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Monthly Analysis

Energy Security is Proving Pivotal in Today's Energy Crisis



Introduction

After years of neglect, energy security is once again considered an integral part of European energy policy. Although Europe's consistently high energy dependency (it reached above 60% three years ago) should not have allowed any relaxation in terms of policy and import arrangements, the ease of energy prices, especially after the collapse of oil prices in December 2014 and then during the Covid-19 pandemic, and the subsequent tranquil proliferation of gas markets across Europe based on the gas hub model, created a false sense of security.

Backed by gas price competition and huge imports of low cost Russian gas, especially after Gazprom became fully integrated in European gas trading, EU energy policy makers became fully complacent with what they came to regard as a paradise of safe energy supplies and price stability. No wonder, this ideal state of affairs left considerable margin for them to imagine and plan even greener pastures through the adoption of the much touted "green deal" and the placing of entirely utopian goals of transiting to a carbon neutral continent by 2050 (read NetZero50) or even sooner.

A stark reminder to Europe's energy vulnerability came about following the disruption to Europe's energy supply brought about by the conflict in Ukraine and EU's decision to implement an embargo against Russian exports to Europe since last March that has prompted a major reorientation in the EU's energy strategy, known as the "REPowerEU" plan (1). As part of its attempt to end its dependency on Russian fossil fuels by 2027, the European Commission has devised a patchwork strategy tapping into several alternative sources, including the US, Algeria, Qatar and several African countries. (2)

It did not take long though for consumers to realise EU's profound weakness in enforcing an energy embargo against Russia, which was and still is to a large extent, Europe's major energy supplier. The largest costs to Europe have been indirect. Of prime concern is the economic damage it is incurring as Russia has retaliated against Western sanctions by the flow of gas on which Europe depends. Europeans became acutely aware of the Union's limitations when they saw their monthly energy bills rise multifold over the last 12 months while wholesale gas prices rose 15 times during the same period forcing likewise electricity prices to jump to new highs (At the time of writing, wholesale electricity prices across Europe traded on average above €300/MWh, i.e. six times above their level June 2021). In short, as fighting in Ukraine drags on, the costs for Europe are mounting and the imposed embargo against Russia is proving counterproductive with apparently far worse financial consequences to European citizens than to Russians.

As Charlemagne notes in the Economist (3), "Governments face a choice: either to foot the power bills that would otherwise break many household budgets, or suffer a recession as consumers are left broke. Either

way, public finances will be clobbered just as inflation - also caused in part by rising energy prices - has put an end to the era of free borrowing. For most people and businesses, the vague summertime prospect of having to pay more to keep homes warm and factories humming is about to become a harsh wintertime reality. Politicians trying to range another tranche of aid to Ukraine will not find it so easy when pensioners ate shivering at home".

In a desperate effort to curtail energy use and improve EU security of energy supply, its member states reached on July 26 a political agreement on a voluntary reduction of natural gas demand by 15% this winter. The Council regulation also foresees the possibility to trigger a 'Union alert' on security of supply, in which case the gas demand reduction would become mandatory. The purpose of the gas demand reduction is to make savings ahead of winter in order to prepare for possible disruptions of gas supplies from Russia that is continuously using energy supplies as a weapon. Member states agreed to reduce their gas demand by 15%, compared to their average consumption in the past five years, between 1 August 2022 and 31 March 2023, with measures of their own choice. (4)

Today, Europe is facing a perfect storm: energy prices are up, economic growth is down and winter is coming. The Kremlin is using energy as a political weapon. Europe must prepare itself for a complete gas cut-off from Russian energy supplies, principally through savings, diversification and solidarity. Within this environment, the issue of energy security emerges as a top priority.

Regarding energy security in Europe, we are referring mainly to gas security as natural gas accounts for about 25% of electric power generation and is also used for heating and industrial processes. In addition, Russia is the largest supplier of natural gas to Europe, which until last year covered about 40% of the continent's supplies shipped by pipeline. The next-largest suppliers via pipeline are Norway (22%), Algeria (18%) and Azerbaijan (9%). Hence, Europe is eager to expand its supplies through new partnerships. In this Monthly Analysis, we will explain Europe's attempt to tap additional gas volumes from Azerbaijan and East Mediterranean, but also examine the impact of the present crisis on the Western Balkans.

Energy Security in the EU

Energy policy in the EU has been an unstructured process in which member states participated voluntarily in the recent past, while they have been acting independently without a common energy strategy. There are several political parameters and beliefs affecting the stance of member states since they have been unwilling to act and contribute to any common policy in EU. Until the end of the last century, there was no vision within the EU to create a common energy policy, even though its existence was critical for member states

and other involved parties including the European Commission. From the beginning of the 2000s, it became clear that EU had to deal with contemporary challenges that affected its economy and industries.

Finally, in 2005, the EU decided to establish a new energy policy, and after two years, the European Commission issued "An energy policy for Europe", which was then adopted by the European Council and the European Parliament. "This policy will firmly commit the European Union to a low consumption economy based on more secure, more competitive and more sustainable energy. Priority energy objectives involve ensuring the smooth functioning of the internal market in energy, security of strategic supply, concrete reductions in greenhouse gas emissions caused by the production or consumption of energy and the EU's ability to speak with a single voice on the international stage". (5)

Taking into account each country's specific conditions, energy security should be dealt with in parallel with developing domestic energy sources and their best possible use with increased energy efficiency, shifting to a more balanced energy mix. This should be done especially in countries that are mostly dependent on fossil fuels and thus the EU should take actions such as:

- Increasing the geographical diversification of oil and gas imports.
- Avoiding single sourcing policies from sole suppliers.
- Improving the level of integration within the EU gas and electricity markets.
- Developing cross-border interconnections between neighbouring countries.
- Increasing storage capacity for oil and gas.

With regard to the energy security of European countries, some countries are more vulnerable to the risk and one of them is considered to be Cyprus. Cyprus is considered to be an energy island with a policy already in place to establish electricity and gas connections with other countries. EU member states, and particularly the vulnerable ones, should improve their energy security and rank it as a priority of their policies and actions. EU legislation forces member states to maintain minimum stocks of oil in order to secure the oil supply to the EU. Any supply crisis related to the supply of petroleum from third countries being unexpectedly interrupted would most probably have a significant effect on the European economic activity.

In 2020, the energy dependence of the EU-27 stood at 57.5%, very close to 2017 levels. As illustrated in Figure 1, the evolution of EU-27 energy dependence has not been constant over 2010-2020; however, it has continuously stood above 54% since 2010. The policy of the EU is aimed at minimizing its dependency on irregularities in energy supplies due to the growing dependence on energy imports of or via politically unstable regions. However, this is not actually happening as the EU continues to be highly dependent on imports from unstable regions or even from countries where foreign affairs relations have not been kept at a healthy level. The best example is the relations between the EU and Russia, where the EU's energy imports

are the biggest from Russia, while at the same time the economic sanctions raised against the country do not match with such a fact at all.

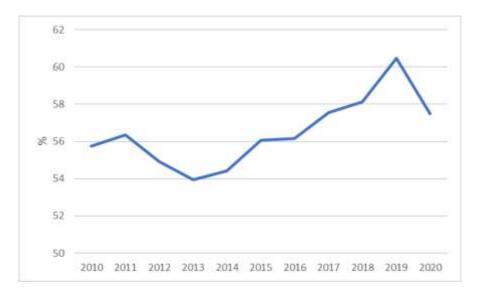


Figure 1: Evolution of the EU Energy Dependence (%) over 2010-2020

Sources: Eurostat, IENE

EU's New Gas Deal With Azerbaijan

On July 18, the EU signed a Memorandum of Understanding on a Strategic Partnership in the Field of Energy between Azerbaijan and the EU (6). The new agreement envisages a substantial increase in the annual volume of gas exported from Azerbaijan to Europe over the next five years. Azerbaijan currently exports around 8 billion cubic metres (bcm) of gas to the EU per year. Under the new agreement, the country is expected to increase its gas exports to the EU within the framework of the Southern Gas Corridor to 20 bcm by 2027 and up to 12 bcm by 2023.

By signing the agreement, Azerbaijan has entered a new stage in the era of complex challenges affecting the EU's energy security. Strategic partnership relations in this field impose obligations on both Azerbaijan and the EU. First of all, the expansion of the Southern Gas Corridor requires additional large investments. This important issue was not mentioned in the press release by either side. (7)

Most likely, investors, including the European Investment Bank, will be attracted to the expansion of the Trans Adriatic Pipeline's (TAP) transmission capacity within the framework of the expansion of the Southern Gas Corridor, as it promises new opportunities to diversify the energy supply to Europe. At the same time, Azerbaijan currently does not have enough gas to export to Europe.

This creates a need to accelerate production in new and prospective fields, which also require additional investment. In addition to the Shah Deniz gas field, which is the largest in Azerbaijan, investments should therefore be made in gas production and export at the Shafaq-Asiman, Umid-Babek, Absheron, and Azeri Chiraq Guneshli (ACG) deep water gas fields. This would allow for a significant increase in gas production in Azerbaijan over the next five years.

Some experts have suggested Azerbaijan could simply buy gas from Russia and sell it on to Europe. However, this is not possible within the framework of the current sanctions. Even if it became possible in the future, it would require the reconstruction of the existing Mozdok-Hajigabul gas pipeline between Russia and Azerbaijan, which has a maximum transmission capacity of 10 bcm.

Another alternative would be for Turkmenistan to supply gas to Iran and for Azerbaijan to then buy the same amount of gas from Iran. But despite all of these alternatives, the Europeans will still have to wait at least five years for the TAP pipeline, the gas export route from Azerbaijan to Europe, to reach a transmission capacity of 20 bcm.

The Eastern Mediterranean Can Help Europe Diversify its Supply Routes

Lately, the Eastern Mediterranean has emerged as a major factor in the EU's energy strategy. This was the strategy underpinning the June 17's MoU signed in Cairo between the European Commission, Egypt, and Israel (8). The key aspect of this involves boosting exports of Israeli natural gas to European markets via Egypt's LNG plants in Damietta and Idku on the Mediterranean coast. This trilateral MoU has the potential to leverage ongoing regional cooperation schemes around natural gas to transform the region's energy geopolitics and weave the Eastern Mediterranean more tightly into the EU's emerging energy diplomacy.

Egypt Emerges as a Regional Energy Hub

The MoU effectively consolidates Egypt's emergence as a regional energy hub, the outcome of a decade-long effort by Egypt to put itself at the center of regional cooperation efforts to maximize the benefits from the recent natural gas discoveries in Egypt, Israel and Cyprus. The building blocks of this strategy comprise the establishment of the East Med Gas Forum, an Egyptian initiative bringing together producing and consumer countries of natural gas as well as industry players. It supports long-term planning, a growing energy partnership between Israel and Egypt, whereby Israeli gas is exported to Egypt both for local energy consumption as well as reexport, an agreement to bring future Cypriot gas to Egypt through an undersea

pipeline, and Egypt's well-established LNG infrastructure, which offers a readily available platform for the export of Eastern Mediterranean gas to global markets.

Together, these arrangements have enabled Egypt to become an aggregator of regional gas supplies, bringing in its own gas from Egypt's Zohr field (845 bcm), Israel's Leviathan (622 bcm), and potentially Cyprus' Aphrodite (127 bcm) and smaller Glaucus and Calypso fields in the future. Egypt, thus, emerged as the most viable export route for the region's significant gas reserves over other options that entail significant commercial and geopolitical risk. (9)

New Gas Find in Cyprus

On August 22, 2022, Italian multinational oil and gas company Eni announced that it has made a significant gas discovery in the Cronos-1 well, located about 160 kilometres off the coast of Cyprus in block 6. Block 6 is operated by Eni Cyprus holding 50% stake, with TotalEnergies as a partner. Preliminary estimates indicate about 70.8 billion cubic metres of gas in place, with significant additional upside that will be investigated by a further exploration well in the area. (10)

The Cronos-1 well is the fourth exploration well drilled by Eni Cyprus and the second in Block 6, following the Calypso-1 gas discovery in 2018. "The discovery of Cronos-1 creates the conditions to lead to the development of further potential volumes of gas in the region and represents one of the actions achieved by Eni in support of the supply of additional gas to Europe," Eni said in a statement. Eni has been operating in Cyprus since 2013. The company operates blocks 2, 3, 6, 8 and 9, and holds stakes in blocks 7 and 11 operated by TotalEnergies.

In a separate statement, TotalEnergies also said that the drilling of another exploration well on Block 6 has been planned. "This successful exploration well at Cronos-1 is another illustration of the impact of our exploration strategy which is focused on discovering resources with low technical cost and low carbon emissions," said Kevin McLachlan, senior vice president, exploration at TotalEnergies.

During a cabinet meeting that took place at the presidential residence in Troodos on August 22, 2022, Energy Minister Natasa Pilides said that, thanks to the latest gas finding, new conditions are being created to exploit natural gas in Cyprus's EEZ and that the discovery of new resources in block 6 will aid the exploitation of other gas deposits such as the Aphrodite field. "For the time being, transporting natural gas to Egypt is the most prevalent scenario and even following the recent discoveries, no changes to the plans are in sight," Pilides said.

She also mentioned the positive prospects identified by confirmatory drilling in block 10, adding that seismological studies were being carried out in blocks 10 and 5 to determine the exact quantities. "Given the

current situation and the EU's need to stop relying on Russian gas, the new discoveries allow us to move more freely and join the bloc's new programming," Pilides concluded. Following the latest discovery at Kronos, independent experts estimate that the total available gas from proven reserves in Cyprus amounts to 350 bcm.

The Region Could Provide 20% of Europe's Gas Demand

Initial assessments put the quantity of East Med gas that can be immediately exported to Europe as increasing from the current 7 bcm (2022) to 10 bcm in 2023, which comprises about only 2.5% of Europe's overall gas requirements. However, the clear intent of the tripartite MoU is to boost investment to significantly increase overall gas exports from the region. Even before the MoU, the steep rise in EU gas prices started to shift LNG cargoes to European markets. Europe, thus, gradually became a much more competitive destination for Eastern Mediterranean gas over Asian spot markets, which saw an 8% fall in LNG imports, partly as a result of China's economic slowdown.

This shift, in turn, has a number of important spillover effects on the region's energy landscape. Israel announced a reversal of its policy to postpone further offshore exploration bid-rounds in keeping with its declared climate goal of net-zero emissions by 2050. Israel and Egypt are also in discussion to bring more volumes of Israeli gas to Egypt's LNG terminals for reexport, primarily through the Arab Gas Pipeline via Jordan.

Moreover, the new price environment has prompted serious discussions between Egypt and several oil majors regarding the expansion of Egypt's LNG infrastructure in order to handle greater volumes of gas. Together, these arrangements could increase Israeli and Egyptian gas exports to Europe to 30 bcm/year, accounting for roughly 20% of Russia's gas supplies to EU markets. (11)

Western Balkans and Energy Crisis

As Europe is being tested with high energy prices taking hold, an energy crisis also looms in the Western Balkans. As EU leaders scramble to maintain their energy supplies for the coming winter, at least two Western Balkans states – North Macedonia and Kosovo – declared an energy emergency in August, in anticipation of shortages during colder months. (12) (13)

Last year, the Covid-19 pandemic caused a significant economic shock in the Western Balkans. According to the World Bank, the GDP of countries in the region contracted by 3.2% in 2020, before rebounding to 7.4% growth in 2021. However, the global surge in energy prices is threatening the region with a new range of economic challenges. This means that policymakers working on the European Commission's Green Agenda

for the Western Balkans will need to reconcile rising prices and energy security with the goal of environmental protection. This will require strong and coordinated action from governments in the region, along with a great deal of support from the European Union. (14)

Russia's war on Ukraine has weakened the Western Balkans' already fragile energy security. The region has long experienced periodic blackouts in winter. With the exception of Albania, which relies mainly on hydropower, Western Balkans states source much of their energy from fossil fuels — especially coal. Serbia, Bosnia and Herzegovina, and North Macedonia are largely dependent on Russia for natural gas, but this only accounts for a small proportion of their energy mix. So, even though all Western Balkans countries except Bosnia and Serbia have joined EU sanctions on Russia, their limited use of natural gas prevents the Kremlin from retaliating against them by cutting off their energy supplies — especially given that only Serbia has recently renewed its gas contract with Russia (at a relatively low cost). This also helps protect them from the direct impact of surging natural gas prices. Nonetheless, high prices for imported electricity mean that the Western Balkans will not emerge from the crisis unscathed. Several states in the region are vulnerable to these rising costs — particularly as winter approaches and demand for energy rises.

Most states in the Western Balkans rely mainly on coal-fired power plants to meet their energy needs. The use of these plants jeopardises their ability to fulfil the commitments outlined in the European Green Deal — one of which is a 55% reduction in carbon emissions (compared to 1990 levels) by 2030. Nonetheless, given the immediate pressure of the energy crisis, these countries will need to continue burning coal in the short term. Indeed, North Macedonia and Kosovo have already announced that they will delay plans to phase out their coal-fired power plants over the next few years. It is worth mentioning that Bulgaria, although it is in the Eastern Balkans, has decided to retain coal as a main energy source until 2035. To survive the energy crisis, Western Balkans states will also need to improve their cooperation with one another within the framework of the Berlin process. They could do so by preparing joint investment proposals in renewable energy and the integration of the electricity and gas markets.

The European Commission's REPowerEU document outlines a €300 billion plan to cut the EU's dependence on Russian fossil fuels by two-thirds by the end of 2022, and to import no Russian energy at all by the end of 2030. This strategy marks a historic shift in the Union's approach to energy issues. It will also have a significant impact on the Balkans energy sector. The plan focuses on accelerating the green transition and diversifying supply through investment in liquefied natural gas terminals and other gas infrastructure.

The Balkans could become an important transportation corridor for Europe's energy supplies – particularly natural gas – in the medium term. This is especially true of various gas pipelines that could connect EU member states to countries on the Caspian Sea, such as Azerbaijan, and to the Greece-Bulgaria

interconnector that is expected to become operational by October 2022. There are also planned FSRUs in Alexandroupolis and Corinth, which will connect to the Trans Adriatic Pipeline and should become operational in 2023.

The Case of SE Europe

Regarding SEE countries, the overall energy dependence also varies significantly and averaged at 49.1% in 2020, taking into account the countries shown in Figure 2. These figures are issued by Eurostat, along with the publication of the detailed 2020 annual results on energy supply, transformation and consumption in the EU.

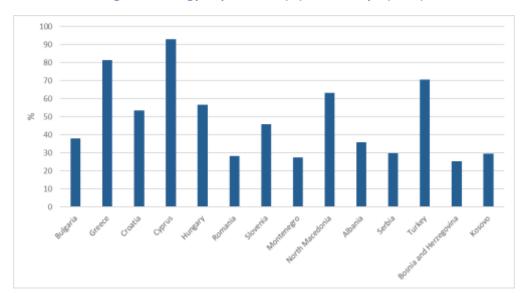


Figure 2: Energy Dependence (%) in SE Europe (2020)

Sources: Eurostat, IENE

It is worth noting that IENE highlighted the issue of energy security in Greece and made recommendations of how to enhance it, in a special study for the country's Ministry of Environment and Energy prepared in November 2018. Although the reduction of energy dependence should have been a constant and nonnegotiable target of energy policy, there is no mention at all of this dire situation in most policy papers nor is this reflected in official government policy. IENE had suggested as a prime target of Greece's energy policy the gradual reduction of the country's current energy dependence from the present high number to the average EU dependency (58%-60%) (15). In order to achieve to lessen energy dependence, new policy priorities should be put in place which should aim at:

• the reduction of the imported energy flows in parallel with

- an increase of the indigenous energy sources, with emphasis on renewables, hydrocarbons (and gas
 in particular) and an improvement in energy efficiency, mainly in transport and residential sectors
 and
- the stabilization, if not the increase, of the current share of lignite in the country's energy mix
- the diversification of gas supply routes

Discussion

Although Russian gas flows to Europe have not come to a complete halt following the decision by Gazprom to suspend any further shipments to Germany through the Nord Stream 1 pipeline, gas volumes delivered to various European countries are down by 70%, i.e. below 100 million cubic metres per day in July 2022, compared to the same month last year when they stood at 300 million cubic meters per day. Russian gas is still being delivered to European destinations through the Ukrainian network (37 mcm), through the Belarus transit (33 mcm) and through Turk Stream (9 mcm), which in edition to Turkey, it channels gas to Greece, North Macedonia and Serbia with Bulgaria having stopped receiving Russia gas since last April. Figure 3 clearly depicts the changing scene in Europe over the last few months on the origin of gas supply and how LNG imports have come to replace, to a large extent, Russian gas. Today's European gas mix may be more diversified but this has come at a heavy price.

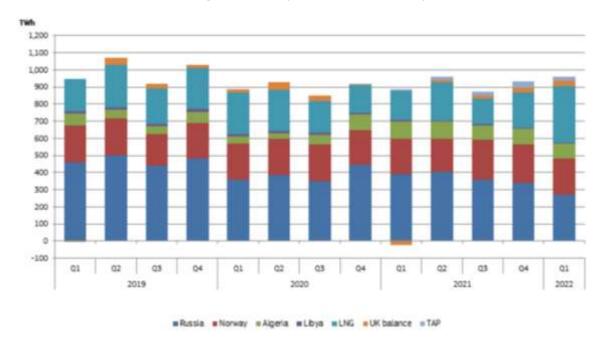


Figure 3: EU Imports of Natural Gas by Source

Source: European Commission

Similarly, with oil Europe's great dependence on Russian imports is making it difficult to disengage. The EU imported around 11 million barrels of crude oil products per day in 2021, from which Russia accounted for almost 30%, corresponding to about 3.4 million barrels per day. With a goal to end seaborne Russian oil deliveries by January 2023, Europe is now trying to tap more oil from the Gulf countries, from Norway and from the Caspian region.

However, a complete separation of Europe from Russian oil imports will not be possible for some years to come since several EU countries, including Germany, Poland, Hungary, Slovakia, Czech Republic and Austria, are dependent on the Soviet era Druzhba pipeline network, which delivers some 800,000 barrels of oil daily to European refineries. In addition, Russian refineries continue to supply almost half of Europe's diesel needs. It will be really difficult, if not impossible, over a short period of time to replace such fixed assets, as the Druzhba pipeline system, by building alternative pipeline systems.

Winston Churchill's well known dictum on energy security, first spelled out on the eve of World War 1, is still most relevant today given that human greed and land control instincts have not changed much over a century. In a sense, we still remain very much dependent on geography and this is why Winston Churchill was right when, in a famous speech in Parliament in defence of oil for Great Britain's fleet, he pointed out that "safety and certainty in oil lie in variety, and variety alone".

Hence, the diversification of energy supplies still remains an undisputed pillar of energy policy and the basis of energy security. Ignoring energy security can easily lead to complacency and overdependence from a particular source or country and so when the time comes of establishing new political priorities decoupling from a particular supplier becomes a nightmare. In the case of Europe, and with gas being such a strategic fuel, corresponding to more than 20% of all energy consumption, enhancing indigenous gas production is another priority. Europe has every reason to want to exploit its not significant gas resources, which according to estimates amount to 10.0 to 12.0 trillion cubic metres and can be found in the North Sea, the Black Sea, the Adriatic, the Ionian and the East Mediterranean. Today, Europe covers only 11% of its gas needs from indigenous production with ever greater reliance on gas imports. If Europe is to survive and prosper with low carbon gas being fully integrated in its energy system, it must scale up its local production.

Today's energy crisis, which started more than a year ago as energy supplies started becoming scarce, and is now fully blown following the war in Ukraine and Europe's embargo against its major energy supplier, is morphing into an economic crisis with recession looming in the horizon. Yet, this crisis is an opportunity for a radical change in EU energy policy and thinking where energy security will once again regain its key role together with an approach, which favours maximisation of indigenous energy production.

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