

# **A GLIMPSE INTO THE EUROPEAN ENERGY CRISIS: RISKS AND CHALLENGES**

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## A GLIMPSE INTO THE EUROPEAN ENERGY CRISIS: RISKS AND CHALLENGES

Since the end of 2021, the world is experiencing a **record rise of the energy prices**. For months now, three different shocks<sup>i</sup> have led to **the worst energy crisis since the 1970's**. First, the intense economic recovery following the covid crisis caused an initial rise in prices. Then came the war in Ukraine and the gradual reduction of Russian gas exports to Europe. Finally, other factors such as the closure for maintenance of half of the French nuclear reactors but also droughts and heat waves, which have increased energy demand and reduced production, have also contributed to this crisis. With the risk of a shortage and continued price inflation looming over Europe, **what can we expect for the coming winter both on European and Turkish markets?**

### 1. Which causes have led to this crisis in Europe?

Before the crisis, **Europe was strongly dependent of Russian gas supply**: many countries like Italy imported more than 30% of their gas from Russia<sup>ii</sup>. Germany relied heavily on gas since 2011 and the Fukuyama accident. Since then, it has indeed moved away from nuclear power and replaced nuclear by renewables and thermic centrals. The country was thus very dependent on foreign oil and gas: it imported 55%<sup>iii</sup> of its gas from Russia in 2020. Such dependent countries faced the risk of a gas shortage as Russia closed its main pipelines, increasing the fear of energy shortages and blackouts during the winter.

France originally had a different situation as it imported relatively little Russian gas (only 18% of its gas). Indeed, nuclear power accounts for about 70% of the country's electricity mix and 40% of its energy mix. However, the drop in Russian supplies has been compounded by cyclical and climatic crisis factors which placed what was considered the most stable supply country in Europe in the same crisis as the other countries. For reasons of corrosion and maintenance, 27 of the 56 French

reactors are currently shut down, leading to a sharp drop in production. Production in July 2022 was only 20.1 TWh compared to around 27.7 TWh in 2021. Secondly, due to the drought, hydroelectric production (usually 12% of the electricity mix in France) decreased by 35% in July 2022 compared to July 2021.

More globally, the whole of Europe is facing this accumulation of crisis factors, which experts call *the perfect storm*<sup>iv</sup>. It is not only the war in Ukraine that is causing the old continent's energy problems but also the economic relaunch, heatwaves that have increased demand, droughts that have reduced production... For example, droughts have caused both the fall of Switzerland's hydroelectric production by 12% over the first part of the year<sup>v</sup> and the slowdown of Germany's coal-fired power plants, which are hampered by a more difficult river traffic<sup>vi</sup>.

### 2. What is the risk of shortages and what are States' strategies to avoid them?

**To face this shortage threat, European countries reacted on various levels.** Firstly, as soon as the conflict began, countries that were heavily dependent on Russian supply, like Italy<sup>vii</sup>, started to **diversify their gas suppliers**. At a larger scale, vast measures to diversify the energy supply of the continent were undertaken. New international contracts were signed with Qatar<sup>viii</sup> and the USA to increase the LNG supply and with Norway, Egypt, Israel and Azerbaijan, Algeria among others for the gas supply.

**LNG seems to be the energy source to which countries are mostly turning.** While it is more expensive and more polluting overall than gas transported via pipelines, it appears to be a **very quick and flexible solution**<sup>ix</sup>. Europe has therefore increased its imports by 60%<sup>x</sup> since the beginning of the crisis, especially from the United States. Because not all European countries have the

necessary infrastructure to accommodate production, infrastructure plans are launched. Germany, for example, has initiated 7 terminal projects in a 3-billion-euro plan<sup>xi</sup>. Those terminals will quickly have a 30 billion cubic meters capacity, which constitutes around one third of the national annual gas consumption<sup>xii</sup>. France, which already had 4 terminals, has launched the construction of a new one in the city of Le Havre. In the long term, some twenty terminals should be built in Europe. **This enthusiasm for LNG may raise a few questions.** Firstly, at the ecological level, the extraction and transport of LNG can be up to 4 times more polluting than natural gas. **Then, at the economic level,** it is not certain that production can keep pace with demand and that all the new terminals will be fully used. Indeed, as the available production is already fully booked in long term contracts by Asian countries, an increase in demand would cause a significant increase in prices<sup>xiii</sup>. Production is only expected to increase significantly in 2024 with two new extraction projects in Canada and Qatar. **This quick diversification enabled Europe to reduce its gas dependency towards Russia from 10 to 2,5% of their total energy consumption<sup>xiv</sup>.** On September the 9<sup>th</sup> it thus seemed that the risk of a gas shortage had receded as the EU countries had managed to fill their stocks over more than 85% of their capacity<sup>xv</sup>.

**However, even if stocks are full and new contracts have been signed, it is crucial that EU Member States reduce their electricity and gas consumption to avoid shortages.** First, according to International Energy Agency Chef Fatih Birol, the diversification strategy might not be enough given that new gas imports whether from Azerbaijan or from Norway could not replace the volume of Russian imports<sup>xvi</sup>. Moreover, even when full, stocks only cover 27<sup>xvii</sup>% of European gas consumption. Hence, member states quickly agreed in August to collectively cut gas consumption by 15%<sup>xviii</sup>. Even if this European measure is still not coercive, member states

already encourage energy sobriety among households and businesses by diverse means. In Germany and in France, for example, heating has been limited to 19°C in companies and public buildings are subject to several energy saving measures. According to the French government, a reduction in demand of 10% would be sufficient to ensure European states do not suffer from shortages<sup>xix</sup>, unless the situation worsens with a very cold winter. To avoid such a scenario and only as a last resort, EU states could implement emergency plans: temporarily cutting off power in certain residential areas and for certain branches of the economy, considered non-essential, to avoid a general network failure.

**Finally, many countries believe that more European solidarity is needed to get through the crisis.** Germany and Spain for example are calling for greater European cooperation and energy interconnections. While France is suffering the full force of the closure of its nuclear reactors, which normally ensures the supply of France and part of Western Europe, it could exchange its LNG for electricity to Germany, which is affected by the closure of Russian pipelines<sup>xx</sup>. On October the 13<sup>th</sup> France exported gas directly to Germany for the first time. These deliveries should represent about 5% of French gas reserves and cover about 2% of German consumption<sup>xxi</sup>.

Turkey's energy situation differs because the country has not adopted the EU sanctions against Russia, unlike EU countries, **Turkey thus continues to rely on Russian oil and gas** and has even recently doubled its oil imports from Russia<sup>xxii</sup>. However, the energy situation of the country remains very tense. Indeed, Turkey is extremely dependent on imports for energy, as it imports around 93% of its oil and 99% of its gas<sup>xxiii</sup>. Moreover, the country has already experienced shortages recently due to supply cuts from Iran in January 2022<sup>xxiv</sup>. To counter the rising risk of shortage, **Turkey is also seeking to diversify its supply** by turning to liquefied gas from the US and Azerbaijan. In the longer term, the resumption of



diplomatic relations with Israel suggests that Turkey will be able to import natural gas from Israel. Although Turkish government assures that Turkey will not suffer from any shortages, the global uncertainty surrounding the ability of Russia to supply Turkey due to war, recent shortages and Turkey's high energy dependence should lead to caution.

### 3. What threats does energy price inflation pose to European and Turkish economies? What measures are in place to limit price increases?

**Worse than the risk of shortage is the energy inflation that threatens both the European companies competitiveness and social climate.** The rise in energy prices is due both to the three shocks mentioned above which reduced supply and increased demand which contributed to higher prices but also to the functioning of the European market. In the latter, the price per kilowatt-hour is set according to the production costs of the last production unit started up to balance supply and demand. As those last production units are often gas-fired power stations which are more flexible, the increase in the price of gas has led to a sharp rise in the price of electricity. On the 26<sup>th</sup> of August, the price for a kilowatt-hour for a one-year contract reached more than 1000 euros against 85 a year ago<sup>xxv</sup>. The increase in energy prices (around +38,8% in France for household consumption for example) is estimated to constitute around one third of the global inflation that reaches 9,8% in average in the European Union, 6,5% in France and 8,5% in Germany at the end of September 2022.<sup>xxvi</sup> **Several economic sectors are particularly affected by the price blow.** In France and Germany, chemical and steel industries have seen their energy bills blow. Some companies were even forced to stop their production which resulted in unsustainable losses<sup>xxvii</sup>. **This increase in prices harm European companies' competitiveness against Chinese and American industries that are less affected by**

**energy price inflation<sup>xxviii</sup>.** It is thus likely to be an extremely difficult winter for many businesses, with bankruptcies already up 26% in August 2022 compared to 2021 in Germany<sup>xxix</sup>. In France, the Ministry of the Economy has already lowered the growth forecast from 1.4 to 1%<sup>xxx</sup>, while in Germany, a recession of 0,3% is expected for the fall<sup>xxxi</sup>. As OPEC + announced in early October that it would drastically reduce its oil production by 2 million barrels per day, pushing up the price of a barrel from \$80 to \$90 in ten days, we can expect prices to rise further<sup>xxxii</sup>.

**To protect both consumers and producers, member states of the EU have implemented large support plans,** from a tariff shield in France to subsidies financed by a tax on windfall profits in Italy and energy tax cuts in Germany. On September 9th, the European Commission announced a series of proposals, including a cap on Russian gas prices to limit both inflation and Russia's revenues, and a contribution levied on energy groups windfall profits that could raise €140 billion to help households and fragile companies<sup>xxxiii</sup>. National plans to support SMEs and larger companies include tax cuts, process simplifications and subsidies. In France, large energy-intensive companies can benefit from aids up to 50 millions<sup>xxxiv</sup> whereas in Germany a 200 Mds energy plan, that include energy subsidies and 25 mds of State Aids for the most energy intensive companies has been announced by the chancellor Olaf Scholz to limit the effects of the recession. At the European scale, most member states plan to spend between 2% and 8% for Germany of their GDP to limit price increases and support their companies. However many business leaders and organizations doubt about the efficiency of those aids,<sup>xxxv</sup> the rise in prices being still too high for many companies and fear a catastrophic winter for European industries.

**The rise in energy prices is also very high in Turkey and has been a major contributor to the country's galloping inflation for years.** Due to its dependence on international energy supplies and

the collapse of the Turkish lira, Turkey is being hit hard by rising gas and LNG prices. On 1st September, the government announced a 20% increase in gas prices for households and 50% for businesses. According to Reuters, natural gas prices have increased over the year by 174% for households, 277% for medium-sized companies and 379% for large industrial companies. The Turkish state has chosen to massively subsidize households, up to 80%<sup>xxxvi</sup> for gas, while companies will see their bills increase.

### Concluding Remarks

As many experts<sup>xxxvii</sup> agree to say that energy prices will stay durably high, we can expect **the energy crisis to cause major economic, political and social upheaval**. On the social level, the potential stagflation in the EU and the further increase in prices in Turkey could fuel social discontent. Early signs are already apparent as social movements gather thousands of people in the UK<sup>xxxviii</sup> and as extremists announce a "autumn of rage" in Germany<sup>xxxix</sup>. Symbolic debates such as those on the use of private jets during the energy crisis or on sobriety show that this crisis could reinforce the feeling of strong inequalities in the face of the crisis among a part of the population in Western Europe and could contribute to the emergence of new social movements of the same type as that of the French Yellow Vests in 2018. In early October France faced strikes with massive impact in the oil sector which caused shortages and supply difficulties at around 15% of service stations as workers demanded pay rises considering record profits in the sector<sup>xl</sup>. The inflation dynamic has an impact on people and could have a significant impact on population expectation on their government.

The energy crisis could also have **important political consequences for the unity of the European Union**. The reinforced German energy support plan of €200 billion has been badly received within the European Union<sup>xli</sup>, with many

countries criticizing Germany for using a double standard by advocating sobriety and orthodoxy at the European level while at the same time putting in place a very large public spending plan that subsidizes national energy consumption. EU finance ministers argued that whilst Germany was able to look out for itself, many EU countries do not have the same financial room for maneuver<sup>xlii</sup>. For some analysts there could be a worst-case scenario in case of a worsening of the crisis, where European states would each adopt individual solutions, thus exploding European cohesion and reinforcing the disparities between countries of the North and the South of the EU<sup>xliii</sup>.

On the economical level, the crisis could have long term consequences on the industrial structure of European and Turkish economies. Firstly, **the possibility of a slowdown in the European relocation and reindustrialization movements that began after the pandemic is high**. As Clemens Fuest director of the IFO<sup>xliv</sup> Institute explains, *"Companies will again relocate to places where energy costs are lower"*<sup>xlv</sup>. According to the Spiegel, it is now one of fifth companies that looks to move production abroad<sup>xlvi</sup>. In the glass and steel sectors, some firms have already reallocated production to countries where energy is cheaper. In France, the question of what impact the crisis will have on reindustrialization remains unanswered. Nevertheless, some signs of a slowdown are still visible with, for example, a decrease of 36% in industry relocations in France in the first semester of 2022 according to the Trendeo index<sup>xlvii</sup>. **As the period discloses both the European high dependency to foreign resources, the ageing and excessive consumption of the industrial equipment, some countries may rethink their growth strategy**. German economy for example, which is based on the import of raw materials and their transformation into high value-added products, could be durably challenged by the rise in prices.<sup>xlviii</sup>

This energy crisis could be a symptom of a radical transformation of the energy market. **IEA Director**



Fatih Birol has explained that he sees the crisis as a turning point in history<sup>xlix</sup>, as the emergence of a new global energy economy that would be much less dependent on fossil fuels. Indeed, as fossil fuels become increasingly scarce and at a time when renewable energies are not yet able to fully replace them, companies could have to rethink their energy consumption in the long term, both in terms of the quantity consumed and the technologies used. In this context of major transformation, the question of investments to be made arises. As Europe vastly invests in LNG infrastructures and reopens fossil-fuel centrals, the United Nations have called on the European Union to avoid a return to fossil fuels in its response to the crisis<sup>i</sup>. A possible and sustainable alternative would be to invest in technologies aimed at improving the energy efficiency of

businesses and households, such as electricity storage technologies, the modernization of industrial equipment or energy renovation measures for building.

In conclusion, one can argue that this crisis, even if it leads to the support for solutions based on fossil fuels, has great potential to provide better diversification and independence on energy, and it will accelerate energy sobriety projects and the deployment of renewable energies. We can observe for companies that the short-term actions relate to energy efficiency and the use of more renewable energies, particularly in the auto industry. The year of 2023 will be very challenging for every single actor of global economy. Nonetheless, 2024 will be more sustainable, resilient, and green.

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