on Ukraine's borders.

Sergei Lavrov, Russia's foreign minister, repeated the complaint only last week when he cast western allies as aggressors following intelligence assessments that Russia was plotting to fabricate a pretext for a full-blown invasion of Ukraine. "Russia is seriously concerned about increasing politico-military tensions in the immediate vicinity of its western borders," Lavrov said. There were "differences in the understanding of the principle of equal and indivisible security that is fundamental to the entire European security architecture".

First crafted during the cold war, the term "indivisibility of security in Europe" was included in the Helsinki Final Act of 1975, which set ground rules for the interaction between two antagonistic blocs, the western alliance of NATO and the Warsaw pact made up of the Soviet Union and some of its satellite states (9).

But the dissolution of the Soviet Union changed things, with former Soviet satellites feeling free to choose their own security arrangements. The 1990 Charter of Paris for a New Europe stated that "security is indivisible and the security of every participating state is inseparably linked to that of all the others".

The 1997 NATO-Russia Founding Act, which aimed to build mutual trust, similarly recognised the concept and pledged NATO would not, "in the current and foreseeable security environment", install permanent bases in new member states. Notably, the preamble also said NATO and Russia "do not consider one another adversaries".

But things have moved on and today we have "a totally different reality", said Samuel Charap, senior political scientist at the Rand Corporation think-tank in Washington. Russia under Putin

has sought to create a sphere of influence, launching a war against Georgia in 2008 and annexing Crimea from Ukraine in 2014. NATO has, meanwhile, expanded to include former Soviet satellites, such as the Baltic states and Poland, with rotating bases in those countries (10).

In short, the West faces two sets of Russian demands. One is to recast Europe's security architecture by constraining NATO in the east. The other is to lock Ukraine in Russia's orbit. Of the two, Ukraine is more urgent and perilous. The fulcrum is Donbas, where Russian-backed separatists have been at war with the rest of Ukraine since 2014. The Minsk II agreement, signed in 2015, including by a Ukrainian negotiator, was supposed to stop the fighting, but much of it has never been implemented. Russia's president, Vladimir Putin, wants the West to force the Ukrainian government to comply.

The Minsk agreements, which were aimed at bringing about a ceasefire, required a new federal role for the country's regions. That would have allowed separatists in Donbas to hobble any Westward drift on the part of the country as a whole. But the Minsk agreements are moribund and Ukraine has remained a unitary state. Although it has remained a unitary state. Although it has not moved towards formal NATO membership during the subsequent eight years, it has benefited a lot from Western assistance, military and otherwise, which looks set to continue<sup>2</sup>.

#### What else is Russia concerned about?

President Putin claims Western powers are using the alliance to surround Russia, and he wants NATO to cease its military activities in eastern Europe. Over the last 20 years or so, some 12 new countries in the broader region have joined NATO sending a very clear message to Moscow. Putin has long argued the US broke a guarantee it made in 1990 that NATO would not expand eastwards. NATO rejects Russia's claims and says only a small number of its member states share borders with Russia, and that it is a defensive alliance. Many believe the current build-up of Russian troops on the Ukrainian border may be an attempt to force the West to take Russia's security demands seriously and get NATO and USA on the negotiating table to discuss and commit themselves to a new security order.

Thomas Graham, who served as senior director for Russia on President George W. Bush's National Security Council, said Moscow had never believed Washington's assurances that its missile defense system was aimed at Iran, not Russia. The issue, he added, had become a powerful symbol for the Kremlin of a post-Cold War order that it views as dangerously one-sided and which it is now trying to revise through military threats. "The current crisis is really much broader than Ukraine," Mr. Graham said. "Ukraine is a leverage point but it is more about Poland, Romania and the Baltics. The Russians think it is time to revise the post-Cold War settlement in Europe in their favor" (11).

In a meeting with Mr. Putin last Monday (14/2), Russia's foreign minister, Sergey V. Lavrov, emphasized that Russia wanted to see "radical changes in the sphere of European security," far-reaching changes that go beyond just Ukraine to include a pullback of NATO troops now in Eastern Europe, limits on the deployment of offensive weaponry and restrictions on intermediate range missiles. Should Ukraine draw closer to NATO, Mr. Putin thundered, "it will

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<sup>2</sup> Minsky moment, Leader, The Economist, February 12, 2022

be filled with weapons. Modern offensive weapons will be deployed on its territory just like in Poland and Romania”.

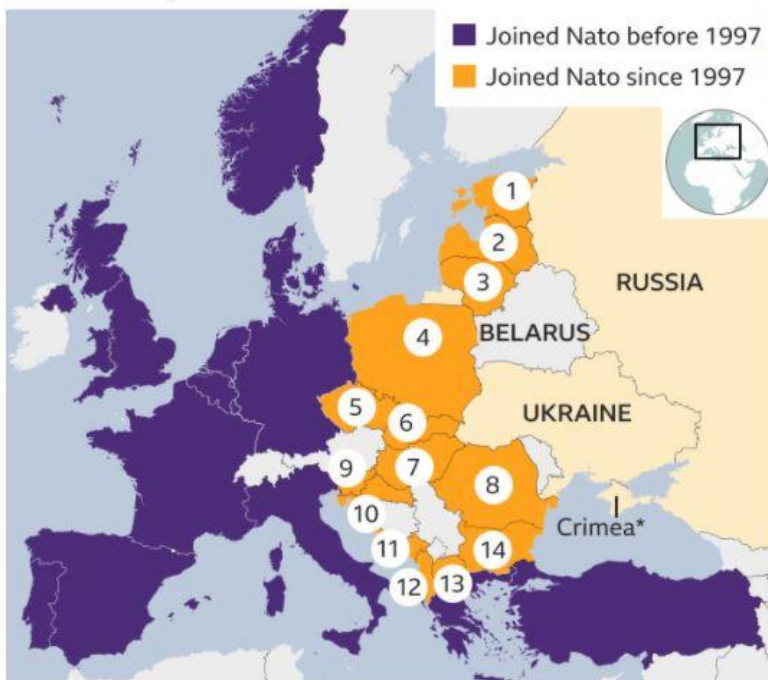
Why is Putin threatening Ukraine?

Russia has long resisted Ukraine’s move towards European institutions, and NATO in particular. Its core demand is for the West to guarantee Ukraine will not join NATO, a defensive alliance of 30 countries. Ukraine shares borders with both the EU and Russia, but as a former Soviet republic it has deep social and cultural ties with Russia, and Russian is widely spoken there.

The threat is being taken seriously because Russia has invaded Ukraine before. When Ukrainians deposed their pro-Russian president in early 2014, Russia annexed Ukraine’s southern Crimean Peninsula and backed separatists who captured large swathes of eastern Ukraine. The rebels have fought the Ukrainian military ever since in conflict that has claimed more than 14,000 lives.

Map 2

Nato's expansion since 1997



- ① Estonia      ⑤ Czech Republic      ⑨ Slovenia      ⑬ North Macedonia
- ② Latvia      ⑥ Slovakia      ⑩ Croatia      ⑭ Bulgaria
- ③ Lithuania      ⑦ Hungary      ⑪ Montenegro
- ④ Poland      ⑧ Romania      ⑫ Albania

\*Russia annexed Crimea in 2014

### The Ukrainian conflict is already impacting the European gas market

Such is the anxiety and nervousness of the present period, where we see military and political tensions rise to unprecedented levels since the end of the Cold War, that the current conflict is already impacting European and global gas prices.

As RYSTAD notes, the gas market continued to be extremely nervous in January, with tensions between Russia and Ukraine and the potential impact on Russian gas supply to Europe the main focus. Volatility remained high but overall, prices stayed similar at the beginning and end of the month. Russian supply had improved slightly by the end of the month, easing the pressure. Prices are still at record highs with the forward curve now suggesting high prices for all of 2022 above €70 per MWh. Longer term, there is still a strong contango in the gas curve as the market expects the supply situation to improve in 2023 and 2024 (12).

Fig. 1

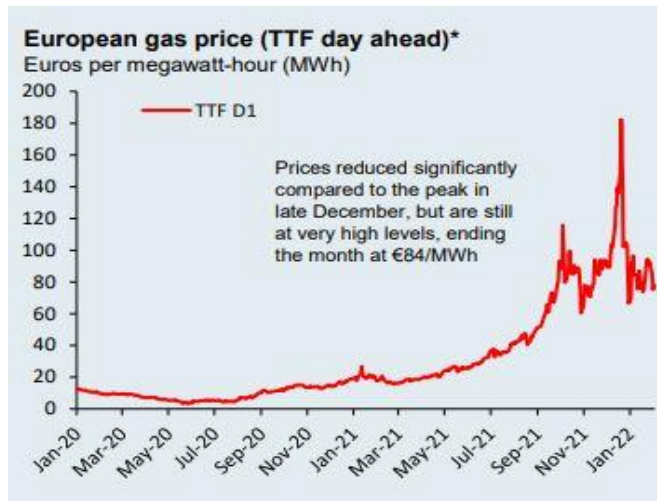
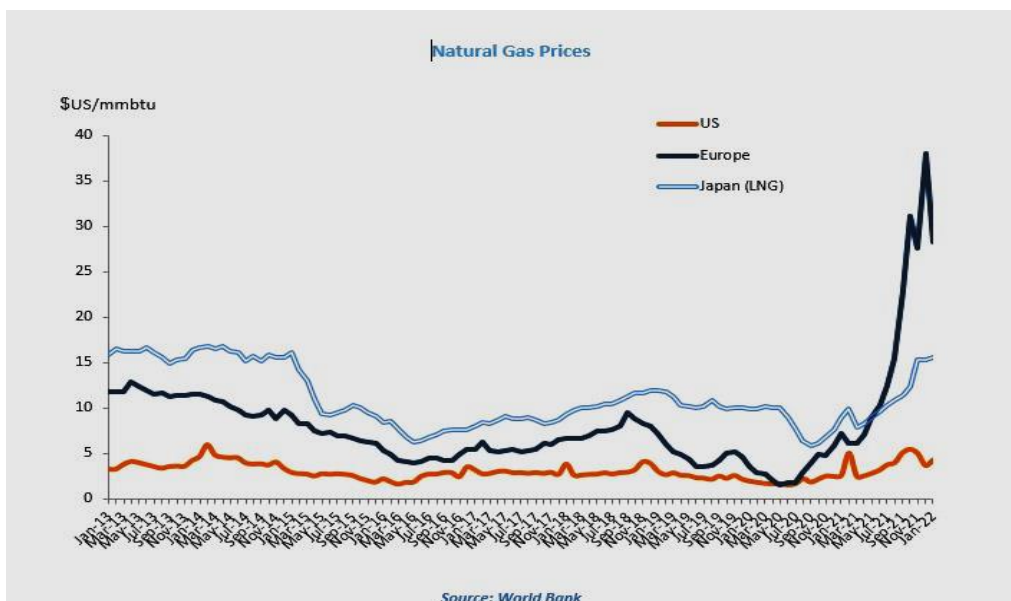


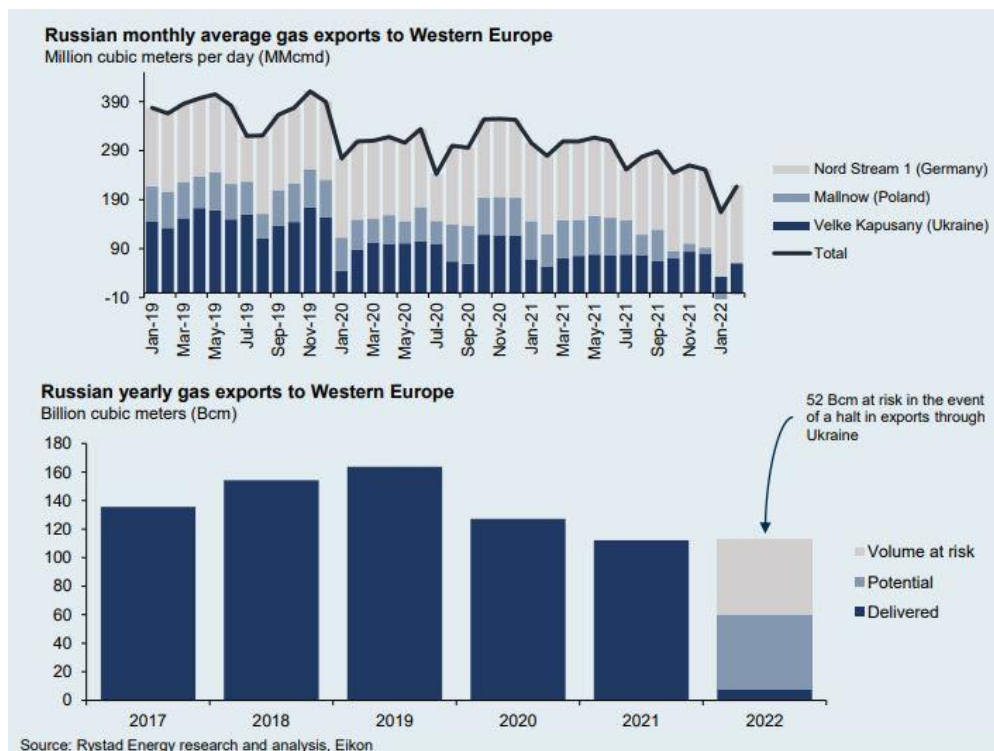
Fig. 2





Russian natural gas supplies to Europe are at their lowest level in seven years and this has caused gas prices to reach historic highs, severely impacting the power market. As seen in the chart, flows from Russia to Western Europe have been on a declining trend since the start of 2020 with exports falling from a daily average flow rate of 410 million cubic meters per day (MMcmd) in November 2019 to under 200 MMcmd in January 2022. The decline has been driven mostly by lower exports to Western Europe through Ukraine and a sharp drop in deliveries to Poland. Gazprom has continued to honor long-term contracts with European buyers meaning the decline could be the result of lower nominations from buyers, Gazprom delivering lower spot volumes to the market or a combination of both (13).

Fig.3



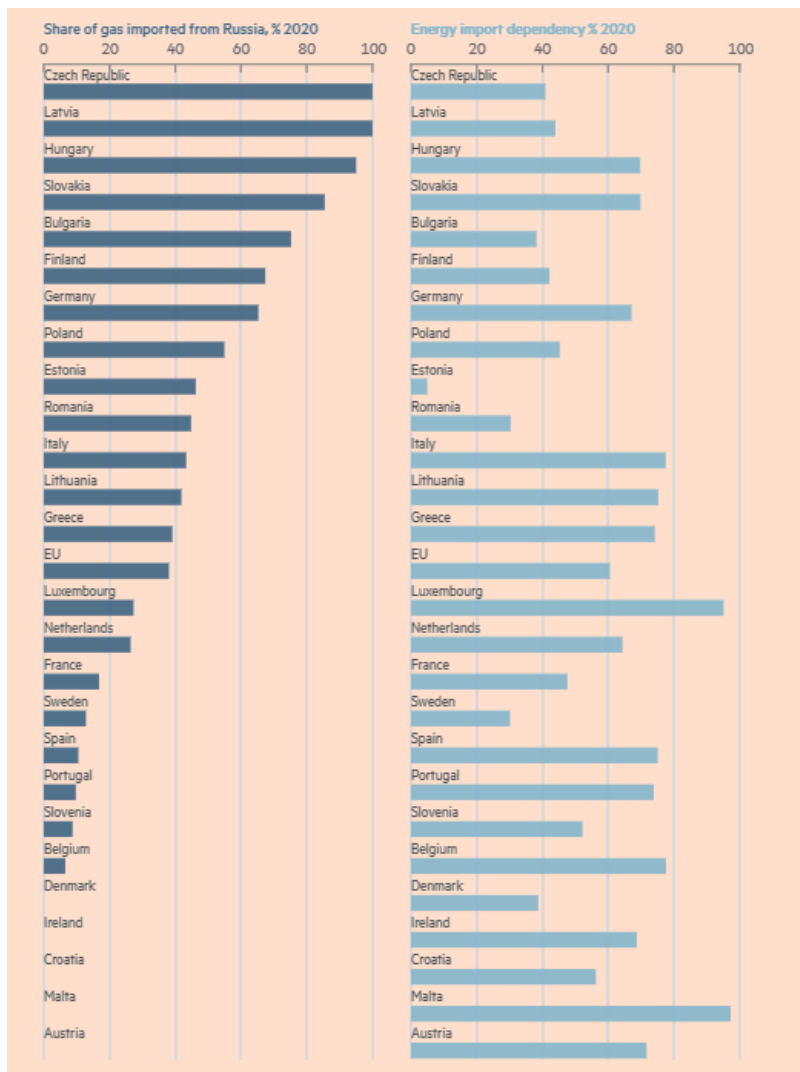
The uncertainty over the prospect of an escalation of hostilities against Ukraine by Russia is discussed at length in an excellent analysis published by the Oxford Institute for Energy Studies (OIES) (14). As the OIES notes Undoubtedly, any invasion with the prospect of resistance by Ukraine and heavy sanctions from the West on Russia would spook the markets and likely force prices even higher given the uncertainties surrounding gas flows. Further to the price spikes that would inevitably follow the outbreak of military conflict there it is highly debatable if such action would actually lead to a complete cessation or partial curtailment of Russian gas flows to Europe. In this context and with the help of OIES it is important to establish some basic facts concerning Russian gas supplies to European energy markets.

Russian supplies are key to European gas markets

As the OIES observes, “over the past three years, gas consumption in Europe<sup>3</sup> fluctuated between a peak of 488 Bcm (2019) and a low of 471 Bcm (2020), before recovering to 480 Bcm in 2021. Declining gas production in Europe is rendering the market increasingly import-dependent, with imports accounting for approximately 85 per cent of total supply between 2019 and 2021”.

“Russia is the largest source of imports to the European gas market. Russian pipeline supplies accounted for 35 per cent of total European supply<sup>2</sup> in 2019 (179 Bcm), although that figure fell to 32 per cent in 2020 (146 Bcm) and 31 per cent in 2021 (142 Bcm). In addition, LNG from Russia added 18-20 Bcm per year of supply to the European market, equivalent to 4 per cent of total supply in that period”.

Fig. 4



<sup>3</sup> ‘Europe’ is defined as the EU-27, UK, and non-EU Balkans. Turkey is excluded. This excludes storage injections and withdrawals

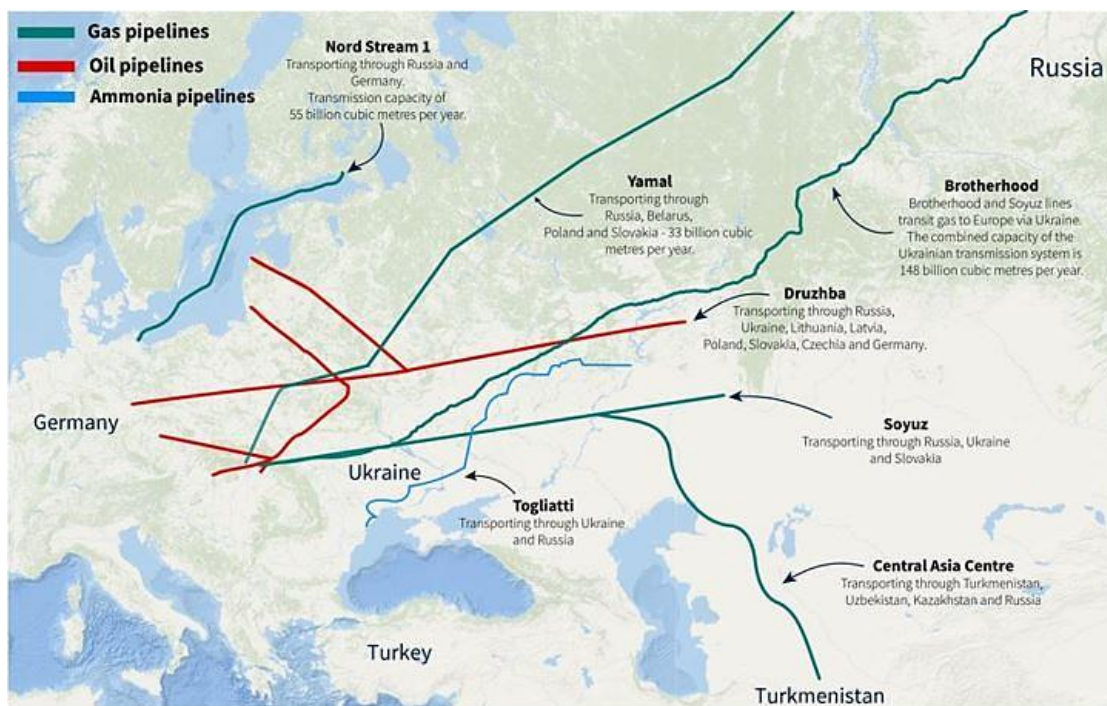
“Turkey is also a major pipeline gas export market for Russia, and a transit country for the delivery of Russian gas to South-Eastern Europe. Turkish gas demand rose from 47 Bcm (2019) and 50 Bcm (2020) to 62 Bcm (2021), while the country remains dependent on imports to meet at least 95 per cent of that demand. Russia is the largest supplier to that market, providing 15 Bcm and 16 Bcm in 2019 and 2020, respectively, and 27 Bcm in 2021.3 Russia exported virtually no LNG to Turkey during this period”.

“With Turkey included Russian gas supplies covered 36% of demand in 2019 and 31% in 2020 and 2021. With Russian LNG exports included the share of Russian gas supply to the broader European continent shoots to 40% in 2019 and 35% in 2020 and 2021” (15).

Russia’s gas pipeline network

In order to deliver such huge amounts of gas to several European destinations Russia has over the years built an extended network of pipelines, compressors and metering stations. In addition, Gazprom has developed several Underground Gas Storage (UGS) units within Russia but also in selected European countries. At present there are four main routes for Russian pipeline gas to Europe. Nord Stream 1 via the Baltic Sea to Germany, the Yamal-Europe pipeline to Germany via Belarus and Poland, the various Ukraine routes to Slovakia, Hungary, Romania and Poland, and the pipelines to Turkey (Blue Stream and Turk Stream), with onward connections to Bulgaria, Serbia, and Hungary. In addition, there are pipelines for direct deliveries to the Baltic states and Finland. The Nord Stream 2 pipeline (which is now physically complete but not yet operational), runs in parallel with Nord Stream 1, although the starting point in Russia (Ust-Luga) is just to the south of the starting point for Nord Stream 1 (Vyborg).

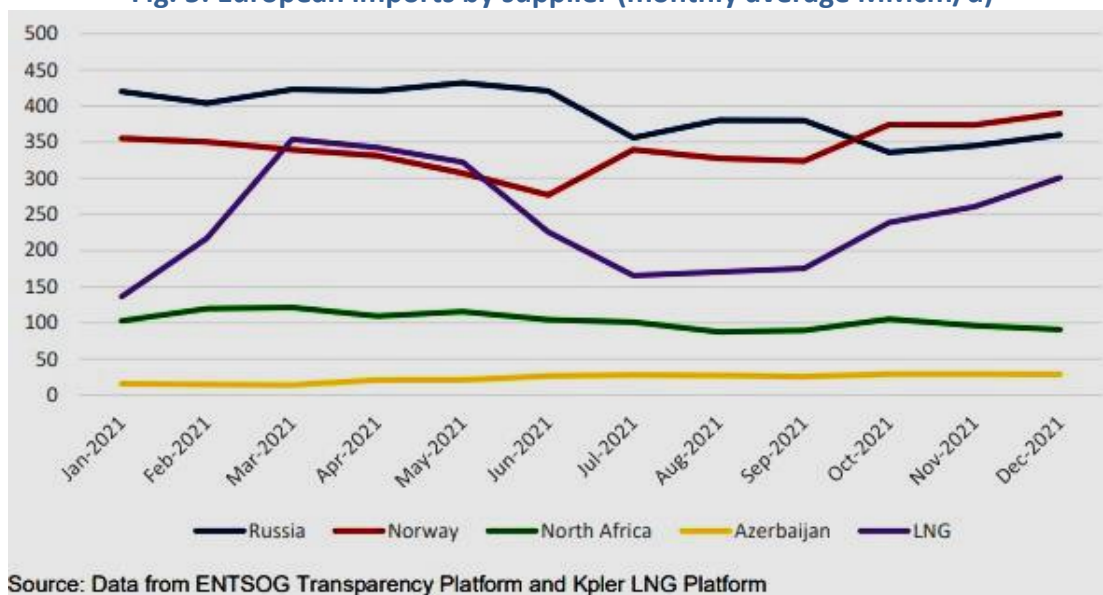
**Map.3: Russian gas and oil export pipelines to Europe**



SOURCE: Global Fossil Infrastructure Tracker, Global Energy Monitor, ICIS, Ameropa

To provide an estimation of the relative importance of these routes, in 2021, and as OIES notes, «Russia delivered 58.1 Bcm via Nord Stream 1, 26.5 Bcm via the Yamal-Europe pipeline, 37.5 Bcm via Ukraine, 12.1 Bcm via Turkish Stream to the EU member states of South-Eastern Europe, and 4.3 Bcm directly to the Baltic states and Finland (plus another 2 Bcm or so for Kaliningrad). A residual 3.7 Bcm was delivered to Poland via Belarus. In addition, all of Russia’s 26.5 Bcm deliveries to Turkey were made via the Blue Stream and Turkish Stream pipelines. The key point is that deliveries via Ukraine accounted for 22 per cent of the 168.7 Bcm that Russia delivered to the wider European market (including Turkey) in 2021. When Turkey is excluded, the share of deliveries via Ukraine to Europe rises to 26 per cent» (16).

**Fig. 5: European imports by supplier (monthly average MMcm/d)**



Will Russia cut off or curtail gas supplies to Europe?

No doubt this is the prime question in the minds of those who study the energy ramifications of the present crisis. However, there is no clear-cut answer as we have several possible scenarios resulting from what would happen if the situation escalated into military conflict, to which Europe responded with targeting Russia’s financial sector and the Russian government was then obliged to reciprocate somehow. Whether Russia, and Gazprom in particular, will take the extreme measure of ordering the suspension of gas supplies to their customers in breach of their contractual agreements will depend entirely on whether these customers are able to process their monthly payments to the Russian company (17).

If the financial sanctions applied involve the blocking of Russian banks from the interbank SWIFT payment system and hence Gazprom clients are unable to transmit funds, then it is possible that Gazprom may invoke a “force majeure” clause and suspend gas deliveries. However, as banking sources note, severing access to the SWIFT system can only be regarded as a financial nuclear weapon and its most unlikely to be used in the present situation given the huge extent of economic and trade relations between European and Russian companies. However, it is reported that that Germany along with other EU member countries are extremely reluctant to support any limitation on Russia’s access to the SWIFT payment system (18).

Given the huge importance of oil and revenues to the Russian government any decision to curtail or cut off gas deliveries to European customers will not be taken that lightly. As the OIES notes “In the period January-November 2021, tax on the production and export of oil and natural gas provided around 36 per cent of Russia’s federal budget revenues. Most of this was from the production and export of oil and gas condensate with the tax on the production and export of natural gas accounting for some 18 per cent of the total, or 6.3 per cent of Russian federal budget revenues in that period”.

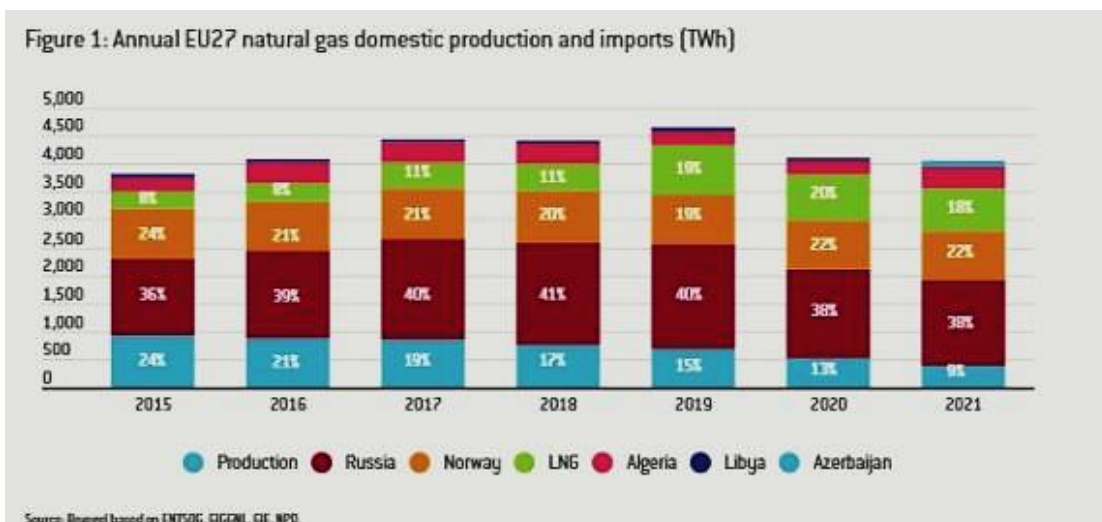
The Russian taxation of oil is heavily weighted towards taxation of production rather than exports. Regarding natural gas, the opposite is true, with export duty accounting for 65 per cent of Russian gas tax revenues in January-November 2021, with tax on production accounting for 35 per cent. The loss of government tax revenues would effectively be ‘double-counted’ because a curtailment of exports (and export duties) would lead to lower production (and lower revenues from tax on production). Aside from the impact on Russian government revenues, Gazprom itself would be hit hard by a curtailment of exports to Europe, given the wide disparity between Gazprom’s revenues from its exports and its revenues from domestic sales” (19).

On the whole, most observers believe that it is most unlikely that Gazprom or the Russian government would curtail supplies to Europe in the event of an escalation of hostilities, including the event of a full scale invasion of Ukraine given the disproportional cost of such a move. However, European prices would surge on the fear that supplies would be somehow affected.

European energy supply under threat?

Today, Europe, especially EU27, as documented by Eurostat, is totally dependent on energy imports for its economic and industrial survival as its indigenous energy production (which includes oil, gas, electricity, and biomass) is responsible for only 42.5% of its total consumption. The rest, mainly in the form of oil and gas, it imports from a variety of countries around the world. Russia is by far Europe’s largest energy supplier. About 40 per cent of the bloc’s natural gas and nearly one-third of its crude oil come from Russia.

Fig. 6



The US, a net energy exporter, and the EU are discussing securing alternative supplies. Gas reserves are below historical levels and prices have soared in recent months, giving Russia increased leverage. “The truth is, Europe has no substitute for Russian gas,” says Ronald Smith, senior oil, and gas analyst at BCS Global Markets.

In the event of the conflict, natural gas prices “could easily regain the [December 2021] peak of €180 per MWh”, says Andrew Kenningham, chief Europe economist at Capital Economics. “Electricity rationing could push the economy into a recession”.

Bruegel, the Brussels think-tank, said the EU would need to take “difficult and costly decisions” around curbing industrial and consumer demand to survive largescale disruption to gas supplies until the summer. Moreover, countries such as Germany have limited scope to switch to other sources in the short term, having moved away from nuclear and coal (20).

The Nord Stream 2 pipeline from Russia to Germany could be subject to sanctions, and the UK and EU are discussing curtailing new Russian gas projects. But as in 2014, when sanctions were imposed on Russia after it annexed Crimea, most economists do not expect gas flows to dry up entirely, as it wants to be considered a reliable energy supplier. “The Russia gas weapon’ is too powerful to ever be used or, for that matter, to even be mentioned directly in negotiations over this or that disagreement between countries,” said Smith. Sanctions could also disrupt joint ventures in Russia involving European oil groups such as BP, Total and Shell (21).

#### EU Examines Gas Options if Ukraine Crisis Deepens and Disrupts Supplies

As the Russian military standoff hardened over the last 3 weeks Brussels examined in some length how to shield consumers from a potential energy crisis as part of plans to protect Europe’s households, businesses and borders from the fallout of a Russian military escalation in Ukraine. According to senior EU officials in Brussels, the priority of the EU’s emergency planning is to cope with any reduction in gas flows from Russia.

Fig.7

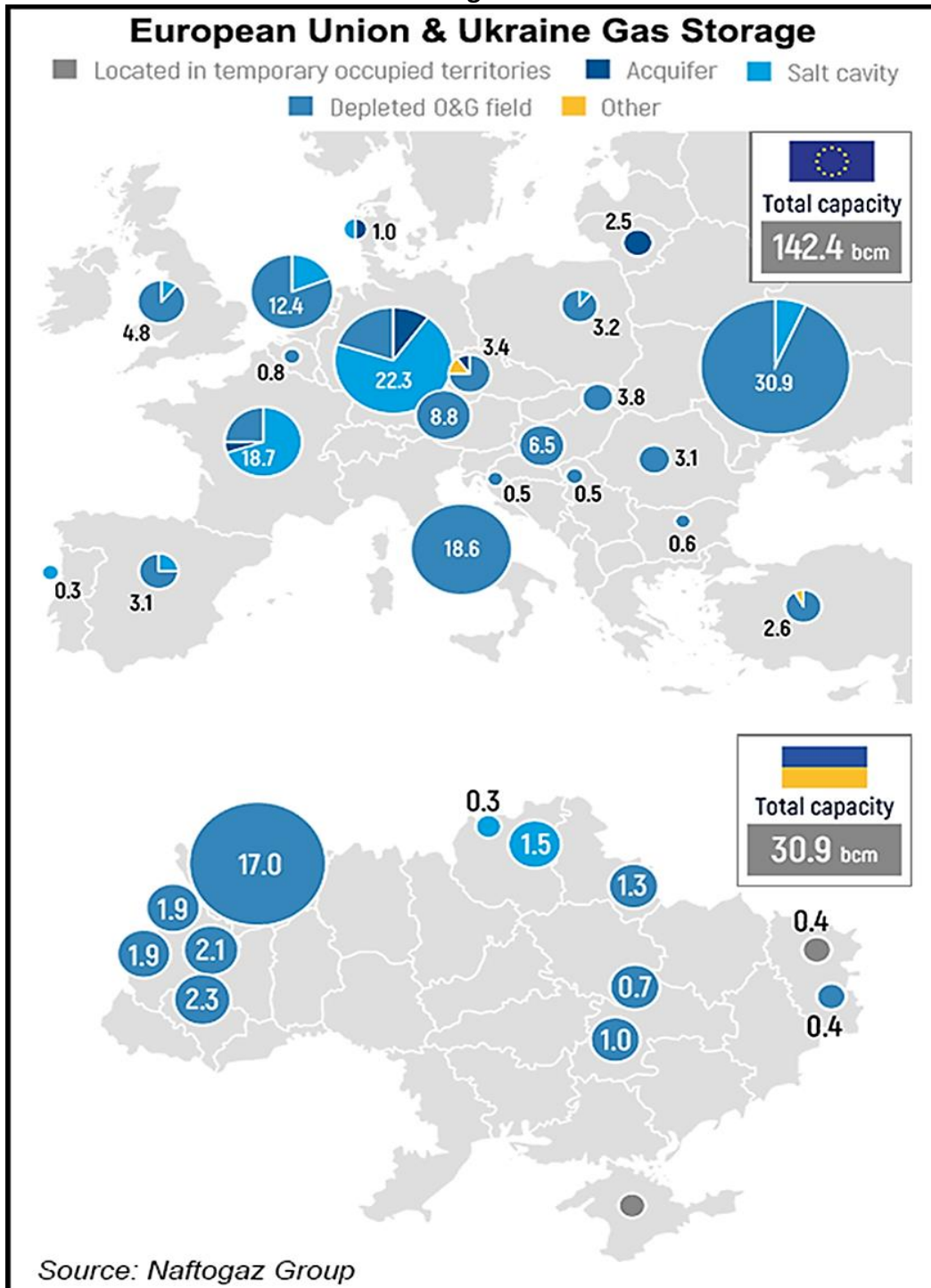
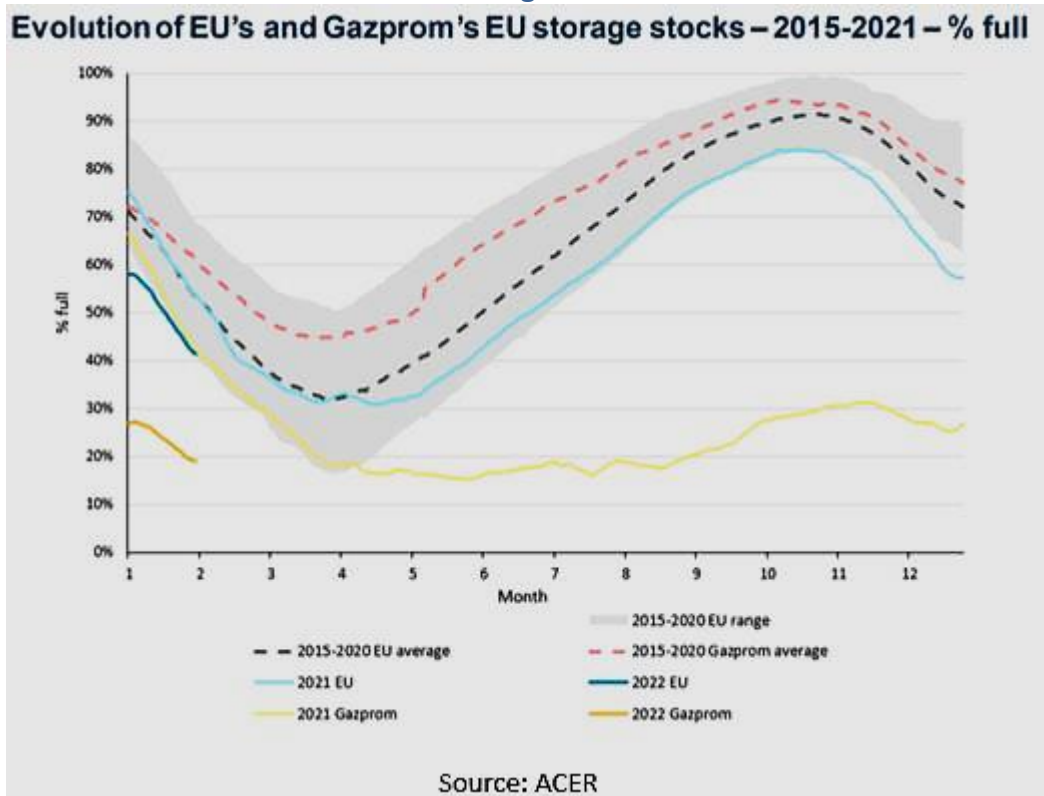


Fig. 8



Ursula von der Leyen, European Commission president, told the Financial Times in a recent interview that the EU needed to be prepared for “any scenario” with Russia and Ukraine — part of which was to do everything it could to find alternative energy sources. “You would never trust a gas supplier that is not reliable,” she said. “This scenario would be very difficult for the EU, but the same goes for Russia with its one-dimensional economy. In such a situation we would also do everything to alleviate the pressure on households and consumers” (22).

Furthermore, the European Commission is examining how it could intervene temporarily to weaken the link between record gas prices and the cost of wholesale electricity in the EU if there is a gas crisis — a measure that EU officials dismissed a few months ago during a record electricity price surge. The EU’s agency for energy regulation has warned against disrupting the bloc’s pricing system for electricity, saying introducing tools such as price caps would jeopardise the security of supply by forcing some suppliers out of business.

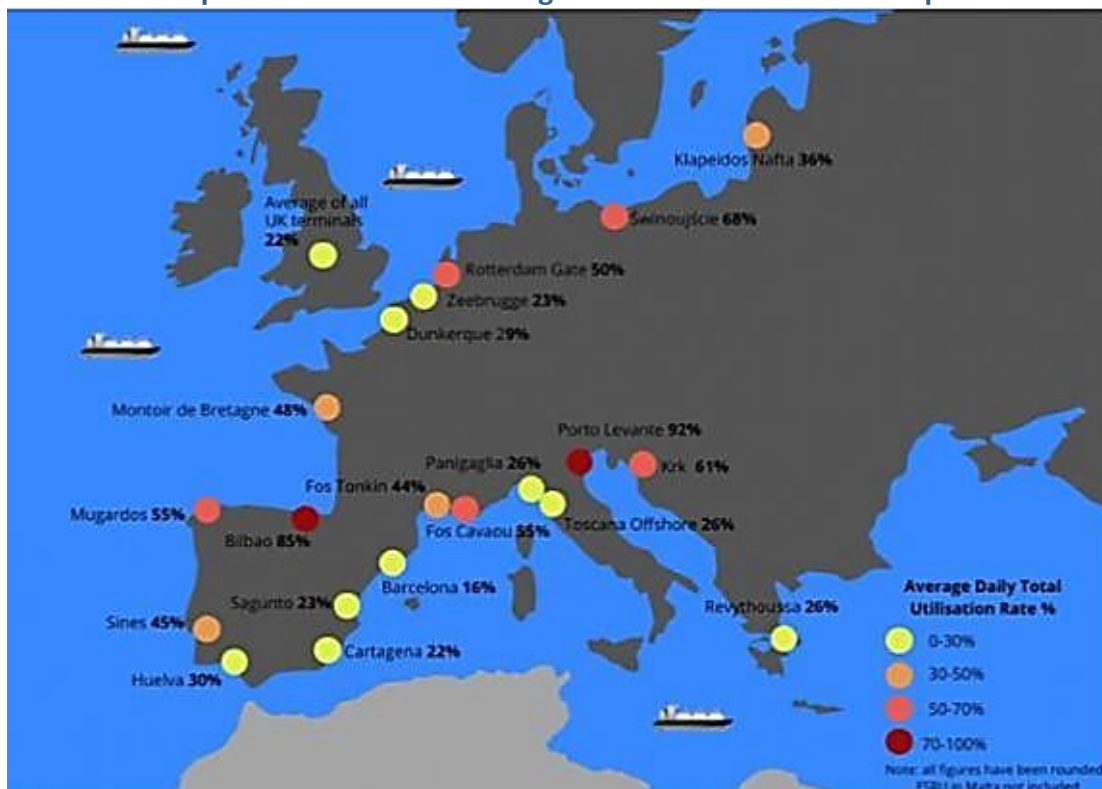
Officials have made it known that short-term plans to deal with a crisis would also include securing increased flows of liquefied natural gas (LNG) from big producing countries. The same officials have in recent weeks embarked on diplomatic charm offensives towards big LNG producers, with the likes of the US, Australia and Qatar approached for additional supplies. Qatar, which is the world’s largest LNG exporter, has categorically stated that it has no spare capacity to enable it to increase considerably exports to Europe. Currently, European hopes are pinned on US LNG which has increased sharply its export to Europe over the last 2 months.



But when it comes to the large scale use of LNG as an alternative fuel to European gas supply the problem is that there is simply not enough capacity available to enable European markets to switch quickly to LNG as their primary as supply source. As can be seen on Map 4 LNG gasification terminal location is not analogous to demand needs as some of them are used to satisfy transshipment and trading needs. While some countries, especially in Northern Europe (Germany being a good example) do not have any LNG terminals operating in their territory. Likewise, Europe appears to have limited underground gas storage facilities since supplies over the last 40 or so years have been steady and without any serious disruption problems.

But when it comes to examining an alternative gas supply scheme for Europe and your two pillars - LNG and UGS- suffer in terms of capacity and location you cannot plan an effective fall back emergency supply policy. Hence, it seems that EU planners have to return to the drawing table and think afresh of alternative gas supply plans. They should also take note that the implementation of such plans will require (a) securing of ample funding (but there appears to be no problem in obtaining EU cash) for the construction of new infrastructure, and (b) overcome the ideological barrier presently instilled in the thoughts of many EU functionaries whereby natural gas should be discarded once and for all as a dangerous and detrimental fuel in our fight against climate change. Such simplistic and counter productive thoughts should be shelved for good if Europe is to enjoy a relative degree of energy security and independence.

**Map 4: The locations of LNG gasification terminals in Europe.**

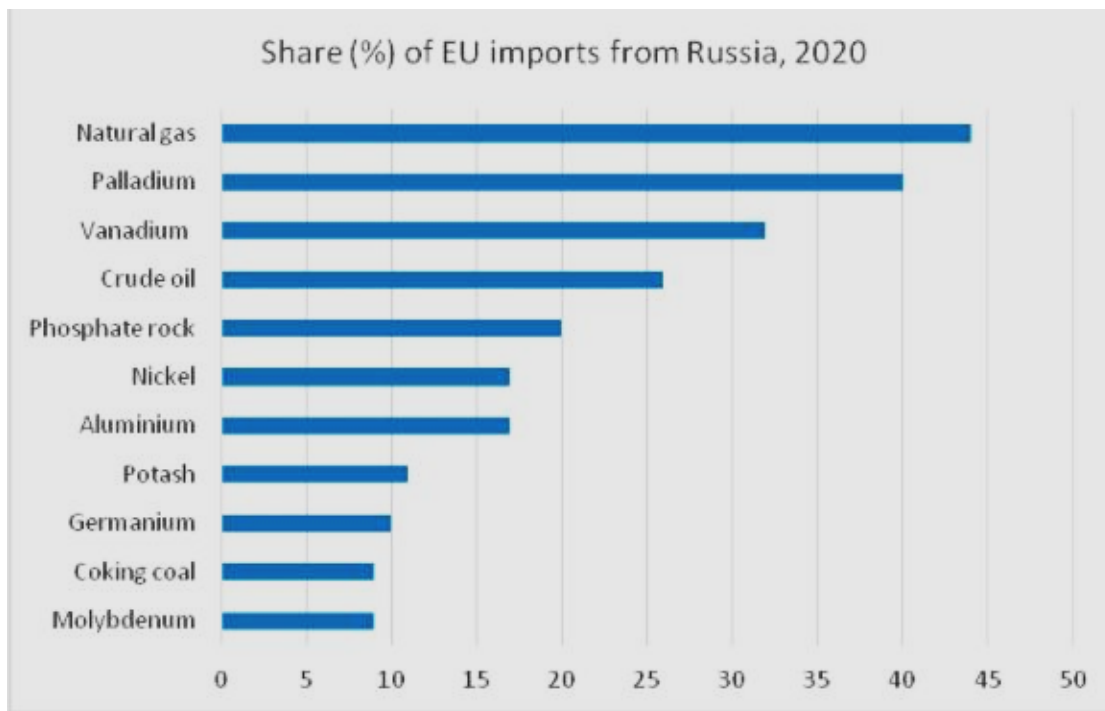


Europe’s energy prices surged to record highs in the last quarter of 2021, driven by fears over Russia’s willingness to supply imports during a full-blown military conflict. Should Moscow shut off all supplies to Europe, it would lead to emergency rationing and rolling blackouts in the EU. Contingency plans are due to be presented to EU capitals next month.

It is useful to remember that cutting gas flows to Europe is Russia’s trump card if the west imposes tougher sanctions in the event of a fully fledged military conflict in the Ukraine. But the EU’s vulnerability to countermeasures by the Kremlin extends far beyond energy. Policymakers worry the bloc is less prepared than Moscow, where President Vladimir Putin’s “Fortress Russia” strategy is aimed at helping the country weather any deeper sanctions (23).

Raw materials at risk

Fig. 9



As an exporter of commodities, Russia is on the European Commission list of suppliers of critical raw materials. It supplies about 40 per cent of the world’s palladium, used in catalytic converters that curb vehicle emissions, and about 30 per cent of titanium, which is crucial for the aerospace industry.

Europe’s Airbus, which sources about half of its titanium from Russia, and Boeing, its US rival, use the metal to make aircraft. Airbus has said it would “rigorously comply with any sanctions and export control regulations”.

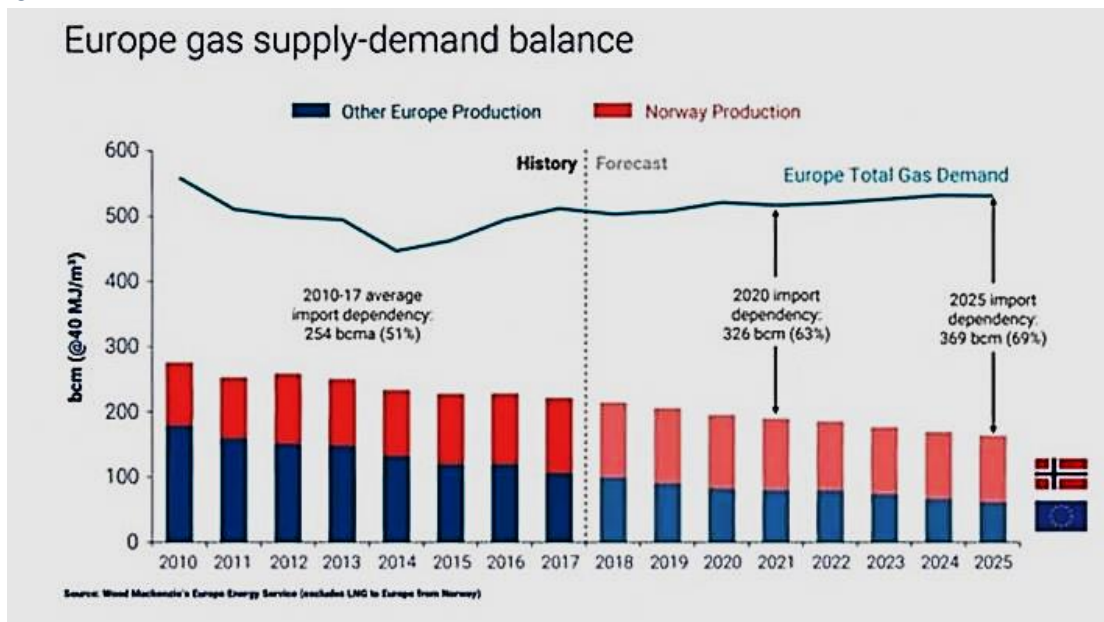
EU officials have also discussed tough export controls on western technology. Warren Patterson, head of commodities strategy at LNG, said sanctions imposed on Russian banks or industries were likely to have a “far-reaching impact” that could spread across markets in which the country is a leading exporter, including aluminum, nickel, copper and platinum.

The EU’s dependence on Russian gas has long been seen as a brake on the bloc’s ability to wield punishing sanctions on Russia (24).

EU's Gas Supply Gap Set to Grow

As the EU is pursuing a rigorous decarbonization agenda more and more gas is being consumed for power generation. With indigenous gas production being in decline the supply gap is inevitably going to increase (see Figure) with Europe becoming even more dependent on Russian gas imports. In order to secure safe gas transmission to Europe, Moscow embarked upon the development of a North and South gas transmission corridor and went ahead to build Nord Stream 1 and 2 (which crosses the Baltic) and Turk Stream which crosses the Black Sea.

Fig. 10



The broad strategic aim being the by-passing of Ukraine as the above pipelines are capable of delivering the bulk of Russian gas exports to Europe. When fully developed between them they will be capable of transiting some 140 bcma to 180 bcm delivered annually to main European destinations. Hence, Ukraine's strategic position is weakened as it also loses hefty transit fees from substantial Russian gas quantities until recently transmitted through its territory.

Perhaps the biggest uncertainty is what happens to the huge amounts of gas that Russia now moves via Ukraine. Moscow could halt flows through Ukraine in the event of a conflict, says Volodymyr Omelchenko, the head of energy research at Ukraine's Razumkov Centre. That would give Russia leverage to "dictate its conditions to Ukraine and to the EU." But others aren't so sure. Russia wants to preserve its position as a reliable supplier, and "I do not see this position changing even in the event of a shooting war with Ukraine," said Chris Weafer, chief executive officer of Moscow-based Macro-Advisory Ltd. At stake is 40 billion cubic meters of gas that Russia is committed to move annually via Ukraine under a contract that ends in 2024. That's about a third of the Russian gas exported to Europe, and almost half of what Germany consumes annually.

## Is there a Plan B?

The truth is that Europe does not have a realistic alternative gas supply plan in the event that Moscow cuts off gas supplies to Europe. While few observers think Moscow is eager to sever gas flows to Europe entirely if tensions escalate further, any additional restrictions on exports in the depths of winter would be likely to send gas prices to new heights.

Analysts at Citi have warned that with a complete loss of Russian supplies Europe would face widespread industrial disruption and “rationing [of] electricity, potentially including rolling blackouts”. At best, with co-ordinated government action and significantly higher prices, Europe could replace two-thirds of Russian gas with seaborne LNG cargoes, Citi estimates. “Given the likely widespread economic and societal impact in Europe, and likely punitive responses, we think Russian policymakers are unlikely to carry out such a threat,” Citi said. “[But] even reducing supply a bit, without a complete cut-off, could have sizeable impacts on prices and industrial production in Europe” (25).

Russian president Vladimir Putin, who has demonstrated in his public comments a solid understanding of how commodity markets function, knows that you do not need to cut supplies to zero to have huge influence over markets. In the fourth quarter, Russian exports to north-west Europe were down between 20 and 25 per cent, according to the International Energy Agency (IEA).

Moscow argues that it is meeting all its long-term contracts to European buyers. But heavily restricting spot sales with little prior warning and draining the storage facilities of Russia’s Gazprom in Europe has left the market desperately tight. Putin has repeatedly tied higher supplies to the approval of the Nord Stream 2 pipeline, which would bypass Ukraine to carry gas direct to Germany.

If Europe and the US retaliate to any further action from Russia in Ukraine by imposing sanctions, there are second-order risks. US president Joe Biden has indicated that Russian banks could be cut off from using US dollars in the event of a full-scale invasion. If western banks become wary of dealing with Russian entities, even in euros or other currencies, the risk of disruption increases — even if that was not the primary aim.

And while Moscow may be cautious about retaliating by cutting gas sales completely, given that it would have a galvanising effect in European countries, it would be foolish to rule out the possibility. Europe, note analysts, is arguably already experiencing a form of economic warfare from Russia, designed to remind it of its weakness when it comes to energy.

Even if the current crisis fades away, Gazprom has made clear it does not see Europe as its future, with plans to send the continent headlong into competition with China for its wares. Russia understandably views China’s energy-hungry economy as a huge opportunity and Europe’s aim to reduce fossil fuel consumption as a risk. But to date, Gazprom’s pipeline exports to China have only come from newly developed gasfields in the east of the country that do not supply Europe. Plans are being studied, however, to connect up the western Siberian fields that supply Europe to China via a pipeline running through Mongolia, potentially by the end of this

decade. Cold winters 10 years from now could land households in Europe in a bidding war with state-backed Chinese utilities for the gas they need.

According to market observers today's intertwined crises in gas prices and Ukraine should finally force action from Europe to reduce its reliance on Russian gas as quickly as possible. That it has not done so already represents a huge failure by European policymakers, leaving a strategic weakness at the heart of the continent. The EU's dependence on Russian gas has long been seen as a brake on the bloc's ability to wield punishing sanctions on Russia.

Being preoccupied with a green only agenda, the heart of the EU's actions are biased towards renewables and energy efficiency. But Europe also needs to act aggressively on gas supplies today, as it will take many years for RES, electric batteries and hydrogen to have a visible effect on European energy supply. Hence, a number of analysts suggest that any encouragement should be given to domestic gas production while at the same time securing alternative gas supplies through seaborne LNG contracts.

### Energy Security back on center stage

As Moscow seeks an accommodation on its security concerns in Europe and following its latest military incursion into Donetsk and Luhansk, tensions between Russia and the West are likely to remain high for the foreseeable future. This is inevitably reflected on energy market dynamics and eventually prices. Our analysis shows that with geopolitical and market considerations all factored in, electricity and gas prices are likely to remain at their present high level for sometime. In the case of oil prices, under the present global setting, these are less likely to be affected by regional conflicts such as the current one in Ukraine, since market fundamentals weigh more heavily in price formation.

Another important takeaway from the current crisis is the reemergence once again of energy security as a main pillar defining European energy policy along with environmental and economic competition issues. In this sense a lot more attention will need to be placed by the EU on energy supply issues which have lately been brushed aside with decarbonisation and green policies taking precedence. The stark choice between having or not having adequate energy - whether oil, electricity or gas- re appears for the first time as a central policy issue in post war Europe.

Another takeaway of the present analysis and supportive of our position is the latest, (pending), Communication from the Commission to the European Parliament and others, according to which gas and electricity prices will "remain high and volatile at least until 2023" according to long term forecasts by the Commission. The draft Communication, obtained by EURACTIV, gives a grim picture of high and unstable energy prices continuing for the coming years, which will inevitably drive inflation, impact households and increase the costs of businesses (26).

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**IENE NEWS ANALYSIS - Issue No. 6, February 22, 2022 – ISSN:179-9163**

News Analysis is published by the INSTITUTE OF ENERGY FOR SOUTH-EAST EUROPE (IENE)  
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