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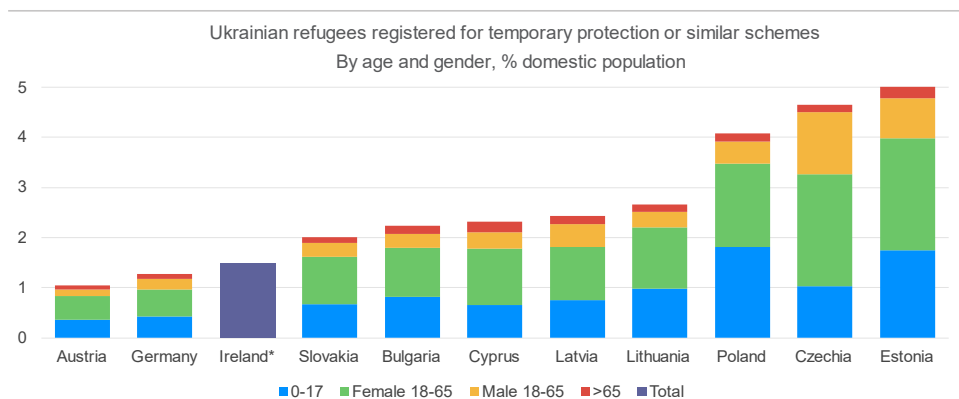
War in Europe

The Russian invasion of Ukraine on 24 February 2022 led to a devastating humanitarian crisis and was powerfully destabilising for the global economy. By virtue of proximity to the war, Europe is still attempting to deal with the consequences. This spotlight highlights some key issues the global economy has faced over the last year.

Challenge: Refugees fleeing Ukraine flooded Europe

A year of war has forced 30% of the population of Ukraine to flee their homes. More than 8 million refugees are recorded across Europe, with a further 5.3 million displaced within Ukraine, representing the most dramatic uprooting of European populations since the Second World War. As EU border countries—Hungary, Poland, Romania and Slovakia—scrambled to provide adequate shelter, food and healthcare to meet the most immediate needs of those fleeing the Russian invasion, the EU quickly facilitated arrivals from Ukraine. The EU's Temporary Protection Directive removed many of the barriers refugees typically face, providing immediate residency rights, access to the labour market, and access to housing, schools, healthcare and social benefits.

Refugees Fleeing Ukraine Have Tested the Capacities of Public Services



*Gender and age detail is unavailable.
Sources: UNHCR, Eurostat, Moody's Analytics

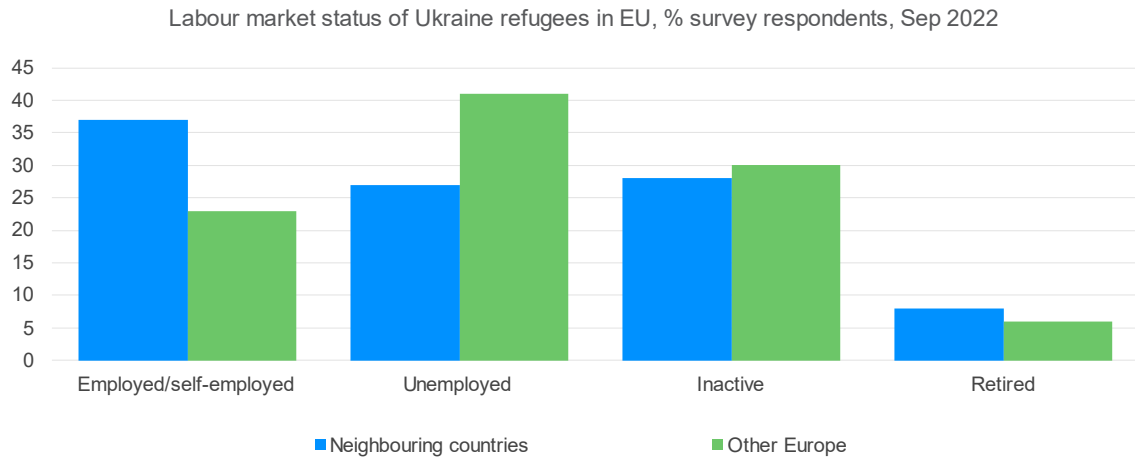
While member states have risen to the challenge, the sheer magnitude of population shocks faced in some destinations has tested their capacities to deliver on these promises. Ukrainians registered for temporary protection in Estonia, Czechia and Poland have increased the size of their populations by more than 4%. Some cities such as Rzeszów in Poland have seen their local populations increase by 50%. Providing adequate accommodation has been the biggest struggle. Private households have opened their homes across Europe to compensate for the lack of public facilities. Host countries have opened new reception centres and have drawn on existing centres for asylum seekers, hotels, hostels, schools, tents, and even cruise ships. The transition from these temporary solutions to longer-term solutions remains a struggle, with heavy pressure on rental markets. And the inflow of refugees has not drawn to a close. More than 1 million internally displaced persons in Ukraine have indicated a desire to relocate abroad, while Russian attacks on infrastructure continue to disrupt access to heat, electricity and water, driving more civilians from their homes.

Providing the support needed to accommodate the massive influx of refugees bears a financial cost. Costs incurred by the EU in 2022 are estimated to exceed €25 billion. At the onset of the invasion, the EU identified around €17 billion of funds to meet urgent needs such as housing and healthcare. Only a fraction of these funds

has been dispersed to member states, meaning that individual countries have been footing the bills upfront. Private individuals have also swallowed a significant share of the costs while struggling to meet high prices for energy and food.

Successful integration into society and the labour market is critical to minimizing the fiscal costs of support measures and allowing refugees to rebuild their lives. Refugees face enormous challenges entering foreign labour markets: language barriers, skill mismatches, unrecognized qualifications, not to mention the stresses of leaving a war zone and childcare responsibilities—around one-third of Ukrainian refugees are children. Available evidence suggests that nearly 70% of Ukrainian refugees of working age in the EU had entered the labour force by September. Not all of them had found their way into employment at that stage, but in the countries neighbouring Ukraine, which include Poland and Slovakia, about 40% of working-age individuals were in some form of employment or self-employment.

Integrating Refugees Into Labour Markets Is Crucial

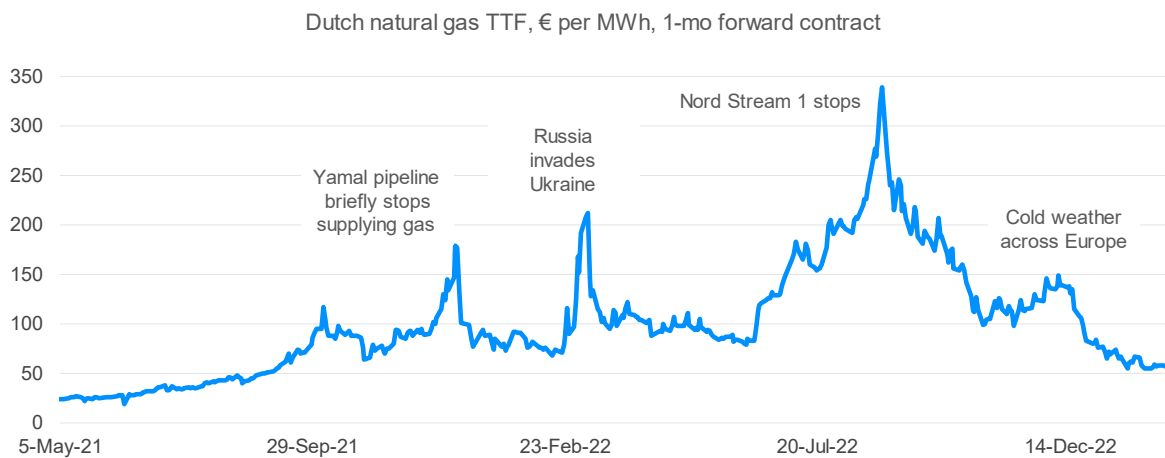


Sources: UNHCR, Eurostat, Moody's Analytics

Challenge: European energy security

The Russian war in Ukraine threw Europe's dependency on Russian gas into sharp focus. The EU, which has traditionally relied on Russia for approximately 40% of its gas consumption, faced an abrupt dislocation in supply in 2022 as Russia turned off the taps. Europe realized too late the inadvisability of being locked into a single supplier. Firms faced the possibility of gas rationing, while households faced the prospect of being unable to heat their homes during the winter.

Extreme Volatility in European Gas Price

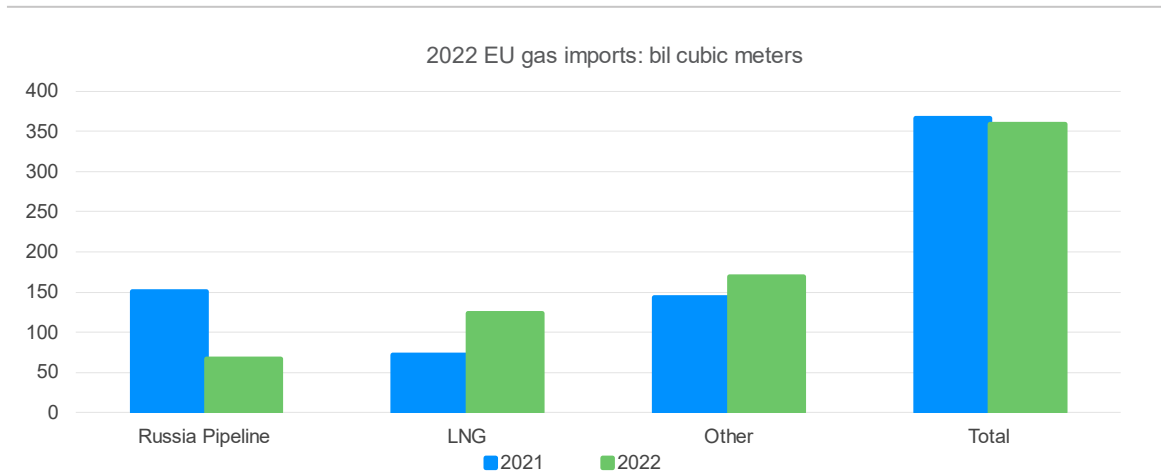


Sources: Bloomberg, Spectron Group, Moody's Analytics

The gas price started to rise in 2021 as flows from Russia declined, notably in the last quarter of the year. After an initial period of turbulence in the wake of the invasion in 2022, the price started to rise again over the summer, reaching its apex with the closure of Nord Stream 1, a major pipeline used to bring Russian gas into Germany, which ceased operation on 11 July. Initially shut down by Russia for routine maintenance, it quickly became apparent that flows were unlikely to resume and that Russia had resorted to weaponising gas in retaliation against EU sanctions. The European gas price peaked at nearly €350 per megawatt-hour, and fears mounted that Europe would run out of gas during the winter.

Europe scrambled to reorient itself, urgently seeking out and securing liquefied natural gas on the international market. The U.S. proved an able supplier, while Europe benefited from muted economic activity in East Asia, causing total supplies to Europe in 2022 to be similar to volumes received in 2021. Along with energy conservation measures implemented by EU member states over the year, high gas prices led to demand destruction causing demand to fall by 10% to 30% depending on the country and sector. A period of warm weather at the onset of winter also helped, and a year after the invasion, European gas markets have almost completely pivoted away from Russian gas.

Europe's Pivot to LNG



Sources: Breugel, Moody's Analytics

Several additional developments will be positive: Europe has ample gas in storage—a situation that is expected to continue—suggesting that the summer replenishment requirement will not be as extreme as in 2022; it will become easier for Europe to receive and process additional supplies of LNG as new regasification terminals come onstream during the first half of the year; new contracts with the UAE and Qatar will allow for additional supply sources over the next few years.

Balanced against these positives is the pressure on international markets that might arise from the economic reopening of China, especially in the latter half of 2023. Increased demand for LNG from East Asia could bid up gas prices. Although prices will be elevated for some time when compared with the pre-pandemic average of close to €10 per MWh, it does seem unlikely that the extreme movements in prices seen last year will be repeated this year.

Oil has been less of a concern. While oil prices spiked in the weeks after the invasion, sanctions on Russian oil have been introduced in a measured way. The U.S., the U.K., and a few other countries were the first to ban imports of Russian crude and distillates, but it took nine months for the much more consequential EU ban to come into place. The EU imported approximately 25% of its oil requirements from Russia and introduced an oil embargo in two phases. The first in December covered crude imports, while the second in February extended the ban to oil products. These bans mean that Russian oil, barring some carve-outs, will not flow into Europe, but the world has not lost Russian supply. Other countries such as India, China, and various emerging markets have taken advantage of the significantly discounted price of Russian oil to make opportunistic purchases. As long as such rerouting continues, the oil market will continue to be supplied by Russian oil. Not surprisingly, markets have responded with equanimity to the various embargoes.

Challenge: An international food crisis

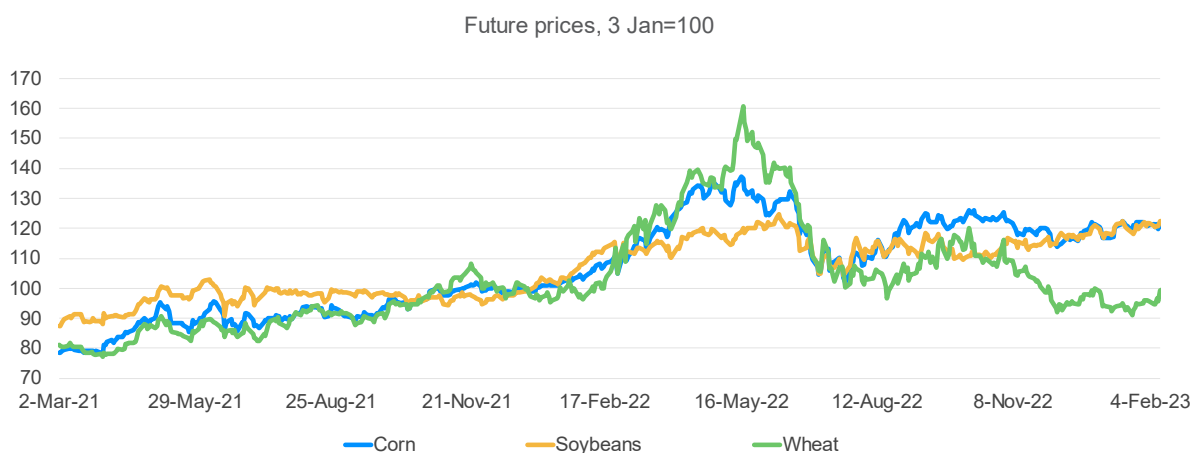
Compounding the surge in gas and oil prices, agricultural commodity prices also soared in the aftermath of Ukraine's invasion. This is because Russia and Ukraine are among the world's top exporters of agricultural commodities such as wheat, corn, barley, sunflower seeds, etc. Together their global trade accounts for as much as 50% of sunflower oil and one-quarter of wheat. Crucially, more than half of wheat imports in numerous African countries, developing Europe, and the Middle East come from Russia and Ukraine.

Exports from Russia and Ukraine**% of world trade (pre-invasion)**

	Russia	World ranking	Ukraine	World ranking	Sum
Sunflower seed oil	16.1%	2	56.0%	1	72.1%
Wheat	18.4%	1	7.0%	5	25.4%
Rapeseed	2.0%	9	15.1%	2	17.1%
Corn	1.7%	9	13.1%	4	14.8%
Fertilizers	13.3%	1	0.3%	-	13.6%
Rapeseed oil	7.6%	3	2.1%	10	9.7%
Soybeans	0.5%	7	1.9%	6	2.4%

Sources: Observatory of Economic Complexity, Moody's Analytics

Agricultural exports from Ukraine all but stopped between February and July as Ukraine's Black Sea ports were blockaded, and exports from Russia fell sharply despite Western sanctions having special carve-outs for the food and fertilizer sectors. This was because Western logistic, export and insurance companies decided to pull out from the Russian market, while restrictions on using EU territory for transit purposes complicated matters further. Fears of a global food crunch caused export bans to be imposed by other major players such as India and Kazakhstan, which further fuelled the crisis. On the upside, the establishment of solidarity lanes by the EU—alternative road, rail and fluvial transport routes—combined with the reopening of Ukraine's Black Sea Ports in August allowed for wholesale food prices to ease somewhat, especially those for wheat and maize. But given that exports from Ukraine in the 2022-2023 season still were more than 30% below the previous year's and further below pre-pandemic levels, agricultural prices remain relatively elevated compared with past standards.

Agricultural Prices Remain Elevated

Sources: Chicago Mercantile Exchange, Moody's Analytics

High fertilizer prices have compounded the problem. Fertilizer production is extremely energy intensive, as gas is used as feedstock and fuel in the fertilizer industry. Indeed, the sharp increase in natural gas prices in Europe has led to widespread production cutbacks in ammonia—an important input for nitrogen fertilizers. As of October, about 70% of European ammonia production capacity had been reduced or shut down.

Additionally, Russia, Belarus and Ukraine are a crucial mining and production region for two of the three types of fertilizers applied to ensure crop growth—potash and nitrogen. Here too, international firms pulled out despite carve-outs, while Russia announced export restrictions, leading to a collapse in the supply chain and a sharp decline in Russian fertilizer exports to the rest of the world. This sharp reduction in fertilizer supply and high gas prices led to a surge in global fertilizer prices. Fertilizers are among farmers' largest expenses. Given that some growing seasons last for as long as eight months, it will likely be a while before this surge in farmers' input prices drops out of wholesale agricultural prices. On the upside, fertilizer prices have decreased significantly over the past months owing to normalising gas prices.

In addition to elevated grain and fertilizer prices, retail food prices are being pressured by still-elevated energy costs, not to mention high labour costs. Food production is energy intensive, as processing and packaging require energy for heating, cooling and electricity. To that, we add fuel costs for transportation and electricity costs for retailers. While gas, electricity and fuel prices have come down in recent months, they remain elevated compared with their pre-invasion, pre-pandemic averages, which suggests that retail food prices will stay heightened for some time. Low-income populations are taking the largest blow, as a larger part of their inflation basket comprises food products and energy usage. The situation is especially dire in poorer countries in Africa and Asia, where governments don't have the resources to step up and subsidize a part of the higher food and electricity bills—as most European countries have done.

Challenge: A new geopolitical era

Russia, subject to heavy sanctions and ostracized by Europe, North America and their allies, is out in the cold, but as the war enters its second year, the world is also trying to adjust to a new geopolitical reality.

NATO's enlargement into Eastern Europe and countries of the former Soviet Union had long been a point of contention for Russia. Ukraine's ambition to apply for NATO membership in recent years ostensibly motivated the Russian invasion, but if Russia hoped that this would halt NATO's enlargement, then it has failed. Finland and Sweden applied for membership last year, while Bosnia and Herzegovina and Georgia have informed NATO of their wish to join. Ukraine has also formally applied for membership. Over the past year, NATO has worked to avoid triggering Article 5 of its constitution, which would drag it openly into war with Russia, and it is unlikely, therefore, to ratify Ukraine's application soon. The resurgence of interest in NATO shows the absence of a viable alternative, and though NATO involvement in the war remains a tail scenario, the bloc will have to tread carefully.

A war on European soil has raised questions around decades-long European ambivalence towards a common defence policy. The EU responded in 2022 with several initiatives but despite these efforts, European defence policy is largely driven by the capabilities and attitudes of individual member states. Recent discussions in Germany about the supply of tanks to Ukraine highlighted the growing unease around increased involvement in the war. Extreme left and extreme right parties in the country have taken divisive positions, with the former seeking to stop the supply of weapons. Absorbed by economic problems at home, at least some Europeans are reluctant to continue to pour budgetary resources into the war. Europe may backslide on its commitment to stop war on the Continent, and divisive politics may weaken its leadership.

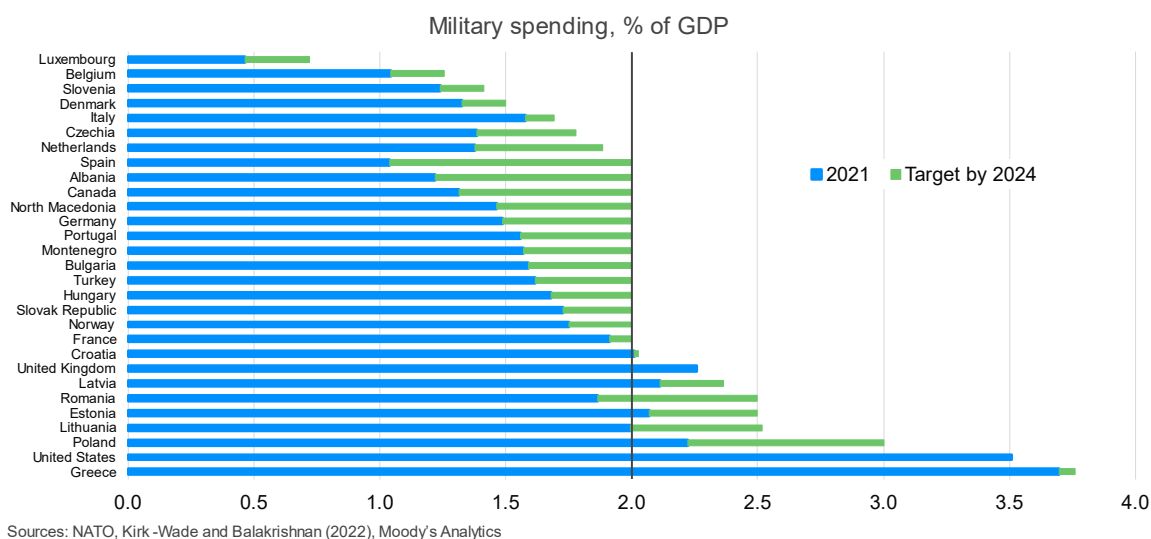
A new international geopolitical order is also emerging, one that pits the U.S. against China and in which other states have to find their role. The growing regionalisation, largely based on the U.S.'s perception of the strategic threat posed by China, has implications for the war in Ukraine. Until recently, China has largely been publicly silent on the war while supplying Russia with weapons. Its recent 12-point peace proposal suggests that it is reconsidering its role on the international stage. Given the level of distrust between the two superpowers, it feels unlikely that they will find common cause in bringing an end to the war. Europe, caught in the middle between the two, may find it difficult to choose sides.

Challenge: Surge in military spending

The war in Ukraine has sparked financial commitments across the EU and other Western allies to strengthen their military capacities. Since the mid-1980s, military spending had been on a declining trend worldwide. This decline coincided with an expansion of spending on social programmes. Government finances are finite, and political priorities determine how these finite resources are allocated. As the Cold War drew to a close, priorities shifted away from building up military defences and towards building social safety nets for households—the so-called peace dividend.

The downward trend in military spending reversed abruptly following Russia's invasion of Ukraine, putting paid to the idea of a peace dividend. The U.S., Canada, Japan, Australia, and most countries in Europe have been ramping up defence spending. Two-thirds of NATO members have announced firm near-term pledges to boost military spending to at least 2% of GDP.

Most NATO Members Target 2% of GDP Military Spending by 2024



The increase in military spending comes on the tail of massive fiscal supports during the COVID-19 pandemic, cost-of-living support measures in response to the surge in energy prices, rising debt-servicing costs, and dwindling tax revenues as the global economy teeters on the brink of recession. Meanwhile, longer-

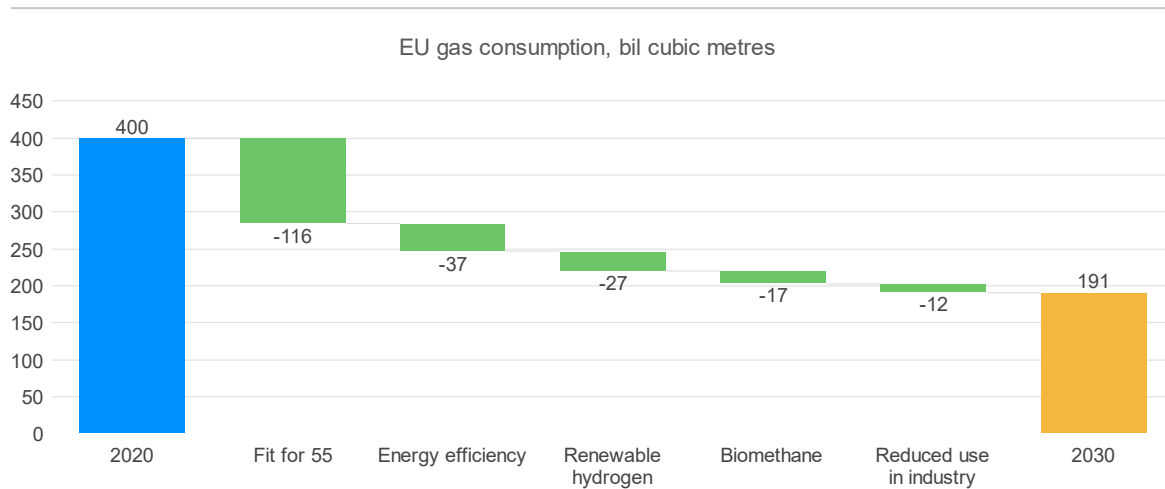
term spending pressures from an ageing population and climate commitments continue to build. The pivot towards higher defence spending, if permanent, will leave a legacy of higher debt, and divert scarce resources from social programmes, health budgets, education, and other government services.

Opportunity: European climate transition

The hugely negative aspects of war make it difficult to contemplate meaningful opportunities that might arise beyond the opportunistic. However, Europe has been presented with an opportunity that deserves special mention—a faster climate transition.

To confront the energy security threat, the EU issued a policy proposal known as the REPowerEU plan back in May that aimed for progress in three areas to speed up energy independence. The first was short-term supplier diversification, primarily by increasing LNG and pipeline supplies. The second was greater coordination, monitoring and enforcement of standards for gas in storage across the EU and potentially also a more coordinated approach in gas procurement. The third is to increase the pace of climate mitigation, thereby lessening reliance on fossil fuels and eliminating Russia as a supplier. The first two parts of the REPowerEU plan aimed for greater security of gas supplies, while the focus of the third is on diversification away from gas and into renewables. This part of the plan builds on the EU's existing plan for Net Zero transition known as the Fit for 55 package.

Enhanced Climate Measures to 2030



Sources: European Commission, Moody's Analytics

As the chart shows, the new areas of focus are energy efficiency and an increase in zero emission gases. Use of heat exchange pumps and tighter criteria around buildings and residential emissions will result in a 37 billion cubic meter drop in gas consumption. Renewable hydrogen and biomethane will account for a further 44-bcm drop in gas demand, while reduced gas use in industry will further reduce demand by 12 bcm. Successful implementation of these additional climate measures together with the Fit for 55 package could lead to a 190-bcm drop in gas consumption by 2030.

The plan has been overtaken by events. The EU planned to shift away from Russian gas over five years, but did not anticipate that Russia would turn off the taps within a few months. Having sourced alternative gas supplies, the danger now is that the EU loses momentum on the third pillar of the REPowerEU plan and backslides on its own upgraded climate ambitions. The cumbersome planning process and the time taken to obtain permissions for renewable installations have been subject to a fair bit of criticism. Similarly, the handling of Recovery Funds—the grants and loans given out from the EU budget to member states for climate projects—have been criticized for being too slow and for coming with too many strings attached. EU regulations need to be simplified and the process by which member states obtain fiscal support for climate projects from the EU needs to be more efficient, both of which require political will. The EU should not lose sight of its accelerated climate goals.

Opportunity: A stronger Europe

Europe has been battered by two significant economic storms in the last three years: first by COVID-19 and then, just as the region was hoping for a year of recovery, by the war in Ukraine. In both cases, the European Union has had to pull together and rely on regional decision-making and the use of common funds. The ability of the region to come together as a bloc in times of crisis is its core strength and EU institutions have time and again come to the region's rescue. In 2022, Europe had to set policy and allocate funds at the regional level to deal with the consequences of the Russian invasion on multiple fronts:

- The Temporary Protection Scheme gave Ukrainian refugees fast access to assistance and gave them the right to work across the EU.
- The REPowerEU plan put forward proposals to coordinate gas purchases to take full advantage of the bloc's purchasing power. The EU also established a monitoring system for reserve usage across member states and issued recommendations for energy conservation. Towards the end of the year, it introduced circuit breakers in the gas market to avoid extreme price movements in the near-term gas futures market.

- The EU will reintroduce its fiscal rules this year. These were suspended at the onset of the pandemic and subsequently remained suspended to give member states the leeway to deal with issues arising from the war in Ukraine. The rules have been simplified to deal with the consequences of the last two crises.
- The EU will use its budget to fund weapons and ammunition supplies to Ukraine.

In all these instances, the EU is using its powers to reach further into national policies to provide a unified response on critical issues. Use of the EU budget and reliance on EU institutions such as the European Semester to monitor and engage in dialogue with member states show the EU's ambition with regards to continued integration. If member states engage, this could help improve the strength of the Union.

Conclusion

The war in Ukraine is a grave humanitarian crisis and it has created significant challenges for the global economy. Twelve months on, however, the global economy is displaying signs of resilience and is starting to move on. Unfortunately, the war itself does not look as though it will come to an end soon, which means that the people of Ukraine continue to suffer.

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