Weathering the Storm:
EU responses to the 2022 energy crisis

January 2023

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The EU has fundamentally reframed its energy policy in response to the energy crisis, broadening its focus from just climate to now also consider geopolitics, global industrial competitiveness and energy poverty.

This paper outlines energy crisis measures taken by the EU so far as well as further planned initiatives. The thematically organised appendix provides more details on measures regarding diversification and security of supply, alternative forms of energy, energy demand reduction, energy prices and new funding opportunities.

Energy Crisis from 2021-2023

As the European Union reopened following the pandemic, the economy rebounded, driving up energy prices. Low levels of stored gas also exacerbated prices as the EU entered the heating season. Russian gas exports also dropped in 2021, with a 24% drop in supplies between October and December 2021 as compared to the same period in 2020, which had already been relatively low due to the impact of the pandemic.

To fulfill contracts, Gazprom utilised gas storage available in the EU, without refilling it sufficiently to make up for the used resources. In December 2021, gas prices hit a record high of €180 per MWh following a reversal of gas flow in the prominent Yamal pipeline.

Figure 1: EU Wholesale Gas Price History

Shock and fall: European gas prices wipe out 2022 gains

Dutch TTF natural gas benchmark price, €
per megawatt hour

Source: Eikon
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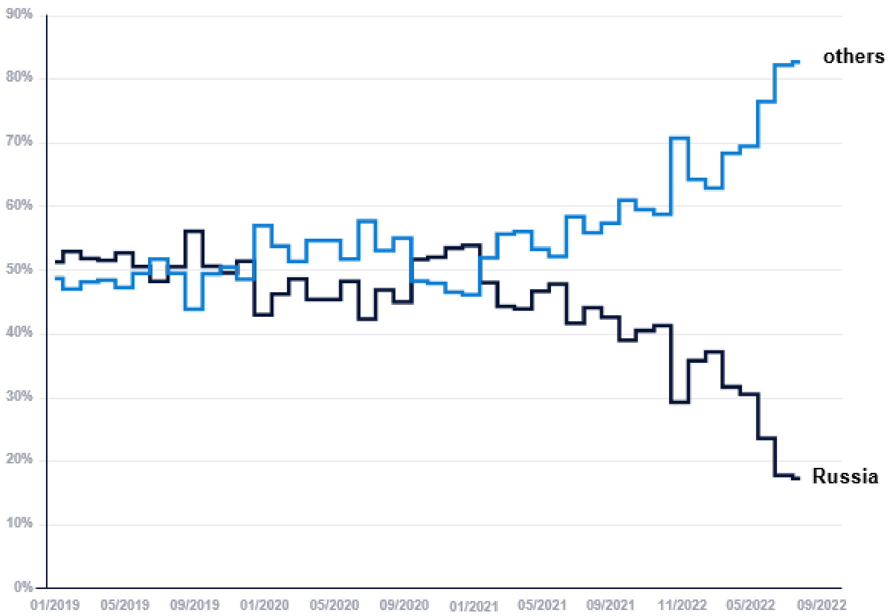
Figure 2: Diversification From Russian Supplies



Source: European Commission

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As Russia's invasion of Ukraine unfolded, energy prices skyrocketed. Russia instrumentalised the EU's heavy dependence on Russian natural gas imports to wage an energy war, throttling or cutting off supplies for EU countries that adhered to the sanctions and refused to pay in rubles.

European import of Russian gas has fallen sharply, from the historic average of around 40% of all gas consumption to 17.5% by September 2022. However, this sharp turn away from cheap Russian supplies, coupled with shortages in storage, triggered an extreme natural gas price spike of over €300/MWh as the EU scrambled to international markets to prepare its storage for the winter ahead.

This price peak also affected inflation and general power prices, due to the merit-order based electricity market model, where gas-generated electricity sets the price at times of high demand. Aside from the economic effects of these price rises, EU countries also dramatically increased public expenditure and debt in order to shield consumers from the effects of the volatility in global gas markets.

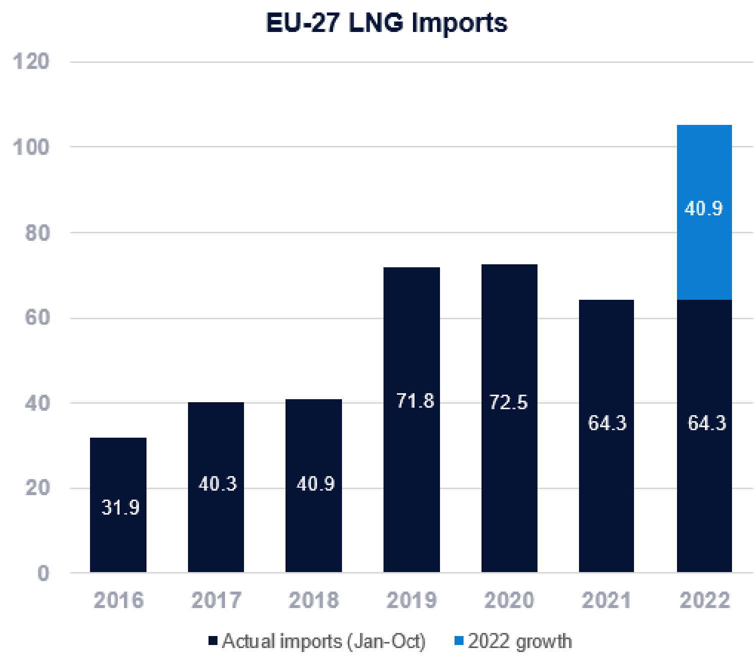
Even with national measures being implemented, high energy bills for consumers and a concern for how energy prices will impact European industrial competitiveness are still major political concerns as we enter 2023.

After the August peak, prices steadily declined – helped by full storage, ample LNG supplies, demand reduction, fears of a global recession and unusually warm weather from October 2022 to December 2022.

Natural gas prices notably dropped to around 64€/MWh in early 2023, as temperatures rose, demand diminished and storage remained full. Given that European gas storage levels were still at 83% as of 1 January 2023, supply shortage risks in the peak 2022/23 season declined considerably.

However, risks for the future persist and, in the near- to medium-term, gas prices will likely remain higher than in the past. Furthermore, the increased reliance on LNG ensures higher pricing for the foreseeable future, while also being prone to more international competition, particularly when China reopens. The peak 2023/24 season is particularly exposed to this risk.

Figure 3: China & EU LNG Demand Comparison



Source: Kpler LNG Services. Data to October 31, 2022.

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In this context, the EU will follow up on the raft of 2022 emergency measures and look to increase the resilience of its energy system while continuing to decouple from Russia.

The EU Response – Overview

The EU responded to the energy crisis with a range of different policy measures. This included longer term energy policy changes and amendments to major files such as the renewable energy directive, as well as temporary, short term measures through Council Regulations, which only require Council approval and can be adopted in a shorter timeframe.

The main policy packages presented in 2022 were:

- **REPowerEU**, which was presented on 18 May 2022 and set out the European approach to the energy market disruption caused by Russia's invasion of Ukraine. The focus of this policy package was on saving energy, diversifying energy supply, accelerating clean energy rollout, and investment and reform measures to achieve independence from Russian fossil fuels by 2027.
- **Save Gas for a Safe Winter**, which was presented on 20 July 2022 and aims to reduce gas use in Europe by 15% by 31 March 2023. The demand reduction plan focuses on fuel switching away from gas, promoting saving non-critical gas for electricity and heat, reducing consumption by industry and reducing heating and cooling in buildings.
- **The Emergency Intervention to address high energy prices**, which was presented on 14 September 2022 and aims to mitigate the current price increases for electricity and gas by further reducing demand for electricity, implementing a cap on market revenue for cheaper energy sources such as renewables and initiating a solidarity contribution from the fossil industry. The profits derived from these measures will be used to ease the burden of energy prices for households and commercial players alike.
- **The regulations on enhanced solidarity on gas purchases, accelerated renewable energy deployment and the market correction mechanism**, which were adopted on 19 December 2022 and seek to address concerns related to the gas market. This package proposes default solidarity rules between EU countries, joint purchasing mechanisms, new complementary LNG benchmarks, an intraday volatility management mechanism, as well as a price cap on wholesale gas trade within the EU. The regulations also streamlined permitting for renewable energy.

These packages can be broken down into six different themes that summarise how the EU aims to address the ongoing energy crisis:

- Diversification of supply
- Security of supply
- Alternative forms of energy
- Energy demand reduction
- Energy prices
- New funding opportunities

A breakdown by theme can be found below the next steps section.

What's to Come – Next Steps

While natural gas prices have currently returned to pre-war levels following the warm winter and ample storage capacity levels, this is likely a temporary effect of lower-than-usual demand, economic slowdown due to inflation and fears of recession and government sell-off of excess natural gas.

Reflecting this temporary reprieve, the European Council called for strengthened EU coordination with special attention to the following priorities:

- Operationalisation of demand aggregation and joint purchasing
- Accelerated discussions with reliable partners on long-term supply contracts
- Efficient filling of gas storage facilities, as well as close monitoring of demand reduction objectives and filling trajectories
- Early preparation of contingency plans for winter 2023/2024

Aside from these points, the Commission's work programme for 2023 also includes two significant energy initiatives set to address the needs of the European energy system:

- The revision of the EU's internal electricity market rules, set to be presented in Q1 2023
- Creation of an EU Hydrogen Bank, to be presented in Q3 2023

Meanwhile, the situation remains fluid and susceptible to a number of external factors, such as a complete cessation of Russian natural gas exports to Europe, a full re-opening of the Chinese economy and subsequent rise in global natural gas demand, or a breakdown in relations with other providers such as Qatar. The EU may introduce further crisis measures as it seeks to achieve energy independence from Russia while improving the resilience of the European energy system.

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Appendix

Diversification of supply

- **REPowerEU:** The REPowerEU plan, presented by the Commission on 18 May, set out a number of measures that impact the diversification of supply, such as the EU Energy Platform Task Force. Some other measures proposed in this plan included:
  - An obligation for diversification
  - Joint gas & hydrogen purchasing (later presented through the Enhanced Solidarity on Gas Purchases regulation)
  - EU IT tool for demand aggregation and infrastructure transparency
  - Memorandums of understanding with partner countries
- **EU Energy Platform Task Force:** On 25 May, the Commission established the EU Energy Platform Task Force, a platform that is tasked with working with international suppliers and managing voluntary gas purchases.

- **Seaborne crude oil & petroleum products ban:** On 30 May, the European Council agreed on sanctions that included a crude oil ban from Russia to Member States, excluding crude oil delivered by pipeline. The ban on crude oil took effect after six months, with products set to follow after eight months.

- **Council Regulation on enhancing solidarity on gas purchases:** The Council Regulation introduced a number of measures looking to improve diversification of supply. Measures that impacted the capacity of the EU to diversify its gas suppliers include:
  - A temporary joint purchasing tool, set to come into force in early spring 2023, which allows for the following options:
    - Demand aggregation of gas purchasing companies
    - Joint purchasing through the EU Energy Platform
    - Ad hoc governance arrangements that oversee aggregation and purchasing
  - LNG and Storage Transparency Platforms to improve the functioning of gas infrastructure given changes in flows

Security of supply

- **European gas storage policy:** In order to account for the invasion of Ukraine and the resulting uncertainty in gas supplies, the EU adopted changes to two existing regulations on security of gas supply and access to natural gas transmission networks on 27 June 2022. Via these changes, the EU sought to achieve a filling level of 80% of capacity of underground gas storage before the 2022/2023 winter and 90% of capacity before the following winter periods. This filling obligation will expire on 31 December 2025.

- **Council Regulation on enhancing solidarity on gas purchases:** The Council Regulation introduced a number of measures looking to maintain energy security, which includes default rules for bilateral solidarity between member states in case of shortages.

Alternative forms of energy

- **REPowerEU:** The REPowerEU plan, presented by the Commission on 18 May, set out a number of measures that improve the roll-out of alternative forms of energy, such as:
  - Renewable Energy Directive: Changed target to 45% by 2030 and introduced a Solar roof top initiative
  - Biomethane action plan, including higher biomethane production and import objectives
  - Hydrogen targets and regulatory framework, including 27 billion in direct investment in the hydrogen economy
  - Solar strategy to double solar PV capacity by 2025 with 600GW installed capacity by 2030
  - Simplified permitting procedures proposal (later presented through the accelerated renewable energy deployment proposal)
- **Council Regulation on accelerating the deployment of renewable energy:** This council regulation, which was adopted by the Council of the European Union on 19 December, frontloads certain segments of the amended Renewable Energy Directive introduced in REPowerEU, with an aim to greatly accelerate permitting for new renewable energy projects, repowering of existing renewable energy projects and the deployment of heat pumps.

Energy demand reduction

- **REPowerEU:** The REPowerEU plan, presented by the Commission on 18 May, set out a number of measures that impact energy demand reduction, such as
  - Awareness campaigns
  - The EU Save Energy communication, suggestion methods to voluntarily save energy
  - Energy Efficiency Directive: Changed target to 13% by 2030, up from the previously proposed 9%
  - Ecodesign and energy labelling improvements: EU-coordinated demand reduction plan (later presented through the Save Gas for a Safe Winter plan)

- **Save Gas for a Safe Winter:** The Save Gas for a Safe Winter plan, presented by the Commission on 20 July, sought to address the threat of gas shortages following reduced natural gas deliveries from Russia. This included the following measures:
  - Council Regulation on coordinated demand-reduction measures for gas, which implements a voluntary natural gas demand reduction target of at least 15% between 1 August 2022 and 31 March 2023, among other tools such as a Union Alert on security of supply
  - The European Gas Demand Reduction Plan, which sets out measures, principles and criteria for coordinated demand reduction, with a focus on industrial fuel switching, energy-saving auctions, awareness campaigns and definitions of critical consumers

- **Emergency Intervention to address high energy prices:** The Emergency Intervention, which was presented on 14 September 2022, proposed a number of measures that sought to alleviate the pressure of rising energy prices. The Intervention includes a voluntary overall reduction target of 10% of gross electricity consumption and a mandatory reduction target of 5% of the electricity consumption in peak hours.

- **Council Regulation on enhancing solidarity on gas purchases:** The Council Regulation further stressed the importance of demand reduction, extending the reduction period past March 2023 if needed.

Energy prices

- **Emergency Intervention to address high energy prices:** The Emergency Intervention, which was presented on 14 September 2022, proposed a number of measures that sought to alleviate the pressure of rising energy prices. These include:
  - **Inframarginal market revenue cap:** This cap on market revenues, which is set at €180/MWh, targets the high profits of technologies with low operating costs that sell electricity at the prices defined by gas-fired electricity generation. These include renewables, nuclear and lignite. Any profit over the cap is then collected by Member States, with these profits then redirected towards supporting and protecting final electricity customers.
  - **Solidarity contribution for fossil fuel sector:** This solidarity contribution imposes a tax on the taxable profits of businesses active in crude petroleum, natural gas, coals and refineries. This contribution is set to at least 33% of taxable profits in 2022 and 2023 which exceed 20% of average taxable profits of the previous four fiscal years. These funds are then repurposed for financial support measures for households and companies, as well as general financing.

- **Council Regulation on enhancing solidarity on gas purchases:** The Council Regulation also tackled higher prices, particularly by proposing the establishment of a new complementary LNG benchmark which would be priced independently from natural gas bought via pipeline, as well as the implementation of a new intra-day volatility management system, aiming to limit extreme price spikes in the wholesale natural gas markets.

- **Russian oil price cap:** In agreement with the G7, the EU implemented an oil price cap on crude oil and petroleum oils originating or exported from Russia, set at $60/barrel.

- **Council Regulation establishing a market correction mechanism:** This Council Regulation, adopted by the Council of the European Union on 19 December, will implement a price cap on gas when the price on the TTF (the most-important European gas exchange) exceeds €180/MWh for 3 days, or if the TTF price is €35 higher than a global reference price for three days. This market correction mechanism is meant to avoid the high prices reached during the August peak.

New funding opportunities

- **REPowerEU:** The REPowerEU plan, presented by the Commission on 18 May, set out a number of measures which also introduced new funding opportunities, such as through Potential Important Projects of Common European Interest (IPCEI), the Innovation fund and dedicated funding through the Recovery & Resilience Facility.

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