



The EU and the new energy reality: Lessons learned from the vortices of 2022

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Abstract

The Russian invasion of Ukraine and manipulation of the gas flow have revealed Russian leader Vladimir Putin's malicious intentions and the EU's weaknesses in the energy sector and related policies. As time has gone by and the initial shock has faded, it has become obvious that the EU's policies need reform. Both the workings of the internal energy market and the fundamentals of current energy policy have shown themselves to be unfit for the increased geopolitical tensions that the EU is facing. This article takes stock of what led to the crisis, assesses these policy flaws, and suggests possible solutions for the functioning of the internal energy market and policymaking.

Keywords

EU, Russia, Internal energy market, Russian invasion, Gas supply crisis, Electricity price hikes

Introduction

The year 2022 was one to remember—sadly for Europe, for all the wrong reasons. The Russian invasion of Ukraine on 24 February marked a pivotal moment in the security field. However, the signs of the looming crisis had been visible for months before. As well as the massing of Russian troops at the Ukrainian borders, we saw unprecedented manipulation of the gas flow and spiking gas and electricity prices in Europe. The supply manipulations and realisation of how much of the oil and gas used in Europe comes from Russia were behind the initial post-invasion panic, further driving energy prices up. As time went by, stores were filled and alternatives acquired, it became apparent that the crisis was more a financial than a supply one. However, although the crisis has not caused

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blackouts and Europeans have not frozen, it has revealed several substantial flaws in the EU energy policy design.

The EU in crisis, or the story so far

In mid-2021 natural gas and electricity prices started to rise due to several factors. First, unlike in previous years, the Russian company Gazprom was not refilling the European storage tanks after the preceding winter. This sparked nervousness on the markets and drove spot prices up. Coincidentally, France was experiencing an extraordinary outage of its extensive nuclear capacity, with technical issues taking over half of its nuclear reactor fleet out of service and leaving the country's nuclear-based power output at a 30-year low, forcing it to import electricity. Losing the contribution of a significant electricity exporter, which typically supplies around 15% of the EU's power needs, was a significant setback for the market. Alongside this, Europe experienced serious droughts in 2021 and 2022, which undermined renewables-based power production. Therefore, the missing portion of the usually stable nuclear-based capacity, combined with a lower-than-usual hydro- and wind-based supply resulted in a significant supply gap. Naturally, the demand had to be met; therefore, the mostly gas-based back-up power capacity was put into operation. Given the price of gas in general, accentuated by the price hike mentioned above, electricity prices went through the roof.

The price hike put pressure on electricity providers, especially when they relied on spot trading, which had often been a profitable strategy up until that point. A similar problem occurred in the natural gas sector. Some utility firms had to turn to alternatives due to the high prices and went bankrupt or had to be saved by massive government help, as in the notable case of the German company Uniper (European Commission 2022b). Most significantly, though, the price hikes had a profound political impact, which is understandable for two reasons. First, even the distant notion of citizens freezing due to a lack of gas is clearly unacceptable. Any disruption to the supply of natural gas poses a considerable issue as any outage in heating threatens people's living conditions, even if it forms a relatively insignificant share of the energy mix. Second, the price hikes naturally put a financial strain on citizens and thus undermined any government support, sending political shockwaves throughout the continent.

As of February 2023, it can be said that the EU has got through the energy crisis relatively well so far, although not entirely unscathed. No major political upheavals have taken place, and the economy has not taken a nosedive, although it is not faring particularly well either. As a key characteristic of the often heated debate during 2022, we frequently heard claims that the electricity market had failed and must be reformed. Such a claim is partly untrue and partly deserves deeper elaboration.

First, the incorrect part: the market has not failed. It did exactly what it was supposed to do and what any market would do—it determined the commodity price based on the demand and supply nexus. When the gas supply to the market declined due to Russia's manipulation, the prices, expectedly, shot up. Later, once alternatives were secured and

it became apparent that there would be enough gas to meet demand, the prices levelled off and eventually even dropped to pre-war levels (Trading Economics 2023). The same was true for electricity prices, even though the pre-war prices were significantly higher than the long-term average due to the abovementioned combination of factors. The dizzyingly high levels of the summer of 2022 were gone, however (Statista 2023). Those who called it a market failure clearly do not understand the market's purpose, how it works or both. The market is designed to appreciate a commodity based on the amount thereof and the demand. If the supply is higher than the demand, the price drops, and vice versa. Anyone who called the price hike a market failure clearly does not understand this 'market workings 101' lesson. So the price hike clearly was not a market failure but a natural market reaction. The problem was that we did not like it as it was a stark deviation from what we were used to. In the months and years before, we had been used to prices so low that many had not even attempted to understand the market.

But what about the second part of the argument? The answer is a bit more complex. The fury of those citing a failure focused chiefly on the electricity market, which, according to them, needs reform. In recent years the market design has proved to be effective in transparently appreciating the commodity—electricity—and spurring on the development of renewable energy sources (RES) thanks to the 'merit order principle'. As many readers will know, this is a relatively simple mechanism that appreciates the most efficient sources. Based on actual demand, various sources are connected to the grid, starting with the cheapest, until the overall market demand is met. Naturally, the cheaper the source, the higher the profit margin. The most expensive source required to meet the overall demand sets the price level for all the sources on the market (i.e. indicating the highest price for which electricity can be sold, regardless of the source), making the cheapest sources the most profitable. Such a mechanism usually works best for sources with low running costs, which are generally low-carbon sources, most notably RES. Natural gas sources, as they tend to be among the priciest, tend to jump in only when production of the cheaper sources combined cannot meet demand, driving the overall price up to the gas-based level. As such a situation was becoming rarer due to the rising proportion of RES combined with cheap nuclear-based production, the electricity price had tended to be low most of the time. However, with a large portion of the French nuclear-based capacity out of service and similarly impaired RES capacity, gas-based production was needed at a time when the price of the commodity was high. In short, the abovementioned factors came together at the worst possible moment and were catalysed by the functioning of the market so that the price inevitably spiked. Hence, the market did not fail. Rather, it did not have the tools to tackle the perfect storm ignited by events outside its reach.

However, although the price hike does not mean that the market failed, the market was clearly unable to alleviate its impact, or capable of preventing its harmful effects. 'How come?', you may ask. The answer lies in how the market has evolved over the past three decades. After the end of the Cold War, it was widely assumed that the power of the single market would be so attractive that suppliers, including Russia, would not jeopardise their position within it with political meddling. Combined with the member states'

unwillingness to communitarise external foreign policy, the market tools focused solely on regulating the market. As well as the tools worked and achieved the goal of creating a competitive market, benefiting customers through low prices, they neglected the external dimension. Until recently, this had not appeared to be a problem as supplies were flowing to the market, and hardly anyone thought it could be otherwise. The logic was simple—the attraction of half a billion consumers seemed so great that even our enemies would want the gas to flow freely so that they could make money selling it to us. The logic seemed unshakeable. This was so much so that Germany was heavily pushing the Nord Stream 2 pipeline even after Russia's annexation of Crimea and many other events made it obvious that Russia was anything but a benign power.

It was thus an immense shock to discover that Russia would jeopardise its economic lifeline by attacking a European country—at least it was for the western part of the EU. The central and eastern European member states were not so surprised, as they had been warning against Russian revisionism and energy weaponisation well before the invasion. Given that energy policy remains a shared competence between the EU and the member states, with the energy mix dictating the actual content of the policy, the immediate reaction was driven by the states, with the EU focusing on the functioning of the market.

From the beginning it was clear that the European Commission did not want to commit to actions that would be difficult to repeal, or that would distort the functioning of the market. The main source of complaints and, hence, the focus of the Commission's activity, was the formulation of the electricity price. The merit order principle combined with the high gas prices meant a steep change in the spot price, especially for countries with a high share of low-cost sources, such as Spain and Portugal. For that reason, both countries were granted an exception and permitted to cap the natural gas price used for electricity generation, effectively decoupling gas and electricity prices (European Commission 2022a)¹. Later in 2022 the so-called Iberian exception was among the market-wide measures considered, but the Commission did not want to apply the exception en bloc as it would have likely distorted the functioning of the market and, probably even more importantly, could have resulted in an eventual increase in consumption. Several member states, mainly Germany, the Netherlands and Denmark, were not on the same page as the Commission. They were generally against the idea of capping the prices, a position they retained until December, when the price cap on traded gas was also negotiated (Taylor 2022; Van der Merwe 2022). Regardless of whether it was the electricity or gas price under discussion, the main argument against the price cap was that extensive cushioning of price increases would increase consumption and be politically sensitive to repeal.

Out of the vast array of harmful events and implications of Russian aggression, at least one thing can be considered positive. The invasion united the EU member states in understanding that the energy transition is, in fact, needed, and has to happen as fast as possible. While before the invasion, decarbonisation was pushed mainly by the 'old' western EU members, and central Europe was much less enthusiastic, both groups now seem to be on the same page, although their reasons for the effort differ. Environmental

concerns remain the main motivation for the West, with the recent geopolitical threats only adding momentum. It is the other way around for the central and eastern European members. Whatever the reason, they seem united for now. Hence, the time is ripe to implement reforms, on both the political and the practical levels. Now that the initial shock is over and Europe has clinched some remarkable achievements on the way to securing its immediate energy needs, it is time to take stock of what has to change so that old mistakes are not repeated. Or better yet, to look at what needs to be done to make the EU a more resilient, energy-secure space, facilitating sufficient and affordable energy supplies for its citizens.

What needs to be done

First, the EU must enforce the application of the market rules in contracts with external suppliers, mainly in natural gas. The liberalisation packages have proven effective against monopolies within the common market area, including Gazprom. The next critical step will be the rigorous application of the third liberalisation package on infrastructural connections to and from third countries. The EU should learn from its mistakes and revise the compromise decision of the spring of 2019, which saw the burden put on the German system operator, a solution that clearly ignored the spirit of the principle of solidarity. Moreover, in its effect, the non-systemic solution undermined the trust within the EU, especially among the central European members, as it effectively allowed the Nord Stream 2 pipeline to be built against their will.

Second, the EU has to come up with a viable framework for building energy infrastructure, especially the cross-border interconnectors within the EU. The goal should be to maximise the advantages given by the common market, for which a robust and flexible infrastructure is needed. In the natural gas sector, a multidirectional network capable of sending supplies to and from various countries is crucial to address irregularities in supply. In the electricity sector, there needs to be trans-border flexibility as well as flexibility within the member states. This is needed to balance supplies due to the rising share of intermittent RES. To transport the energy from the point of production to consumption, a robust network of power lines and the close cooperation of member states will be required. Here, the central European states are at the forefront of the effort as they have to facilitate the energy flows to the Union's border regions. Intra-state flexibility will be needed as power generation is becoming increasingly decentralised (mainly due to private RES installations), and consumers can sometimes become small-scale producers.

The EU already has the tool to foster infrastructure building in its Projects of Common Interest, a list of projects marked by the European Commission as crucial for infrastructural development. The biannually updated list includes projects that receive administrative, political and even financial support from the EU to increase their visibility, conduct the necessary studies and attract investors. However, the list is not without issues that undermine its impact. The main problem is the economically dubious rationale behind many of the listed projects, some of which are outright unviable. This applies mainly to projects in the natural gas sector where projects often overlap, target similar markets,

build on non-existent supply capacity or demand, and so on. The fluctuation of projects between individual iterations of the list over the years suggests that evaluation of the projects is clearly insufficient. As a result, the list does not do its job, that is, attract investors to sound investment opportunities.

Clearly, the Projects of Common Interest list could be a powerful tool to spur infrastructural development, but it needs reform. First, more rigorous scrutiny of the listed projects has to be introduced. Clear criteria have to be applied, particularly in the natural gas sector. These should include market testing, gauging the potential demand and supply, and assessing the needed infrastructure capacity. Only then can the list serve its purpose. Here, the Three Seas Initiative fund could serve as a model for such reform. It is a state-guaranteed investment fund and thus offers a low-risk financial facility capable of attracting investors. Admittedly, the logic works mainly for small- to mid-scale projects, for example, interconnectors, rather than large-scale projects such as new transit pipelines. However, such projects should not be needed in the natural gas sector as they will become obsolete with the phasing out of fossil fuels. Thus, the focus should be on smaller projects to alleviate immediate supply constraints while avoiding undesirable technological lock-ins.

Third, the solidarity principle must be applied to infrastructural development. Although EU energy policy is not ripe for fully fledged communitarisation, predominantly due to differences in members' energy mixes, this principle must be observed. Notably, although it has had a visible impact only recently, the solidarity principle is nothing new. It was enshrined in Article 149 of the Treaty on the Functioning of the European Union in 2009, even before the Nord Stream 1 pipeline was put into operation (Andoura 2013). The article received widespread exposure in 2021 when it served as the basis for the European Court of Justice's decision in the OPAL pipeline case. The decision concerned the utilisation of the OPAL pipeline, which connected to Nord Stream 1 on German soil. The court decided that Gazprom was barred from utilising 100% of the pipeline capacity as this would undermine the energy security of adjacent central European markets by squeezing out alternative supplies. The court ruled that when deciding on energy infrastructure, the broader impact on other member countries and the market must be considered, positing that such decisions must be made consensually. This should be regarded as a binding precedent, and all decisions on infrastructure or supplies should be made with this ruling in mind.

Fourth, similarly, a joint approach from EU member states to key suppliers is necessary. Again, given the varying needs among the member countries, a universal approach is likely impossible; however, aggregating demand is viable. In fact, such a measure was agreed upon in October 2022 under the Czech Presidency of the Council of the EU. Under this logic, gas demand can be aggregated and gas purchases then coordinated, even to the extent of using a joint purchasing platform. Currently, purchasing gas via the joint EU purchasing platform is voluntary, with the exception of 15% of stored gas, which is required to avoid unnecessary competition. A flexible platform for joint gas

purchases is precisely what the EU needs. The magnitude of the aggregated demand of several states has the potential to outweigh other significant buyers on the global scale. In this regard, individual EU states would be in a much worse position than a cluster of members.

Fifth, over the course of 2022, EU members applied a plethora of measures to alleviate the impact of the energy crisis. There was not much time to think about the immediate reaction, and thus the blanket application of solutions was understandable. But we have learned that long-term support for the economy to bridge the more prolonged effects of the crisis has to be more targeted. Energy crises usually impact households and industries differently. In fact, there can be vast differences even within sectors. A blanket approach also does little to address the issue of energy poverty, which can be environment- and time-specific. For instance, some regions may be more sensitive to price hikes than others, especially in times of higher demand.

It is understood that the current crisis is providing a uniquely formative experience that will determine the future development of the European energy landscape. It also offers a catalyst on the path to a decarbonised economy. For environmental and security reasons alike, decarbonisation is necessary, but so is the need to alleviate the impacts of the transition on those who may feel negative effects in the process.

Last but certainly not least, the EU and its members must change their very understanding of energy policy. The past three decades since the end of the Cold War have been marked by the unprecedented development of the EU's common market, which has also branched into the energy sector. The EU's energy policy and the energy policies of the member states were built around market-based logic, which suggested that the demand–supply nexus offers the best way to determine the distribution of supplies. This thinking was based on the assumption that suppliers naturally would not want to jeopardise their position and would always strive to supply the market with the contracted volumes. Since foreign policies, and thus also the external dimension of energy security, remain under the member states' control, the EU lacks tools outside the market. Consequently, in the wake of the Russian supply manipulations, the EU as an actor was left powerless.

In the past, the market-based approach, building on free competition among market actors, helped to secure cheap energy. However, the approach created an environment unfit for making long-term decisions. The demand–supply nexus provides information about the situation at a given moment but can hardly be used to make strategic decisions, which can thus be rendered unviable. As the crisis has shown, making decisions solely on short-term financial logic is not always wise. Hence, the member states, and perhaps the EU as such, needs to incorporate more strategic thinking. Building large-scale infrastructural complexes such as pipelines and storage facilities or capital-intensive energy sources such as nuclear power plants might be seen as unviable in the short term, but may prove invaluable in the long run or in times of crisis.

Conclusions

The EU learned a lesson in 2022. It was a lesson about its past *naïveté* and subsequent rude awakening. The Russian aggression against Ukraine shed light on how short-sighted the energy policies of the Union and the member states had been. It also revealed the fundamental weakness of the functioning of the market, embedded in the logic of short-term economic viability. This approach had undermined the countries' ability to make strategic decisions and, consequently, their preparedness to face supply manipulations. It also became apparent that the impact on various societal groups was uneven, and that the states' reactions did not always reflect this. Nevertheless, in hindsight, several recommendations can be made:

1. The EU must be adamant about asserting the market rules even in trade relations with external suppliers. The flawed application of the internal energy market rules on the Nord Stream 2 pipeline must not be repeated.
2. The EU needs to fix its Projects of Common Interest policy to foster infrastructure building. The thorough screening of supported projects will increase investment attractiveness.
3. The solidarity principle has to be asserted in matters related to the energy market. No decisions with ramifications for other members or the market at large should be taken unilaterally.
4. Although the interests of individual members naturally differ based on their needs and energy mixes, the EU should consider a joint approach to external supplies, at least on the basis of state clusters. Aggregation of demand within groups of member states would secure a better position for negotiations with suppliers in an ever more competitive environment.
5. Blanket support schemes have an uneven impact and do little to alleviate systemic issues such as energy poverty.
6. The thinking about energy policy has to change. More long-term planning and strategic considerations have to be infused in the process, along with an understanding of energy security within the framework of all the EU members concerned, not just within the individual member states' borders.

Note

1. The measure was made possible by two factors. First, as stated above, the usually low electricity price was driven exceptionally high by the gas price hike, causing a grave increase in the electricity price. Second, the Iberian Peninsula is largely isolated from the rest of Europe, which alleviated the risk that the state aid would give Iberian utilities an unfair advantage on the market.

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