

Russia's war in Ukraine.

Impact on Global Energy and Agrifood Security
and Prospects for Peace



This Paper was finalized in early August 2024, and subsequently printed. Therefore, it provides an analysis of Russia's war in Ukraine up to that date. It does not take into account any events, developments, or insights that have emerged after.

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Acknowledgements

TEHA CLUB

TEHA Club is a permanent platform through which top management executives can offer insights and promote concrete changes in the country and its institutions under the banner of a pro-business, pro-industry and pro-innovation culture.

TEHA Club aims to be an independent facilitator of an informal, open, and ongoing dialogue between top executives, policymakers and thought leaders, who can meet and discuss priority issues for business and the economic system.

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Since its creation in 1999, the CEO Club community established by The European House Ambrosetti (TEHA) has been extended also to:

- **TEHA Club Europe (Brussels)**, created in 2015 to promote ongoing dialogue on the most important issues regarding European integration and competitiveness, with government and institutions and other bodies of the European Union;
- **TEHA Club China (Shanghai)**, launched in 2019 to provide support to international companies operating in China in understanding the country's dynamics and promoting contact with Chinese institutions, creating a bridge to Europe in favor of local companies;
- **TEHA Club South Africa (Johannesburg)**, founded in 2019 (in synergy with TEHA's exclusive bilateral platform *Southern Africa Europe CEO Dialogue*) to offer a concrete contribution to the development of South Africa through sharing of high-level content among leaders of top local economic interests, foreign business leaders and local government and institutional representatives.

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In addition to the main analysis and evidence gathered from the interviews with selected protagonists of the current geopolitical scenario, this Paper has also benefited from the guidance and contribution of the distinguished and well-regarded expert **Federico Rampini** (Global Columnist, Corriere della Sera; Author; Principal Expert, TEHA).

The research was carried out by The TEHA's Working Group consisting of Valerio De Molli, Silvia Lovati, Madi Piano Mortari, Filippo Malinverno, Chiara Gargaglia, Benedetta Landi, Vittoria Mondini and Carmen Lojacono.



Preface
RUSSIA'S WAR IN
UKRAINE

RUSSIA'S WAR IN UKRAINE

Impact on global energy and agrifood security and prospects for peace

In an era marked by geopolitical turbulence and global uncertainties, the ramifications of Russia's war in Ukraine have rippled through the international community, reshaping, above all, the landscape of global energy and agrifood security as well as prospects for peace. In particular, the war has underscored the fragility of interconnected systems and the urgent need for resilience, adaptability, and cooperation to mitigate the adverse effects on economies and societies worldwide.

The war in Ukraine has prompted a reevaluation of energy security strategies, particularly in Europe, where dependency on Russian energy exports has exposed vulnerabilities. Driven by severe supply disruptions and soaring energy prices (gas prices record high of €240 MWh¹ in August 2022), the rapid transition from reliance on Russian natural gas to a diversified energy portfolio that includes Liquefied Natural Gas from alternative sources, highlights the adaptive capacity and strategic foresight required to navigate such crises. As the European energy market transforms, the lessons learned from this historical moment will serve as a foundation for building a more resilient and sustainable energy future.

Simultaneously, the disruption of Ukraine's agricultural exports has exacerbated global food insecurity, particularly in vulnerable regions reliant on Ukrainian grain such as Sub-Saharan Africa. Devastating Ukraine's agricultural sector - previously among the world's major grain exporters - the impact of the war on global food prices and supply chains has

¹ Per megawatt hour.

been profound, causing shortages and price fluctuations that continue to reverberate especially in developing countries. Two years into the war, Ukraine still faces a persistent decline in export volumes (-24% of grain exports in 2023-2024) with the numerous regions that are dependent on its agricultural products struggling to meet their internal food needs. As it emerges from the Paper, this situation necessitates international collaboration and investment in resilient food systems to stabilize and secure agrifood systems. Initiatives such as the Black Sea Grain Initiative have been critical in mitigating some of these challenges, yet the ongoing war continues to pose significant risks.

In times like these, keeping the dialogue alive on different levels is therefore critical. TEHA has always been determined to promote concrete change and progress within and beyond Italy, especially leveraging on the uniqueness and prestige of its flagship Forum, *“Intelligence on the World, Europe and Italy”*, which this year celebrates the 50th anniversary. While hosting, since 1975, outstanding political and business leaders from all over the world, the Forum has always offered an ideal platform to discuss global issues and facilitate dialogue even in times of unprecedented difficulties. That is the case of the historical Israeli Palestinian meeting that the Forum facilitated in September 1999, exactly one year before the second intifada. The then President of the Palestinian Authority Yasser Arafat and Shimon Peres, at that time Minister for Regional Cooperation, met at Villa d’Este, the Forum’s venue in Cernobbio, Lake Como, shaking hands for the first time after the collapse of the Oslo Accords. Likewise, in fifty years of activity the platform has acted as an exclusive arena to share views, develop collaborations and exchange opinions.

In this spirit, through a deep analysis of quantitative and qualitative data on energy and agrifood security in the current geopolitical context of Russia’s war in Ukraine, the present Paper aims to equip the international community with an insightful and updated picture to navigate this complex scenario and build resilience for the future, finding concrete solutions while taking into consideration the severe diplomatic constraints that

currently prevent Ukraine and Russia from negotiating an end to the conflict triggered by the Kremlin.

Hence, by examining the geopolitical, economic, and social dimensions of the conflict through rigorous data-driven analysis, the Paper seeks to offer insights and recommendations for policymakers, stakeholders, and advocates working towards stability and peace. Drawing on the qualitative data collected from interviews with institutional and civil society high-level representatives from key countries, who provided enriching evidence of the effects of the war and shared their privileged view on potential solutions, it also presents an in-depth picture of the international community's perceptions and sentiments in the hope of identifying collective pathways for a sustainable and just resolution.

The analysis' findings highlight the importance of coordinated efforts to address the immediate and long-term challenges posed by the war. Energy diversification, enhancement of renewable energy capacity, and strategic investments in infrastructure are pivotal in securing Europe's energy future. Also, strengthening global food systems, supporting sustainable agricultural practices, and fostering international cooperation are essential steps toward ensuring food security for all.

However, as we navigate a unprecedentedly unstable geopolitical landscape, the role of diplomacy and constructive dialogue cannot be overstated. Engaging all members of the international community, including key global actors and regional stakeholders, is crucial in fostering peace and stability. Only by understanding the root causes of the war and addressing its broader implications can we work towards a future where resilience, inclusivity, and sustainability are at the forefront of global governance.

All things considered, this is the *fil rouge* that this work aims at presenting, with the goal to hopefully provide a constructive contribution to make peace closer.

Valerio De Molli

Managing Partner & CEO

The European House – Ambrosetti e TEHA Group

Key messages

1. The Russian invasion of Ukraine has drastically reshaped European energy security, driving an urgent and strategic shift towards diversified global sources

The Russian invasion of Ukraine has fundamentally altered European energy security, forcing a rapid and unprecedented shift from reliance on Russian gas and oil to alternative sources such as Liquefied Natural Gas from the United States (US), Australia, and Qatar. This transition, driven by severe supply disruptions and soaring energy prices - with gas prices reaching a record high of €240 per megawatt hour in August 2022 - has prompted the European Union (EU) to implement significant measures to diversify energy imports, accelerate the adoption of renewable energy, and enhance energy efficiency.

As a result, Europe has transformed its energy market from a regional to a more integrated global system, demonstrating resilience and adaptability in the face of geopolitical upheaval. Nevertheless, Europe's long-term stability and security depends on factors such as the availability and cost of alternative gas supplies and energy sources, and the evolution of European gas demand.

TEHA has formulated **5 proposals for actions** through which the EU could enhance its energy security, reduce vulnerability to geopolitical conflict, and pave the way for a more sustainable and resilient energy future:

- Developing and implementing a **diversification strategy** that prioritizes reducing dependence on a single or limited number of energy suppliers, particularly from unstable regions and countries;
- Creating and maintaining **strategic energy reserves** - large-scale storage facilities that hold significant quantities of essential energy resources, such as natural gas, oil, and potentially electricity;
- Scaling up investments in **renewable energy technologies** (e.g., wind, solar, hydroelectric, and geothermal energy) to reduce the EU's reliance on fossil

fuels and enhance its energy security;

- Enhancing **energy efficiency measures** across all sectors by introducing *ad hoc* programs, stringent standards, smart grid technologies, fiscal incentives and conducting public awareness campaigns;
- Establishing a **Pan-European Energy Network** to strengthen energy security through regional cooperation, joint projects, emergency response mechanisms and resource sharing among EU Member States.

2. The disruptions in global food security due to Russia's war in Ukraine – which has significantly reduced Ukraine's agricultural exports, exacerbating food shortages and price increases – necessitate urgent international measures to stabilize food supply chains

Russia's war in Ukraine has significantly disrupted global food security, with severe impacts on vulnerable countries, particularly in Sub-Saharan Africa. The war has devastated Ukraine's agricultural sector, previously a major global grain exporter, leading to a steep decline in exports and exacerbating global food insecurity. The blockade of Ukrainian ports and destruction of critical agricultural infrastructure have intensified the crisis, causing an estimated \$10 billion in damages and \$70 billion in losses to Ukraine's agricultural sector, as well as driving up food prices and causing widespread malnutrition.

International efforts, including the Black Sea Grain Initiative and EU solidarity lanes, have partially mitigated the crisis but are insufficient to fully address the supply chain disruptions. African countries, heavily reliant on Ukrainian and Russian wheat and sunflower oil, are facing acute food shortages and inflated prices.

Challenges remain globally, with acute food insecurity reaching record levels in 2022 affecting 258 million people across 58 countries and territories. Continued international

collaboration and investment in resilient food systems are crucial to mitigate the ongoing crisis and prevent future food insecurity.

For this reason, TEHA has formulated an additional **5 proposals for actions** through which the international community at large could strengthen agrifood security, support vulnerable populations, and drive the transformation of the global agricultural system towards sustainability and resilience:

- Creating a **Global Food Crisis Management Task Force** under the jurisdiction of the United Nations, involving key International Organizations, to encourage a shared and effective food crisis management;
- Increasing **international food aid programs** to vulnerable countries (e.g., efficient distribution networks, long-term programs, social safety nets, monitoring and evaluation);
- Providing targeted **financial assistance and development aid** to vulnerable countries to help building up agrifood systems and improve resilience to future shocks;
- Promoting **sustainable agricultural practices** that enhance productivity while minimizing environmental impacts (e.g., climate-smart agriculture, agroecology, and regenerative farming techniques);
- Advocating for a **global agricultural policy reform and governance** to support the green transition and ensure equitable access and distribution of agricultural and food resources.

3. Russia's war in Ukraine has led to broader economic and social impacts: It has profoundly disrupted global supply chains – particularly for critical minerals and essential goods – and caused significant humanitarian harm on civil society

Russia's war in Ukraine, compounded by economic sanctions on Russia, has caused profound disruptions in global supply chains, particularly in critical minerals and agricultural commodities, contributing to a global economic slowdown characterized by high inflation and energy shortages. These disruptions have led to the need for a reconfiguration of global trade relationships, compelling businesses to find new markets and suppliers. This instability has been followed by increased trade barriers, delayed expansion plans, and a global economic slowdown, exacerbated by energy shortages and high inflation. The war's impact on the Donbas region, rich in essential minerals, has further strained supply chains, affecting industries reliant on these resources (e.g., electronic and automotive industries).

As a result, Europe and other regions are seeking to diversify their sources, investing in stable countries and enhancing recycling efforts to mitigate these disruptions. Governments are also responding with strategic policies to reduce dependency on conflict-prone areas, emphasizing local extraction and processing.

The war's social impacts are equally severe, with over 30,457 civilian casualties and more than 14 million people displaced, creating the most significant humanitarian crisis in Europe since World War II. Such displacement has strained resources in receiving communities, exacerbating vulnerabilities to exploitation and trafficking, while the destruction of infrastructure has led to critical shortages of food, water, shelter, and healthcare. The global ripple effects of these disruptions threaten to erode the purchasing power of people worldwide (particularly in low and middle-income countries), aggravating global poverty and hunger – especially in vulnerable regions like East Africa.

4. The ongoing war in Ukraine gained significant international attention and prompted diverse peace efforts and proposals from global actors: It is essential to recognize the underlying complexities and strategic interests involved

The pathway to peace in Ukraine is shaped by evolving global political dynamics and the strategic interests of key players. While a lasting peace remains challenging, a feasible short-term goal is achieving a truce. Russia's strategic uncertainty and economic instability, coupled with Ukraine's pressing economic and demographic concerns, create a critical impetus for ceasing hostilities. Global actors such as the United States, the EU, China, and various International Organizations play a crucial role in influencing peace negotiations, with each proposing unique approaches reflecting their geopolitical alignments.

The pursuit of peace must involve a balanced approach that addresses security concerns, territorial integrity, and humanitarian needs. In this context, learning from history can guide current efforts to ensure a comprehensive and just resolution without repeating the errors committed in the past. Despite the differences in the actions advanced by different countries, there is the shared belief that engaging in constructive dialogue, leveraging diplomatic networks, and fostering international cooperation are essential steps toward achieving a durable peace in Ukraine.

5. In the complex geopolitical scenario following Russia's invasion of Ukraine, TEHA has elaborated 5 recommendations to contribute to the design of a sustainable and just peace process

In light of the intricate dynamics and far-reaching consequences of Russia's war in Ukraine, fostering sustainable peace necessitates robust international cooperation and a multi-faceted approach.

Therefore, building upon the interviews with selected think tanks and institutions, TEHA has formulated **5 recommendations** to contribute to the creation of concrete and effective pathways towards peace:

- Recognizing the **extensive damage** caused by the war both regionally and globally, considered as the prerequisite of a comprehensive peace process that takes into account the impacts on belligerent nations but also on third-party states;
- Conducting a **critical analysis of the Minsk Agreements'** diplomatic failure to thoroughly understand the roles and motivations of the main actors involved;
- Segmenting the peace process into **short-term and medium to long-term actions** in order to establish clear milestones and objectives, facilitating progressive achievements and ensuring that both immediate needs and long-term goals are met;
- Organizing a **comprehensive Peace Conference** involving both belligerent countries to ensure that Ukraine and Russia can articulate their positions and negotiate terms on neutral grounds, still acknowledging that the latter bears responsibility for triggering the invasion;
- Creating a robust **economic and financial assistance** plan to support **Ukraine's post-war recovery**, which is characterized by severe economic challenges such as public debt and a declining population.

Introduction

Introduction

On February 24, 2022, Russia began a military invasion in Ukraine aimed at establishing a regime change in Kyiv and occupying the Donbas Region, as well as neighboring territories. Since then, Russia's war in Ukraine has shattered the fragile peace in Eastern Europe and triggered a cascade of crises with far-reaching consequences. Across all its dimensions, the war is producing alarming effects to the world economy, already battered by COVID-19 and climate change, with particularly dramatic impacts on developing countries and vulnerable populations. Beyond the immediate human tragedy and devastation inflicted upon Ukraine, the war has sent shockwaves throughout the international community, disrupting not only regional security but also the delicate balance of **global energy** and **agrifood systems**.

Agrifood security entails a nation's ability to access sufficient and nutritious food. Energy security, on the other hand, ensures a nation's access to reliable and affordable energy sources, vital for powering economies and maintaining a high quality of life. Therefore, in today's interconnected world, disruptions in either sector can have significant **global effects**, impacting in turn different essential areas – stemming from economic stability to public health. This is an even more alarming concern given the key role that Russia and Ukraine have always played in the world's trade and production of food and energy. The two countries are in fact among the world's breadbaskets: they provide around 30% of the world's wheat and barley, 1/5 of its maize, and over half of its sunflower oil. At the same time, Russia is the world's top natural gas exporter, and second-largest oil exporter. Together with the neighboring Belarus, the country also exports around 1/5 of the world's fertilizers.

The disruption of global food exports resulting from the war has caused shortages and price fluctuations that continue to reverberate especially in developing countries. While

international interventions have helped nudge global food prices slightly down from their peak in early 2022, they remain around 12% higher compared to pre-war levels. This price volatility disproportionately affects developing economies, where households spend a larger portion of their income on food, especially in African countries. In addition, the collapse of the Black Sea Grain Initiativeⁱⁱ, which facilitated around 20% of Ukraine's wheat exports towards developing countries, has further exacerbated food insecurity and other health and socioeconomic implications, with potentially wider consequences.

While initial concerns existed about fuel prices mirroring the trajectory of food ones due to sanctions on Russian oil, the situation appears less severe. With continued supply, oil prices have stabilized in the global market. Nevertheless, many countries still grapple with elevated energy costs, hindering economic growth, squeezing household budgets, and impeding efforts to expand electricity access. Geopolitical uncertainty is still casting a long shadow over energy markets: while Ukraine's energy sector remains on the war's frontline for the second consecutive winter, Russia continues targeting power plants and infrastructure, causing widespread damage and leaving many Ukrainians without reliable heat or electricity.

The war is fundamentally **reshaping the global energy landscape** in terms of trade patterns, with the crisis also serving as a major catalyst for the adoption of cleaner energy alternatives. Policy changes implemented since February 2022 are driving remarkable growth in renewable energy capacity, with the International Energy Agency (IEA)-projected global reach of 7,300 GWⁱⁱⁱ by 2028, putting renewables on track to surpass coal as the world's primary electricity source by early 2025. Examples include the US Inflation Reduction Act and the European Union's REPowerEU plan.

ⁱⁱ UN-brokered agreement among Russia, Ukraine and Türkiye that allowed for the safe passage of Ukraine's food and fertilizers exports through the three ports of Chornomorsk, Odesa and Yuzhny/Pivdennyi.

ⁱⁱⁱ Gross Weight.

While Russia remains a major player, retaining its position as the world's third-largest oil producer and biggest net exporter in 2023, its overall exports have plummeted in traditional markets like the EU, US, and United Kingdom (UK). Russia has found new buyers in India, China, and the Middle East, but its oil export revenue has declined due to price caps, discounts, and the broader drop in oil prices. Natural gas faces a similar scenario. The EU's heavy reliance on Russian gas (over 40% of its gas total imports before the war) left it open to vulnerabilities when supplies slashed in 2022, triggering an energy crisis. The EU scrambled to find alternative sources like LNG^{IV} from the US, but the most significant adjustments came from reduced gas consumption in industry and households, along with a rise in new renewables and efficiency upgrades. Coal filled a minimal gap, and by 2023 Russia only supplied 10% of the European gas needs, a stark contrast to the pre-war era.

Yet, there are many other effects of the war that extend beyond the economic repercussions cited above. As it will be discussed over the course of this Paper, these effects touch upon areas such as political stability, social cohesion, environmental sustainability and public health and security. Among these, possible paths to peace will be analyzed through a multifaceted approach. For instance, it is important that effective **peacebuilding efforts** address the underlying causes of the war, foster a diplomatic dialogue, promote economic cooperation, and support humanitarian initiatives. Only by understanding the root causes of these diverse impacts from different points of view, it will be possible to better navigate the complex landscape of post-war recovery and potentially contribute to the achievement of sustainable long-term peace.

The present study recognizes the paramount importance of both energy and agrifood security in the current geopolitical context of Russia's war in Ukraine. The goal is therefore to provide a comprehensive understanding of how the war

^{IV} [Liquified Natural Gas.](#)

is affecting these sectors, with a particular focus on the implications for European energy and global food security.

In addition, drawing on the qualitative data collected from interviews with institutional and civil society high-level representatives from key countries, the Paper presents an in-depth overview of the proposals for peace advanced by the most influential actors involved as well as of the international conferences that have shaped the path towards peace so far. In addition, to identify a *fil rouge* within the varying views across different influential global actors, the study offers an analysis of the international community's perceptions and sentiments.

TEHA has always been determined to promote concrete change and progress within Italy. However, our strong international vocation goes far beyond our country alone. In this spirit, through a deep analysis of quantitative and qualitative data on both sectors, TEHA aims to equip the international community with an insightful and updated picture to navigate this complex scenario and build resilience for the future, finding concrete solutions to these issues while taking into consideration diplomatic constraints.

The added value of the initiative resides in the collaboration with selected international think tanks and universities, who contributed to the work by participating in one-to-one interviews with TEHA's Working Group, providing enriching evidence of the effects of the war and sharing their privileged view on potential solutions.

In conclusion, this Paper combines the quantitative analysis and evidence emerged from the existing literature with the precious qualitative data collected through the interviews with high-level international experts, so to understand their sentiment about proposals for action and potential pathways to achieve long-term peace.

01

**An overview
of the geopolitical
scenario**

1.1

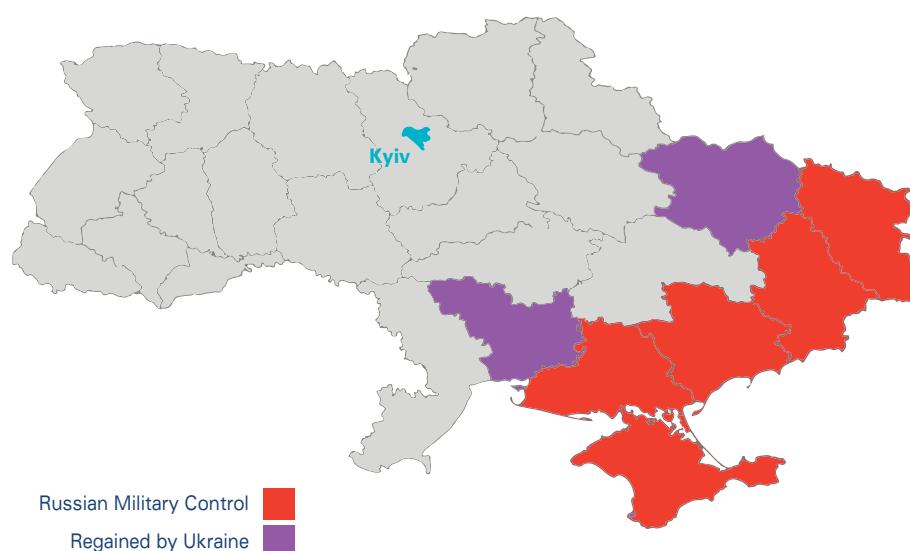
The escalation of Russia's war in Ukraine

Russia's war in Ukraine, ignited by Russian President Vladimir Putin's military invasion of Ukraine in February 2022, is the result of a complex interplay of historical grievances, geopolitical aspirations, and domestic politics. Initial Russian objectives were clear, with an invasion strategy aimed at controlling the entire country through direct military occupation or through the establishment of a proxy government. The invasion began with a blitzkrieg assault on strategic locations such as Mariupol, signaling Moscow's intent for a swift victory. Indeed, they anticipated a rapid collapse or surrender of the Ukrainian state, planning for a relatively fast war of maneuver. However, the protracted siege of Mariupol, spanning from March to April 2022, served as a testament to Ukraine's resilience. Moscow's subsequent ground offensive, with extensive efforts focused on targeting the Azovstal factory¹, led to the surrender of Ukrainian fighters in the area in May 2022. The latter marked a significant achievement for Russian forces, albeit amid reports of personnel shortages and logistical challenges.

Concurrently, in February 2022, Russia also launched a parallel multi-directional invasion of Ukraine from the North, East, and South with the goal of gaining control over the entire country through either direct military occupation or the establishment of a proxy government. Moscow planned for a rapid war of maneuver, including air assaults and amphibious operations aimed at capturing major cities such as Kyiv, Kharkiv, and Odesa. Ukraine on the contrary, which had been preparing for a potential Russian invasion since 2014, successfully opposed and pushed back invading forces

¹ The Azovstal factory is one of the largest metallurgical facilities in Ukraine, playing a critical role in the national economy, contributing significantly to the country's industrial output and export revenues.

from its major cities (including Kherson), despite its unlawful annexation by Russia. In the latter part of spring 2023, Kyiv initiated a counter-offensive with the goal of reclaiming territories to the south of Zaporizhzhia. Notwithstanding, Russian forces managed to retain control over the majority of the previously gained territory.



The escalation of the war was exacerbated by the participation of mercenaries affiliated with the **Wagner Group** - a Russian state-funded private military company which often worked in close alignment with Russian interests - leading to a brutal confrontation characterized by violence and atrocities. However, in June 2023 the Wagner Group led an armed uprising accusing the Russian Ministry of Defense of deceit and revealing divisions and rifts within Russian leadership, challenging Putin's narrative and complicating the war further. Two months later, on August 23, 2023, the leader of the Wagner Group, Evgenij Prigozhin, together with Commanders Dmitry Utkin and Valery Chekalov, died in a plane crash in Russia, leaving the leadership of the Group uncertain. Western intelligence suggested the crash was likely due to an onboard explosion, with widespread suspicions of Russian state involvement, as a consequence to the uprising.

Shaped by multifaceted motivations and goals, Russia's war in Ukraine has resulted in a complex **geopolitical struggle**.

Figure 1. | Military control over Ukraine as of June 2024. Source: TEHA elaboration on BBC data, 2024

With Putin’s administration at the forefront, uprisings also came within Ukraine, where pro-Russian separatist movements consistently received support (especially in the Eastern part of the country) – coupled with the provision of military aid and political backing to breakaway regions such as Donetsk and Luhansk. This support has been instrumental in fueling the insurgency within the region, exacerbating tensions and prolonging the war.

In contrast, throughout the years, successive Ukrainian governments have sought to strengthen ties with the West, particularly through aspirations for NATO and EU membership. However, the significant **internal challenges**, including widespread corruption, governance issues, and the need for comprehensive economic reform have impeded or at least delayed possibilities for membership. Such internal struggles have further complicated Ukraine’s ability to both pursue its foreign policy goals and effectively address the war. Yet, Ukraine has still been able to secure support from the West through foreign aid. Indeed, since January 2022, over \$380 billion in aid, primarily from Western nations, has sustained its efforts in the ongoing war.

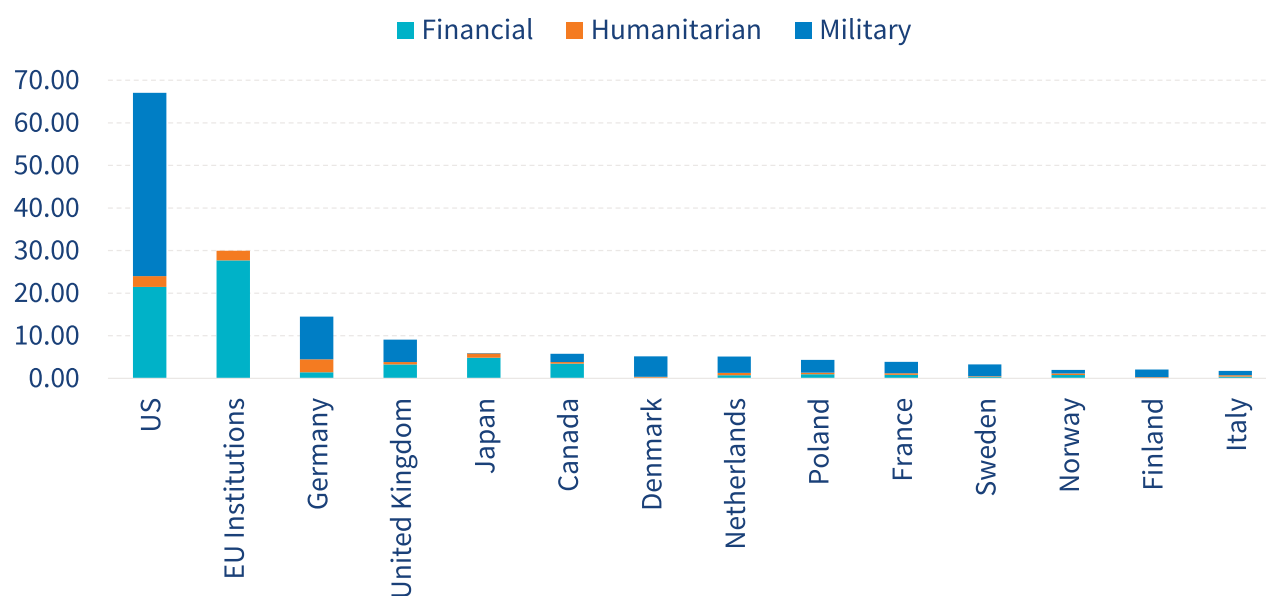


Figure 2. | Total bilateral allocations to Ukraine by type of assistance (billion €), February 2022 – February 2024. Source: TEHA elaboration on Ukraine Support Tracker, Keil Institute data, 2024

As of February 2024, European donors and the EU have allocated a total of €89.35 billion for military, humanitarian, and financial support since the invasion, compared to €67 billion from the US. However, with no end in sight to the war, additional support is needed to replenish military stocks.

Despite this, allocations are still falling short of the needed support. In the US, as of now the largest single donor, Congress remains locked in a stalemate over further aid for Ukraine, and the eventual outcome could significantly impact the war's future. To fully replace the now on hold US military assistance, Europe would need to double its current level and pace of arms support. Whilst the approval of the EU's Ukraine Support Facility, in March 2024, will provide further financial assistance for the 2024-2027 period, a substantial gap remains between commitments (€80 billion) and allocations (€30 billion).

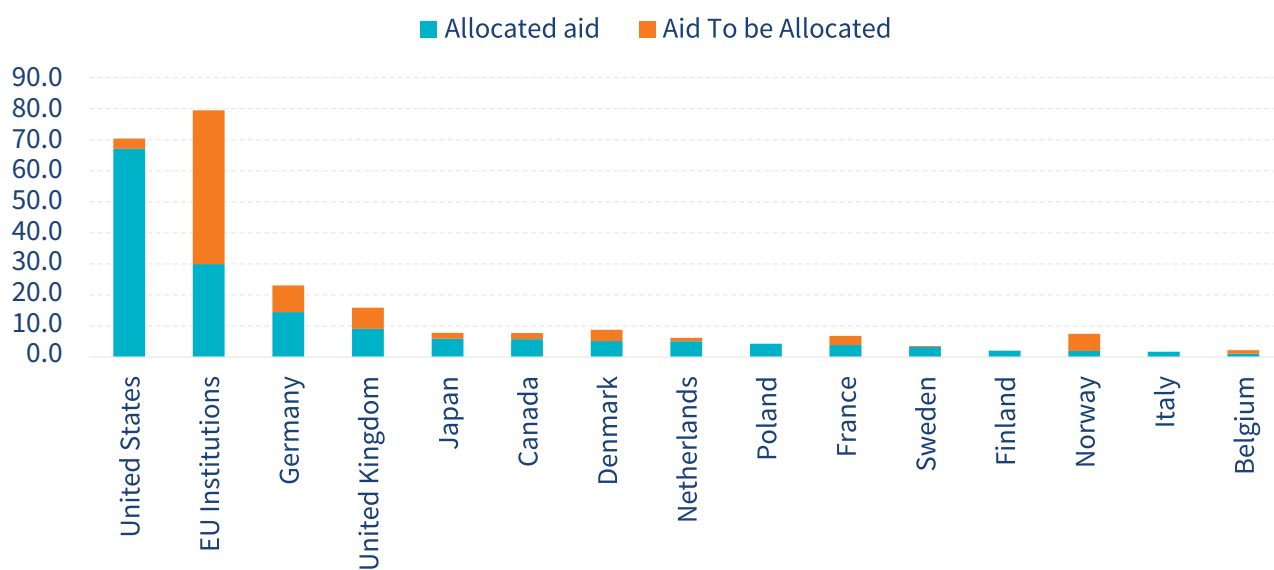


Figure 3. | Total bilateral allocations and commitments to Ukraine (billion €), January 2022 - February 2024. *Source: TEHA elaboration on Ukraine Support Tracker, Keil Institute data, 2024*

International sanctions

In an effort to penalize Russia by decreasing its economic and military strength, numerous sanctions have been imposed by the US, UK, EU, and other countries (including Australia, Canada, and Japan), totaling over 16,500 measures targeting Russia. These sanctions have predominantly focused on

restricting the country's financial capabilities. Notably, the US and the UK have banned the import of Russian oil and natural gas, while the EU has halted seaborne crude imports. Additionally, the G7 has set a maximum price of \$60 per barrel for Russian crude oil; however, Russia has still managed to sell oil above this price threshold.

In addition to financial restrictions, **sanctions** have been levied against Russia's military technology and financial channels. The EU, in particular, holds a significant portion of the more than \$330 billion in frozen Russian central bank assets, primarily in Belgium. Indeed, there is a growing call among US and European lawmakers to utilize seized Russian central bank reserves to support Ukraine's recovery efforts. Moreover, in December 2022, the EU bloc agreed to prohibit the export of certain military hardware to Russia and its allies, such as Iran.

Despite the comprehensive nature of these sanctions, countries such as China and India have increased their imports of Russian oil and natural gas. Additionally, some nations have acted as intermediaries, importing Western goods and subsequently trading them with Russia.

While the sanctions have inflicted some economic pain on Russia, resulting in declines in oil and gas revenues following the implementation of price caps, they have failed to deter Russia's aggression against Ukraine. In fact, the International Monetary Fund (IMF) estimates that Russia's GDP grew by 2.2% in 2023, fueled by extensive war spending, surpassing the growth rates of both the US and numerous other Western economies.

Conversely, economic contractions have instead harmed the global economy, where existing challenges have been further aggravated, leading to slower growth and higher inflation on a global scale. Given that Russia and Ukraine are significant producers of commodities, disruptions in their operations have led to a surge in global prices, particularly evident in the case of oil and natural gas. This surge has also extended to food prices, with the cost of wheat for example – wherein Ukraine and Russia account for 30% of global exports – reaching unprecedented levels.

The role of Russia and Ukraine in the European energy and global agrifood landscape

With Russia and Ukraine emerging as key players in the global agricultural and energy markets throughout the years, the war poses inevitable global and regional challenges in terms of food and energy security.

Known as the **Eurasian Breadbasket**, Ukraine and Russia are among the biggest agricultural powerhouses in the world. As previously stated, they supply around 30% of the world's wheat and barley, 20% of its maize, and over 50% of its sunflower oil. This translates to approximately 12% of the total global calorie's intake being dependent on their exports, highlighting their indispensable role in nourishing populations worldwide. Additionally, Russia stands out also as a dominant force in the fertilizer market, acting as the world's leading exporter of nitrogen fertilizers, holding a 15% share in global trade. Russia and Belarus together account for approximately 33% of global potash fertilizer exports, further highlighting their influence on global agricultural productivity. Russia's ranking as the world's top natural gas exporter and second-largest oil exporter adds another layer of strategic importance – with far-reaching consequences for energy security, especially across Europe.

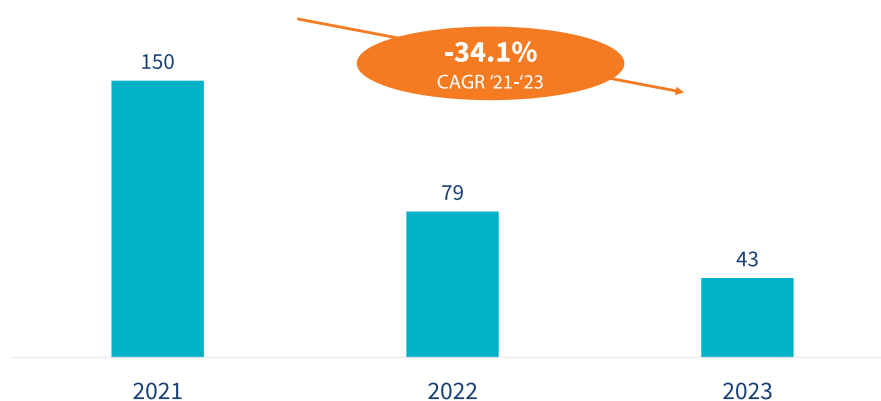
With the advent and the continuation of the war, this **dependency scenario** has led to severe production and export challenges such as shortages and price increases, with poorer and vulnerable populations being affected the most. In other words, when leading food and energy producers experience disruptions due to conflicts or policy shifts, the domino effect is swift and devastating. Indeed, Russia and Ukraine's strong presence in the agricultural and energy sectors underscores their importance within global food trade and energy security.

When the war started back in February 2022, the **EU energy sector** entered uncharted territory, with Russia’s weaponization of its energy exports sending shockwaves through the market. The EU could not count anymore on energy imports from Russia, who until then was providing for almost half of Europe’s gas imports as well as a large share of coal and oil, and was thus confronted with a double challenge: to safeguard its security of energy supplies and simultaneously keep prices at remotely affordable levels.

As a consequence, the landscape of EU energy imports has changed significantly since the start of the war. Although the EU’s total gas demand stood at around 400 billion cubic meters (bcm) per year before the war - with only about 10% of it covered by domestic production - the 150 bcm of **natural gas**² imported from Russia in 2021 nearly halved (to 79 bcm) in 2022 and fell by a similar share (to 43 bcm) in 2023. In essence, the EU dependency on Russian gas fell from 45% in 2021, to 15% in 2023.

Figure 4. | Quantity of natural gas imported to the EU from Russia (absolute values, bcm), 2021-2023.

Source: TEHA elaboration on European Commission data, 2024



The recent energy crisis taught the European energy market a fundamental lesson: its historical overdependency on a single supplier, particularly for crucial resources like oil and gas, has exposed a vulnerability that can no longer be ignored. Diversifying the EU’s import basket across a wider range of predictable and reliable partners may therefore translate

² Both LNG and pipeline.

into mitigating the risk of unexpected disruptions. Indeed, the EU has had to secure a robust combination of reliable pipeline imports and strategic sourcing of LNG to overcome its dependency on Russian gas imports. As a result, in 2023, Norway and the US emerged as the EU's primary gas suppliers, accounting for 30% and 19% of its total imports, respectively.

With regards to the global agrifood landscape, the ongoing war in Ukraine has significantly disrupted global food exports, causing shortages and price fluctuations that continue to reverberate especially in developing countries. While international interventions, such as those from the United Nations World Food Program (UN-WFP) and the EU have succeeded in dragging global food prices down, the effects linger in many parts of the world – with several economies, particularly low- and middle-income ones, still trapped in the **food crisis**.

Two years into the war, numerous regions that are dependent on agricultural products from Ukraine still face a persistent decline in import volumes and struggle to meet their internal food needs. Beyond the EU, a significant dip in wheat imports from 2021-2022 to 2022-2023 is evident across most regions. Southeast Asia, traditionally a major importer of **wheat** from Eastern Europe (with Indonesia and the Philippines importing from Ukraine a quantity of wheat worth \$578 and \$382 million, respectively), witnessed the most dramatic decline of -75%. On the other hand, looking at wheat exports from Russia, the analysis reveals that – except for Europe, Southeast Asia and Southern Africa – other regions seem to be increasing their reliance on Russian wheat to meet their needs. Eastern Asia exemplifies this trend: wheat imports from Ukraine fell by 66%, while those from Russia surged by 49%. This suggests that while Russia's total wheat exports are trending upwards, wheat exports from Ukraine have a downwards tendency, meaning that low-income economies continue to import from Russia despite sanctions. As a result, Ukraine's grain exports declined by 24% in 2023-2024, and they are expected to fall further in 2024-2025.

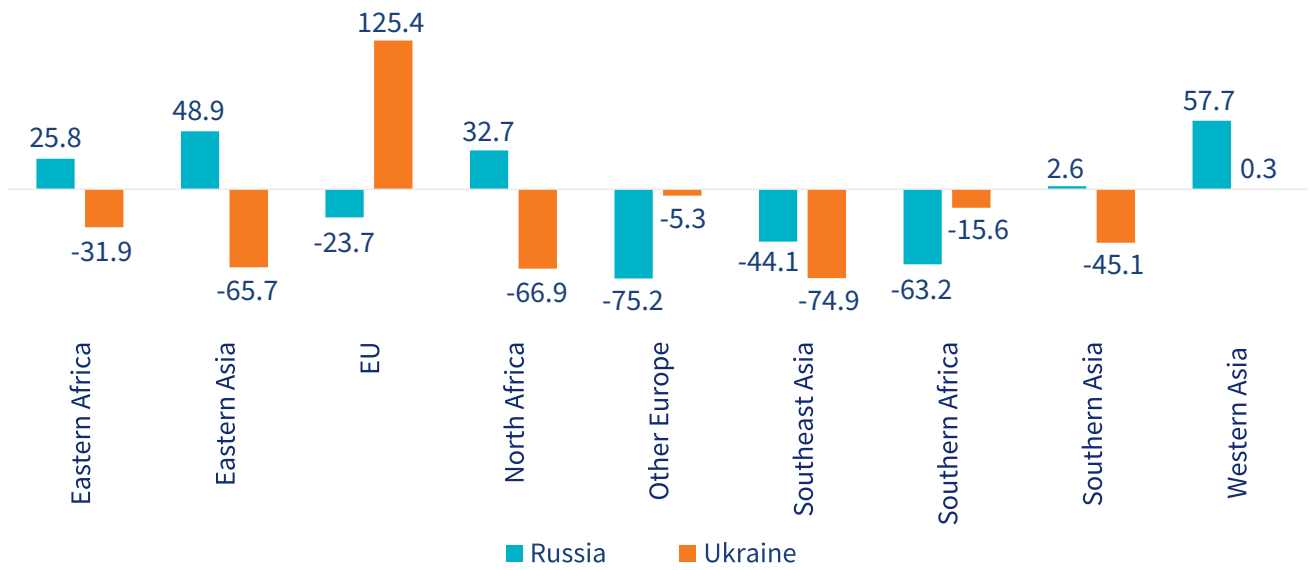


Figure 5. | Change in wheat imports from Russia and Ukraine to selected regions globally across agricultural seasons (% values), 2021/22-2022/23. Source: TEHA elaboration on World Bank data, 2024

Instability in Ukrainian agricultural markets has also manifested in food price fluctuations. Although global food prices have slightly decreased from their peak in early 2022, they remain around 12% higher relative to pre-war levels.

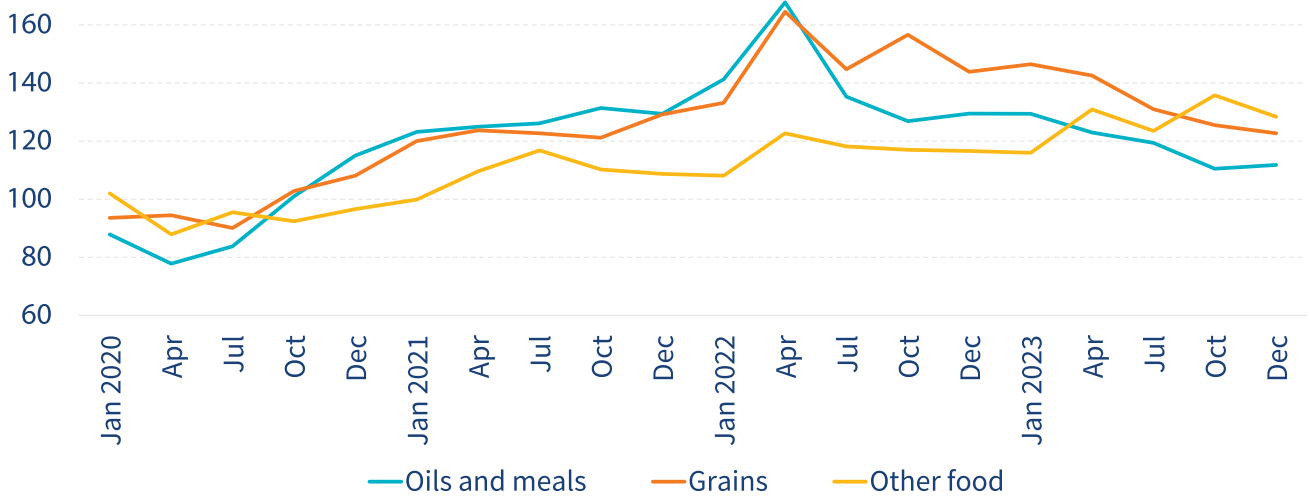
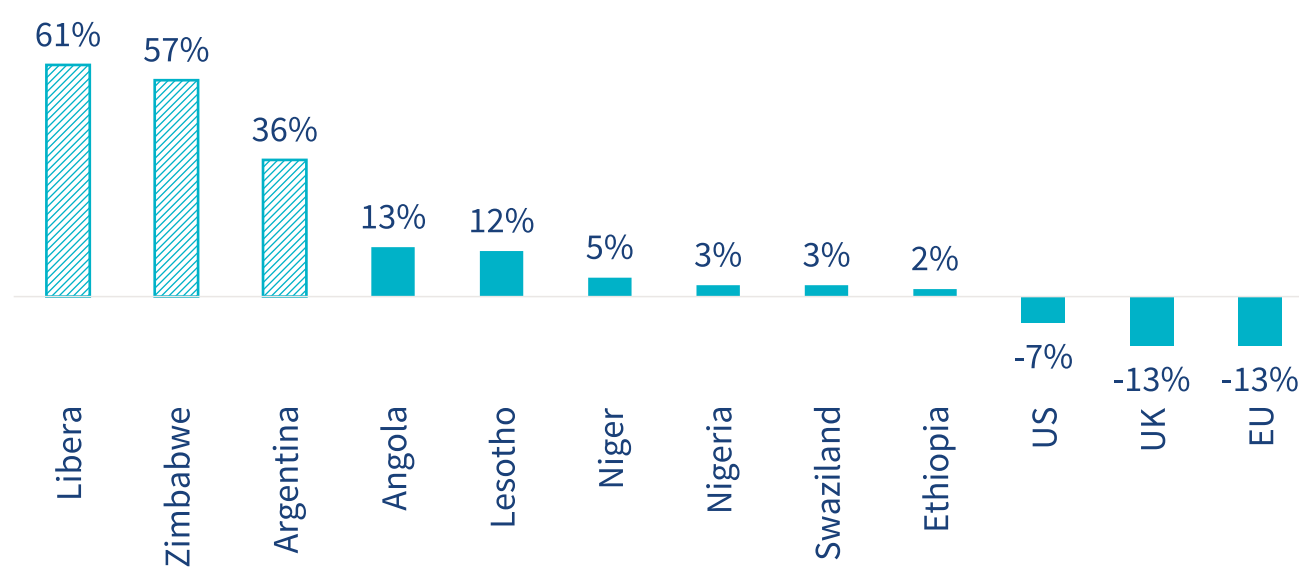


Figure 6. | The World Bank's Food Price Index (US \$, 100 = 2010), 2020-2023. Source: TEHA elaboration on World Bank data, 2024

The World Bank's Food Price Index³ weakened throughout 2023, averaging 9% lower than 2022, with global food prices expected to ease further in 2024 and 2025 (2% and 3% respectively), as the global supply outlook continues to improve.

³ The World Bank calculates commodity price indices for low and middle-income countries (2010=100, 2002-2004 export value weights). The food index includes fats and oils, grains and other food (meat, sugar, etc.) items.

The lack of availability of food coupled with instability around its supply chain will directly hinder safe nutrition, affecting not only public health but also social stability. As projected by the Food and Agricultural Organization (FAO), a protracted war could see the number of chronically undernourished individuals reach nearly 600 million by 2030 (around 23 million more people compared to pre-war projections), with Africa being hit the hardest.



The UN-brokered Black Sea Grain Initiative, allowing for the safe passage of Ukraine's grain exports through the three ports of Chornomorsk, Odesa and Yuzhny/Pivdennyi, had facilitated around 20% of Ukraine's wheat exports reaching developing countries since its launch in July 2022. Therefore, its breakdown in July 2023 has further exacerbated food insecurity. The destruction of about 60,000 metric tonnes of grains by Russian attacks on Ukrainian ports, enough to feed 270,000 people annually, paints a stark picture of the war's immediate human cost. These disruptions to food production, processing, and trade routes threaten to push millions more towards food insecurity, with potentially wider health and socioeconomic consequences.

Figure 7. | Change in food prices in a selection of developing and developed countries (% values), December 2022 – December 2023. Source: TEHA elaboration on FAO data, 2024

1.3

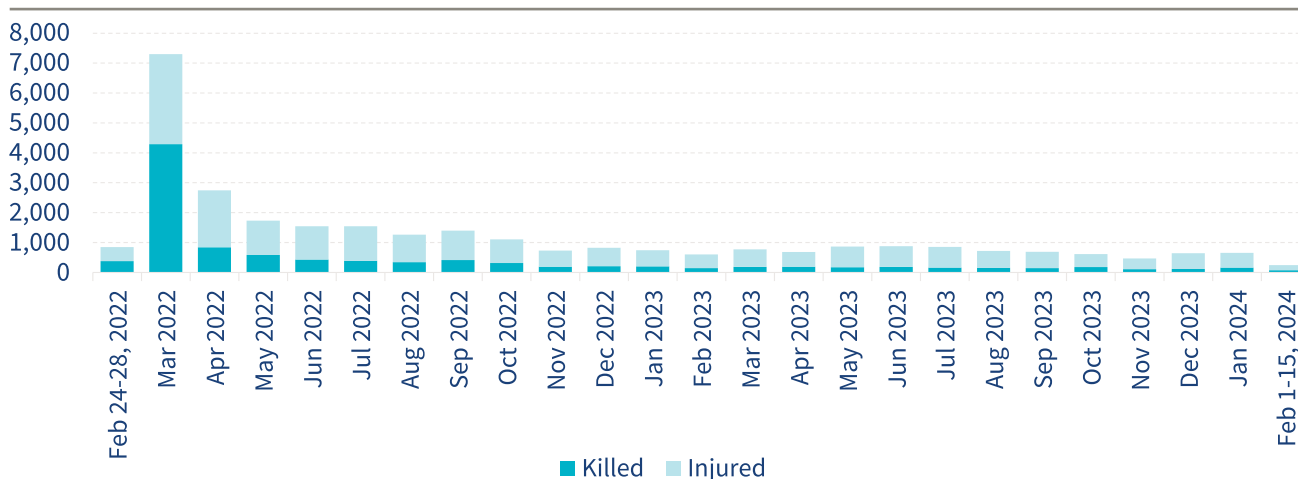
The social implications of the war

The extensive devastation and loss of life caused by Russia's incursion in Ukraine have rendered it the most significant humanitarian crisis in Europe since World War II.

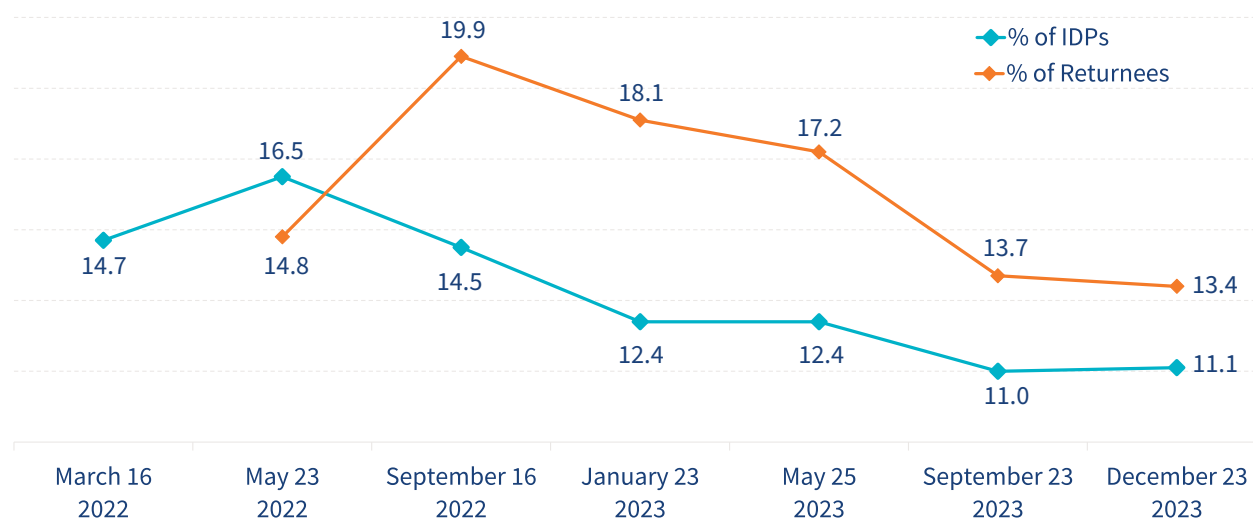
As a matter of fact, Russia's war in Ukraine has inflicted profound suffering upon the country's population. By February 2024, as outlined by the Office of the UN High Commissioner for Human Rights (OHCHR), numerous urban centers and rural communities had been subjected to bombardments, resulting in over **30,457 civilian casualties** (of which 10,582 killed and 19,875 injured). These figures are likely an underestimation of true human costs, with many casualties occurring in areas of intense fighting where access for verification is limited. Among these casualties, 587 children lost their lives and 1,298 were injured, totaling **1,885 child victims**. Notably, adult males were disproportionately affected, accounting for 60% of the casualties. This is likely a reflection of the fact that women and children were often able to leave frontline communities and sometimes even the country, fleeing from the pervasive violence.

Figure 8. | Number of civilian casualties during Russia's war in Ukraine by month, February 2022 – February 2023. Source: TEHA elaboration on OHCHR data, 2024

Civilian casualties were particularly high during the first few months after the armed attack, with thousands of civilians killed and injured each month. Despite a gradual decline between 2022 and 2023, numbers sat at concerning levels. In 2023, an average of 163 civilians per month lost their lives and 547 were injured.



Another primary repercussion has been the widespread displacement of individuals seeking refuge from the turmoil and devastation, with more than **14 million individuals** – including refugees, returnees, and internally displaced persons – being **forced to flee their homes** to seek refuge either within Ukraine or beyond its borders. By December 2023, the International Organization for Migration (IOM) had estimated that within Ukraine there were **3.7 million internally displaced persons** (IDPs – equal to 11.1% of Ukrainian resident population), with 70% of them enduring displacement for a year or more. Moreover, the United Nations High Commissioner for Refugees (UNHCR) has observed a steady increase in the number of **refugees** and **third-country nationals** (TCNs) in neighboring nations, expecting to reach **5.9 million** by the end of 2023.



According to data from the IOM, in October 2023 65% of Ukrainian refugees expressed a desire to remain in their host nation, with 12% contemplating relocation to another host country or returning to Ukraine. While solidarity towards refugees and TCNs persists among Ukraine’s neighboring nations, alterations in protection and benefit frameworks present additional challenges, especially concerning financial and housing assistance for incoming refugees.

Figure 9. | Share of Internally Displaced People and Returnees in the resident population in Ukraine (% values), March 2022 – December 2023. *Source: TEHA elaboration on IOM data, 2024*

This mass exodus is straining resources in receiving communities, placing immense pressure on housing, education, and healthcare systems. The displacement of millions of people, particularly women and children, also increases vulnerability to exploitation and trafficking, threatening to erode the social fabric of communities. If the deterioration of social services and institutions further weakens community support systems, leaving individuals more exposed to social and psychological stressors, the trauma from witnessing violence and losing loved ones can have a lasting psychological impact on survivors. This is especially true for children, who may experience anxiety, depression, and post-traumatic stress disorder (PTSD).

Over the past two years, thousands of attacks involving explosive weaponry resulted in extensive damage to both educational and medical facilities in Ukraine. According to data compiled by UN Human Rights Monitoring Mission in Ukraine (HRMMU), a total of 1,072 educational facilities (with 236 destroyed and 836 suffering varying degrees of damage) and 465 medical facilities (59 destroyed and 406 damaged) have been affected and impaired. Since October 2022, attacks launched by Russian armed forces have also damaged and destroyed critical infrastructure, with missiles and loitering munitions wreaking energy-related infrastructures nationwide, imposing significant hardship on civilians due to the disruption of essential services such as electricity and heating. Furthermore, since July 11, 2023, a series of targeted attacks have inflicted significant damage on vital facilities for grain production and export across Ukrainian territory, including port facilities, grain silos, and transportation infrastructure.

Hostilities have also had numerous negative consequences on the environment. Attacks on fuel depots and oil facilities have led to air pollution and soil contamination, particularly hindering farmers. The dramatic escalation of the war led to the breach of the Kakhovka dam in June 2023, resulting in the incident with the largest environmental impact. The dam's destruction caused the release of 18 km³ of water over 3-4 days, which flooded at least 80 downstream communities

adjacent to the Dnipro River. According to a joint assessment by the Ukrainian Government and the UN, such flooding damaged over 37,000 homes, 37 educational institutions, an estimated 11 health facilities, and disrupted the provision of drinking water and sanitation services to one million people – impeding their rights to housing, education, health, and water. The disappearance of the reservoir, source of water for a vast agricultural irrigation network, will sharply reduce food supply and decrease income for farmers in the long term. All these consequences will severely impair the rights to an adequate standard of living and to a clean, healthy, and sustainable environment, both in the short and long term.

The damage and destruction of essential infrastructure has obviously hindered **access to basic necessities**, creating critical shortages of food, water, shelter, and healthcare that jeopardize the well-being of millions of civilians still in the country. The disruption of supply chains and transportation networks further exacerbates these shortages, making it difficult to deliver humanitarian aid to those in need. In addition, the lack of access to clean water and sanitation increases the risk of outbreaks of waterborne diseases.

However, as already mentioned, the war's social consequences extend far beyond Ukraine's borders, creating a ripple effect that disrupts the lives of people across the globe, with severe implications in terms of access to food and energy, as well as poverty levels. For instance, the disruption of agricultural production and exports from Ukraine and Russia have worsened hunger in the world's most vulnerable regions disproportionately. East Africa, for example, witnessed the perfect storm of continued drought, blockade, and economic fallout from the war, causing mass starvation. Moreover, the increase in energy prices and current inflationary pressure threatens to erode the purchasing power of people worldwide, particularly those living in low and middle-income countries, further exacerbating **global poverty**.

02

**The implications
of the war for European
energy security**

2

The implications of the war for European energy security

The Russian invasion of Ukraine constituted a significant breach of the global geopolitical order and of national sovereignty, with profound economic consequences that extend well beyond the direct effect of the war. These include, among others, a marked deterioration of the world macroeconomic outlook, disruptions in trade, and strong shockwaves across financial and commodity markets. In this section of the Paper, the focus will be on the impact of the war on energy commodity markets, and in particular on the **reshaping of global energy flows**, especially in terms of changes in the natural gas and oil market.

The evolution of price trends and their impact on production costs and energy consumption

2.1

Since 2021, energy prices have been climbing due to a combination of rapid economic recovery from the COVID-19 pandemic, extreme weather conditions in various regions, pandemic-delayed maintenance, and previous investment cuts by oil and gas companies as well as by exporting countries. As a further strain on already limited supplies, Russia began restricting gas supplies to Europe in 2021, well before its invasion of Ukraine.

The unfolding of the war however, and unsurprisingly, has significantly worsened the situation. The US and the EU have imposed numerous sanctions on Russia, and many European nations have announced to eliminate Russian gas imports entirely. Concurrently, Russia has increasingly reduced or halted its export pipelines. As the world's largest fossil fuel exporter, Russia is particularly crucial to Europe, with Russian energy accounting for a quarter of the EU's consumption in 2021.

In response to the need to replace Russian gas, Europe has turned to US, Australian, and Qatari LNG, driving up prices and redirecting supply from traditional LNG markets in Asia. Since gas often determines electricity prices, this led to a significant rise in power costs as well.

In 2022, Europe faced a severe energy crisis, with gas prices soaring to a record high of €240 per megawatt hour in August. The primary cause was the restricted gas supply following Russia's invasion of Ukraine, coupled with several disruptions in alternative energy sources such as low wind generation, nuclear-power outages in France, drought impacting hydropower in Norway, and reduced coal transport in Germany. These issues hindered the ability to find substitutes.

Just over a year later, European energy markets have shifted from scarcity to abundance. Since the beginning of 2024, **gas prices** have stabilized between €22 and €30 per megawatt hour. Although the devastating 2022 crisis seems well in the past, Russia’s war in Ukraine is still ongoing – along with rising tensions in the Middle East and Houthi⁴ militant attacks on Red Sea shipping, which continue to threaten LNG trade.

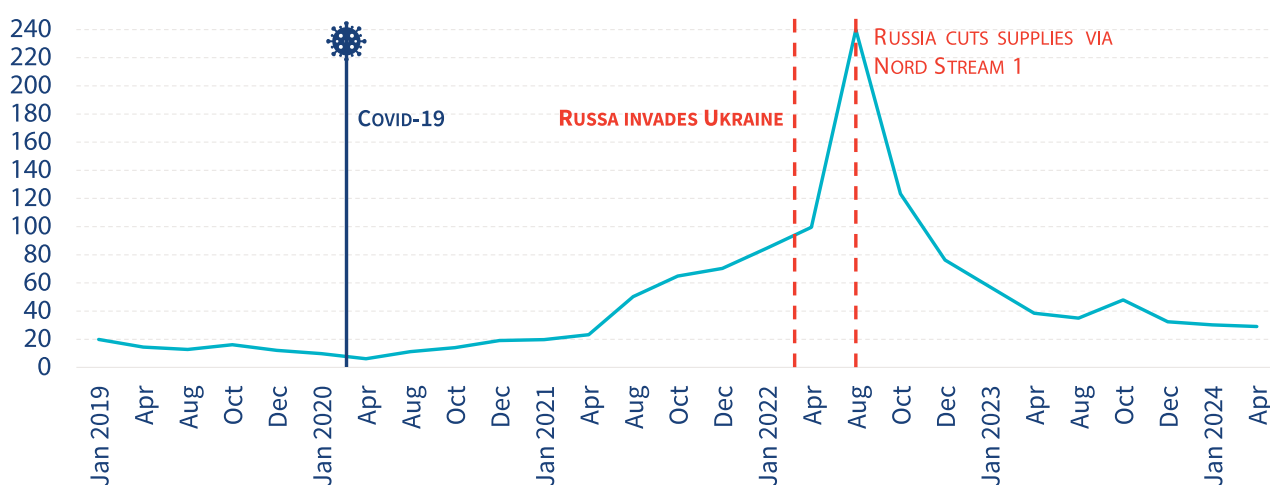


Figure 10. | Title Transfer Facility (TTF)⁵ gas price (€ per megawatt hour), January 2019 – April 2024. *Source: TEHA elaboration on Investing data, 2024*

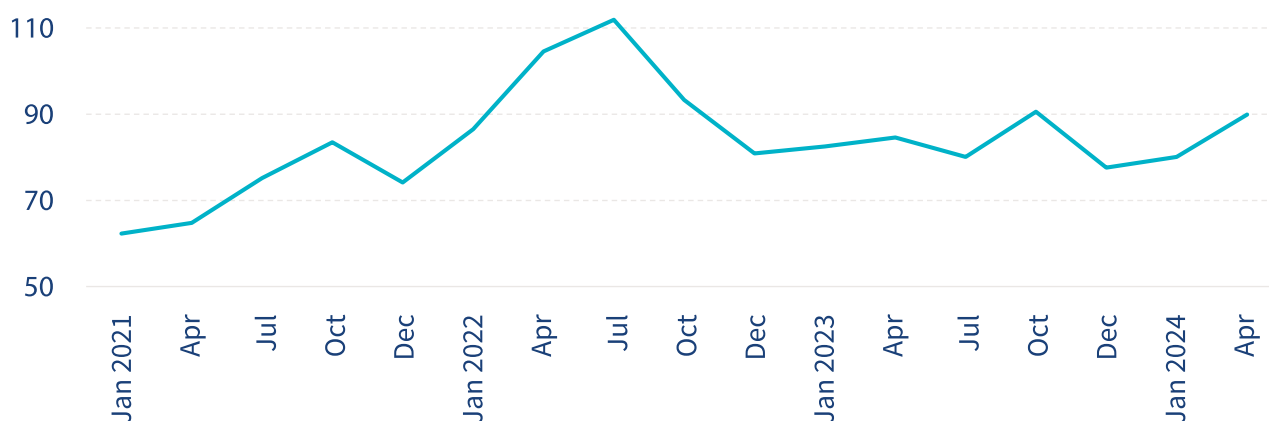
As it will be discussed in the next section of this chapter, a significant factor in the dramatic shift in energy prices is the evolution and globalization of gas trade via LNG. Indeed, the EU has managed to attract LNG shipments to compensate for the loss of Russian pipeline gas, thereby addressing a major crisis in a relatively short time.

Initially, **oil prices** also soared, after the US, various European nations, and some Asian allies announced a halt in purchasing Russian oil, thus leading to the reconfiguration of international

⁴ An armed political and religious group which champions Yemen’s Shia Muslim minority, the Zaidis. They declare themselves to be part of the Iranian-led “axis of resistance” against Israel, the US and the wider West. In response to the war in the Gaza Strip, they have launched more than 40 attacks on commercial ships in the Red Sea and Gulf of Aden since November 2023.

⁵ TTF is the main reference virtual market for gas trading in Europe.

trade routes. Sanctions and insurance risks prompted numerous shippers to refuse transporting Russian oil. Major oil producers were unable to increase supply to match the rising demand, despite the motivation of extremely high prices, due to insufficient investment in recent years. Although prices have since decreased from their peaks, the future remains uncertain as new EU sanctions on Russia are set to be implemented later this year.



Additionally, the high gas prices following Russia's invasion of Ukraine drove many countries to switch to coal-fired generation. In 2022, the global coal market experienced unprecedented price levels due to a convergence of soaring demand and supply shortages. As EU countries moved to curtail gas imports from Russia, coal became the primary alternative to fill the power supply gap. This shift more than doubled the annual average coal price index between 2021 and 2022. Furthermore, the EU banned Russian coal, and a portion of these supplies could not be diverted to other markets due to eastbound rail bottlenecks, further tightening the market.

On a global level, supply-side factors also played a crucial role. Adverse weather conditions, including heavy rainfall and flooding, severely impacted coal production, particularly in

Figure 11. | Brent⁶ Crude Oil Prices in Europe (\$ per Barrel), January 2021 – April 2024. Source: TEHA elaboration on US Energy Information Administration data, 2024

⁶ Brent is the most widely used worldwide pricing benchmark for crude oil.

Australia. A temporary export ban imposed by the Indonesian government in January 2022 to address domestic shortages reduced the availability of thermal coal across the market. It is important to underline how Indonesia, being the world’s third-largest coal producer, typically trades more coal than any other country, followed by Australia and Russia.

Overall, these disruptions in supply contributed to the **global coal price index** witnessing a significant net increase throughout 2022, reaching 577.6 index points. By April 2024, it reached 180.7 points, reflecting an overall increase in fuel energy prices.

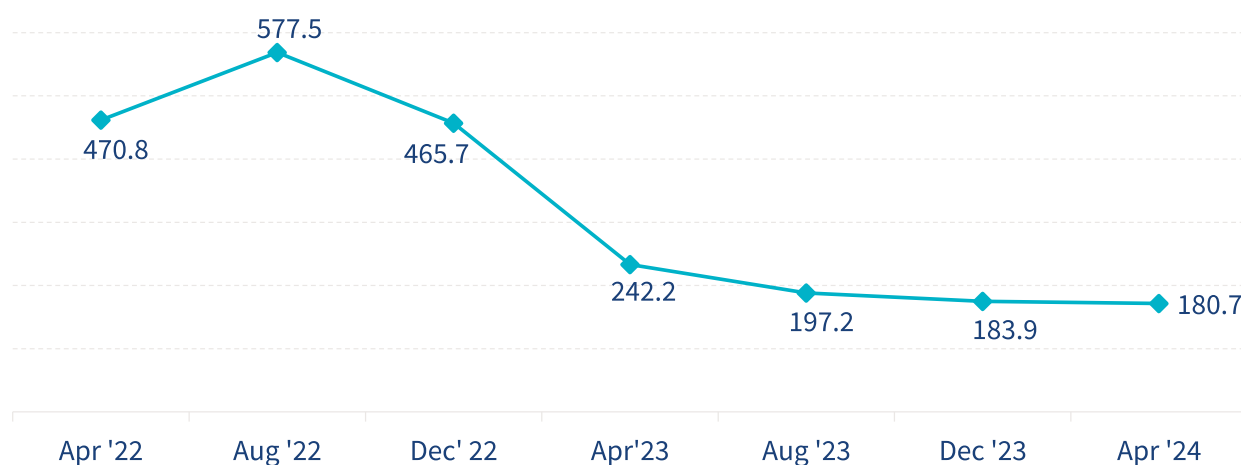
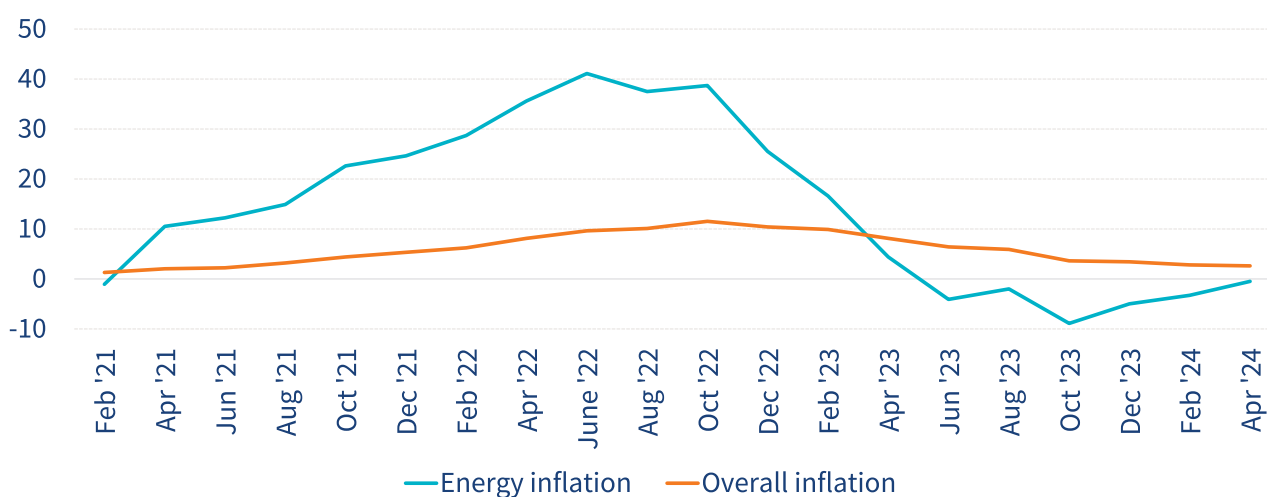


Figure 12. | Monthly coal price index worldwide (Price Index 2016 = 100), April 2022 – April 2024. Source: TEHA elaboration on IMF data, 2024

Several factors contributed to the rising of energy prices and subsequent energy crisis in 2022, highlighting a multifaceted issue for EU leaders. Concerns about the energy situation had already been prominent in 2021, showcasing underlying vulnerabilities. The war significantly exacerbated these challenges, but other elements also played crucial roles. For instance, the surge in energy demand following the end of COVID-19 lockdowns strained supplies, whilst an exceptionally hot and dry summer in 2022 further compounded the situation by increasing energy consumption and disrupting energy production.

The combination of the above-mentioned factors drove annual **energy inflation** to unprecedented levels, reaching a peak of 41.1% in June 2022. As a result, businesses and households without fixed-price contracts faced significant struggles to afford energy bills. The ripple effect of high energy prices extended beyond the sector, driving up the cost of food and other goods, which in turn led to overall record inflation figures (11.5%) by October 2022. This interconnected web of issues underscores the complexity and widespread impact of the energy crisis.



EU leaders agreed that protecting citizens and businesses was a matter of urgency and proceeded to accelerate efforts to reduce demand and ensure security of supply in order to avoid energy rationing. As the levels of wages and government support were unable to compensate such high price increases in essential goods and services, the situation resulted in a cost-of-living crisis. According to the European Parliament, in January 2023, almost half (47.1%) of average household expenditure in the EU went towards the steepest increases in domestic, transport and food bills' expenditures. Yet, overall inflation figures have since fallen and annual inflation stood at 2.6% in April 2024.

Figure 13. | Monthly overall and energy inflation rate in EU-27 countries (annual rate of change, % values), February 2021 – April 2024. Source: TEHA elaboration on Eurostat data, 2024

2.2

The energy supply disruption scenario and the resulting adaptive capacity

As previously mentioned, the European energy market has undergone structural shifts in supply, creating opportunities for non-Russian exporters.

According to the Economic Centre for Policy Research (CEPR), until 2021 Russia was the main European supplier of natural gas and crude oil, accounting for 44% and 28% of total imports outside the EU, respectively. Russia also supplied 24.4% of the EU's total energy, making Europe heavily dependent on Russia, which could in turn use its position to its advantage. Since autumn 2021, Russia in fact began leveraging its natural gas exports amid the Nord-Stream II pipeline approval conflict, leading to a steady rise in natural gas prices.

The situation worsened after the onset of the war in Ukraine, with Russian piped gas supplies steadily decreasing throughout 2022, causing significant disruptions in energy markets. EU leaders quickly realized that energy would be one of the most critical issues to address, both because Russia was using energy revenues to fund its war efforts and because the attack demonstrated that Russia could no longer be seen as a reliable trading partner. The war primarily impacted Europe and then had global repercussions, triggering a worldwide reorganization of energy commodity flows.

Two years after Russia's invasion of Ukraine, energy products trade between Russia and the EU has largely vanished, with the EU adapting remarkably well to an unprecedented decoupling. While Russia has redirected oil exports to Asia, it has not found a replacement market for its natural gas exports. An overview of what has changed since February 2022 will be provided in the following paragraphs, including an analysis of EU-Russia trade in natural gas, oil, and coal.

Timeline of energy sanctions and retaliation

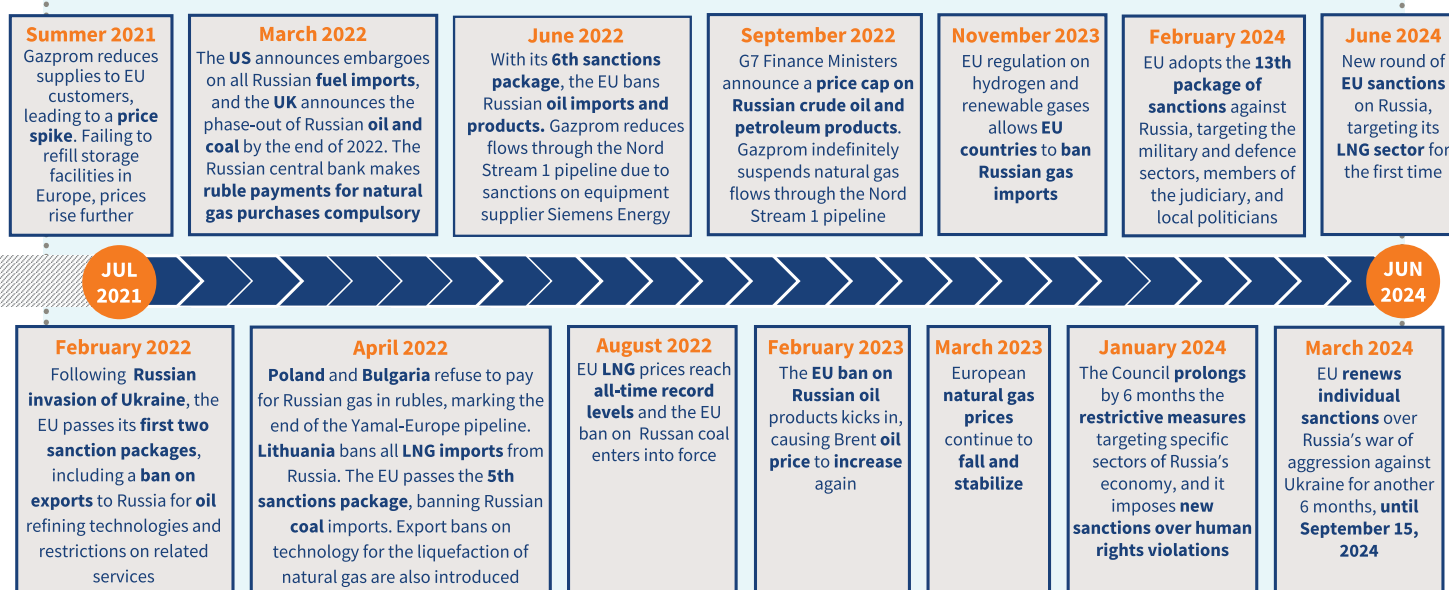


Figure 14. | Timeline of energy sanctions and retaliation, 2021-2024.
Source: TEHA elaboration on European Commission data, 2024

To give an overview of the current EU-Russian supply scenario, the EU significantly decreased its imports of Russian fossil fuels from a peak of \$16 billion per month in early 2022 to about \$1 billion per month by the end of 2023, with the most substantial reductions occurring in oil imports. This change has had a relatively minor effect on Russia's trade balance.

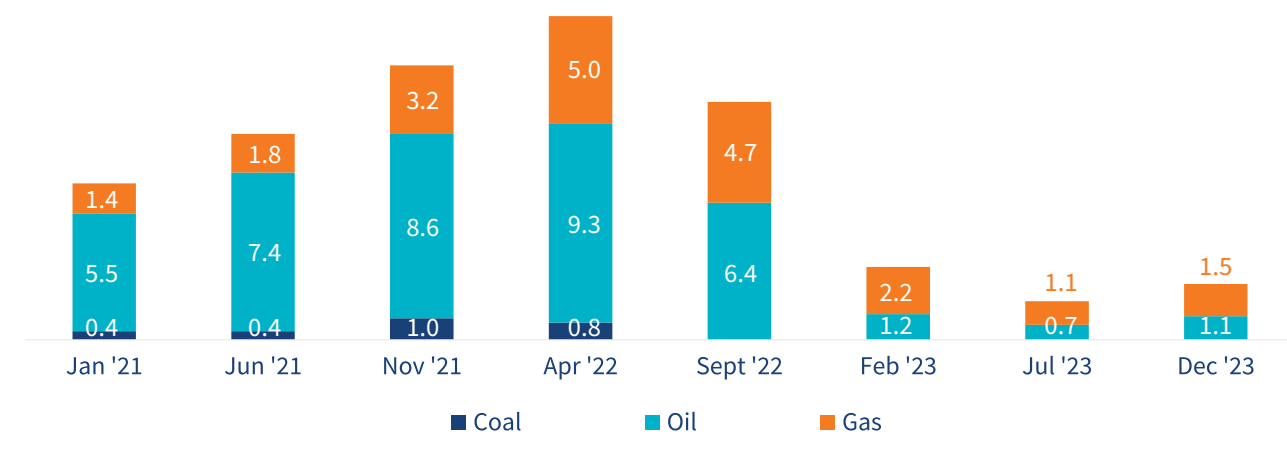


Figure 15. | Russian energy exports to the EU (billion US \$), January 2021 – December 2023.
Source: TEHA elaboration on IMF data, 2024

Crude oil and oil products

In December 2022, the EU implemented an embargo on importing crude oil, which was extended to include oil products such as petrol and diesel in February 2023. Prior to these sanctions, Russia supplied 25% of the EU's crude oil and 40% of its diesel. To offset the decrease in Russian imports, the EU has boosted its imports from a variety of other countries, such as Norway and the US.

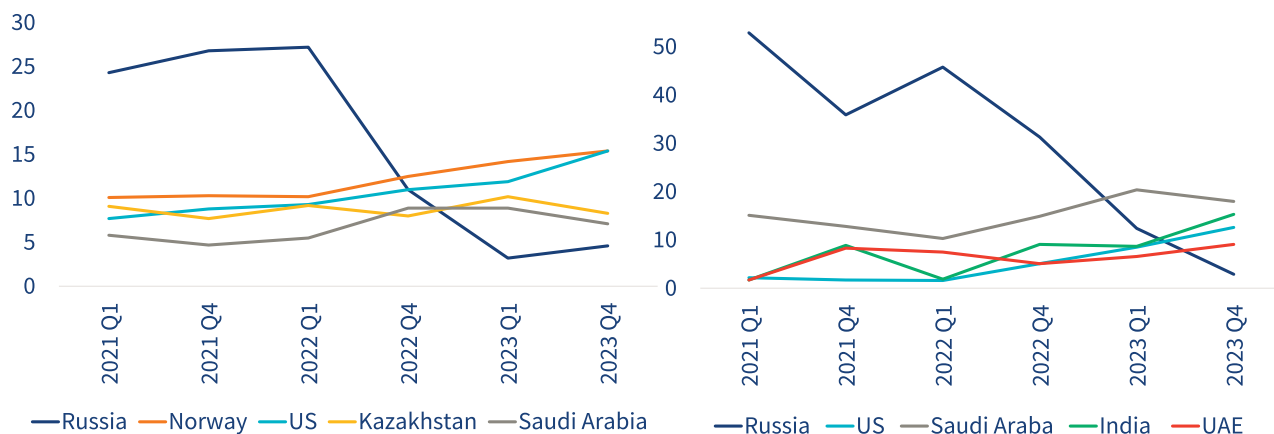


Figure 16. | Sources of EU oil imports from a selection of countries - crude oil on the left and diesel on the right (% share), 2021-2023. N.B. UAE = United Arab Emirates. *Source: TEHA elaboration on Eurostat data, 2024*

The EU and the G7 also implemented a **global price cap** on Russian oil, limiting shipowners and insurance companies from these regions to facilitate Russian oil exports at prices above \$60 per barrel for crude oil. During the first half of 2023, Russian crude oil was traded below this cap, but has since risen above it, reaching \$80 per barrel. The discount compared to global oil prices has decreased from \$30 per barrel in January 2023 to \$15 per barrel in February 2024.

The US, EU, and G7 aimed to keep Russian oil flowing to prevent a global price spike while reducing Russian revenues. Despite these efforts, Russia continued to export oil, often above the price cap, by replacing G7 (including EU) shipowners and insurers. Although the enforcement of the cap has been relatively weak, G7 involvement in Russian oil exports dropped from 70% in December 2022 to 40% a year later. The \$15 discount on Russian oil relative to global prices still suggests a significant revenue impact, exceeding \$10 billion annually. However, this reduction seems to be more due to the EU's decreasing demand for Russian oil and empowering other buyers, rather than the cap itself.

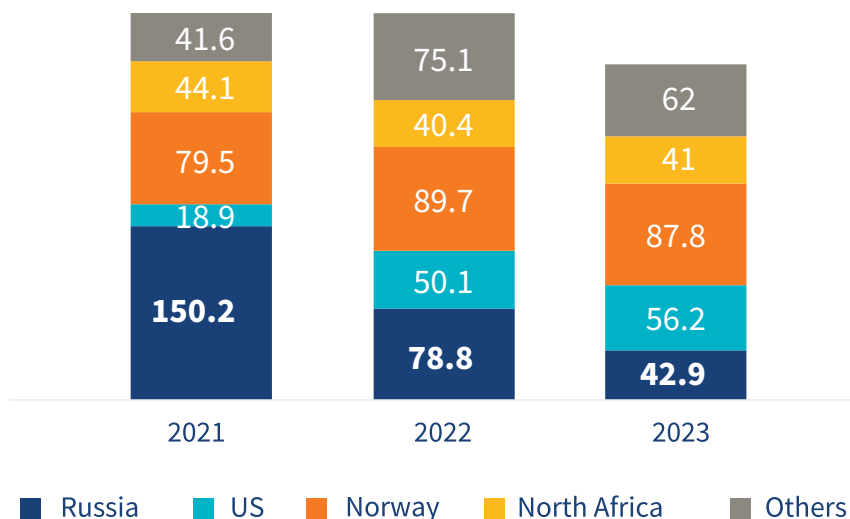
Natural gas

Although the EU has not implemented significant sanctions on Russian gas, Russia has reduced gas supplies to the EU, arguably harming its own long-term interests. As shown in Figure 16, before the invasion, Gazprom⁷ had already decreased supplies to European buyers and left its gas-storage facilities in the EU empty during the summer and autumn of 2021. Following the invasion, Gazprom further reduced exports to the EU in response to some EU countries' refusal to pay in rubles.

Even though the EU's total gas demand stood at around 400 bcm per year before the war - with only about 10% of it covered by domestic production - the 150 bcm of natural gas (both LNG and pipeline) imported from Russia in 2021 nearly halved to 79 bcm in 2022 and fell by a similar share (to 43 bcm) in 2023. In essence, the EU dependency on Russian gas fell from 45% in 2021, to 15% in 2023. This was mainly compensated by a growing share of imports from other partners. For example, imports from the US grew from 18.9 bcm in 2021 to 56.2 bcm in 2023; imports from Norway grew from 79.5 bcm in 2021 to 87.7 in 2023; imports from other partners increased from 41.6 bcm in 2021 to 62 bcm in 2023.

⁷ Gazprom is a Russian majority state-owned multinational energy corporation active in the energy-mining sector and especially in the extraction and sale of natural gas.

Figure 17. | Gas supply from main partners to the EU (billion cubic meters), 2021-2023.
Source: TEHA elaboration on Eurostat data, 2024



To counter the decline in Russian natural gas imports, the EU increased LNG imports and reduced pipeline gas demand and consumption. By importing over 120 bcm of LNG, the European Commission estimates that the proportion of LNG in total gas imports doubled from 20% in 2019 to 40% in 2023, mainly due to x5 increase in imports from the US. In 2023, the US was in fact the largest LNG supplier for the EU, representing almost 50% of total LNG import – with the main importers being France, Spain, the Netherlands, Belgium and Italy.

In this context, LNG thus became a major player in the natural gas market, significantly enhancing Europe's energy security. By replacing a large portion of Russian pipeline exports, LNG shifted the European gas market from being regional and segmented to more integrated and global.

To sustain this transition, EU countries heavily invested in expanding their regasification infrastructure to capitalize on the LNG market's future potential. For example, Germany, which had no LNG terminal until late 2022, has developed plans to establish several facilities. However, short-term constraints on LNG supply expansion meant Europe's increased LNG imports displaced imports in other regions such as Latin America and Asia. In 2022, Latin America's imports fell by 11 bcm, and Asia's by 24 bcm compared to 2021. Emerging and developing economies in these regions struggled to compete with Europe for LNG cargoes due to soaring gas prices.

Simultaneously, infrastructure limitations have prevented Russia from redirecting natural gas from its Western fields to the East. As a result, Russia has failed to replace its EU customers with Chinese ones in the medium term. In 2021, Russia only exported 16.5 bcm of pipeline gas to China, compared to the 150.2 bcm exported to the EU. By 2023, Russian pipeline supplies to the EU had decreased to 27 bcm, while exports to China increased to 22 bcm, leaving a shortfall of 122.5 bcm in Russian gas exports that could not be rerouted. Even with the slight increase in Russian LNG exports (2 bcm from 2021 to 2023), the loss in volumes remains significant.

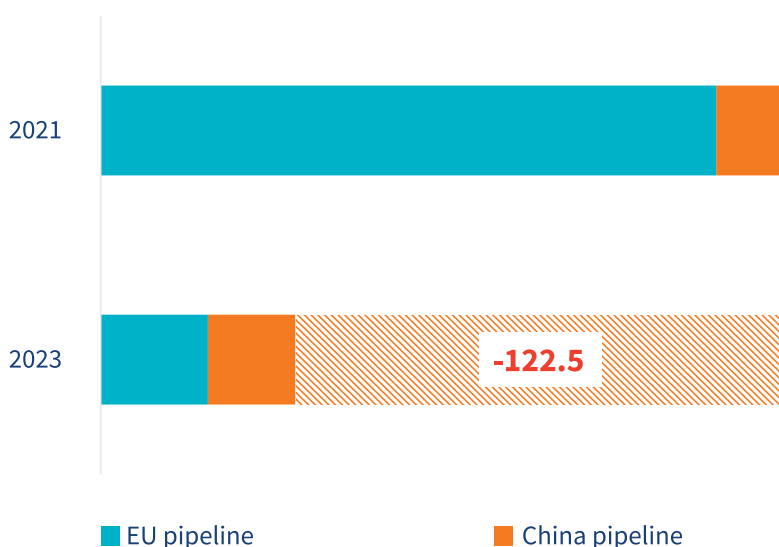


Figure 18. | Russian natural gas exports to the EU and China (billion cubic meters), 2021 and 2023. *Source: TEHA elaboration on Bloomberg data, 2024*

Coal

In August 2022, the EU enacted its first energy sanctions against Russia by banning coal imports. Consequently, EU buyers turned to other major producers such as South Africa, the US, Colombia, and Australia. Specifically, imports from Russia dropped from approximately 4.5 million tons in 2021 to nearly 0 by 2023. During this period, imports from other regions saw notable changes: South Africa remained relatively stable with around 1 million tons, but slightly declined in 2023; Colombia's imports spiked to around 2 million tons in 2022 before decreasing; Australia experienced a slight decline in 2023; and the US increased its coal exports to the EU, particularly in 2023. Additionally, imports from other regions peaked at about 2.5 million tons in 2022 before falling. Nevertheless, the EU's coal power generation saw a -26% year-on-year decline in 2023 due to increased renewable and nuclear energy production, which reduced domestic demand.

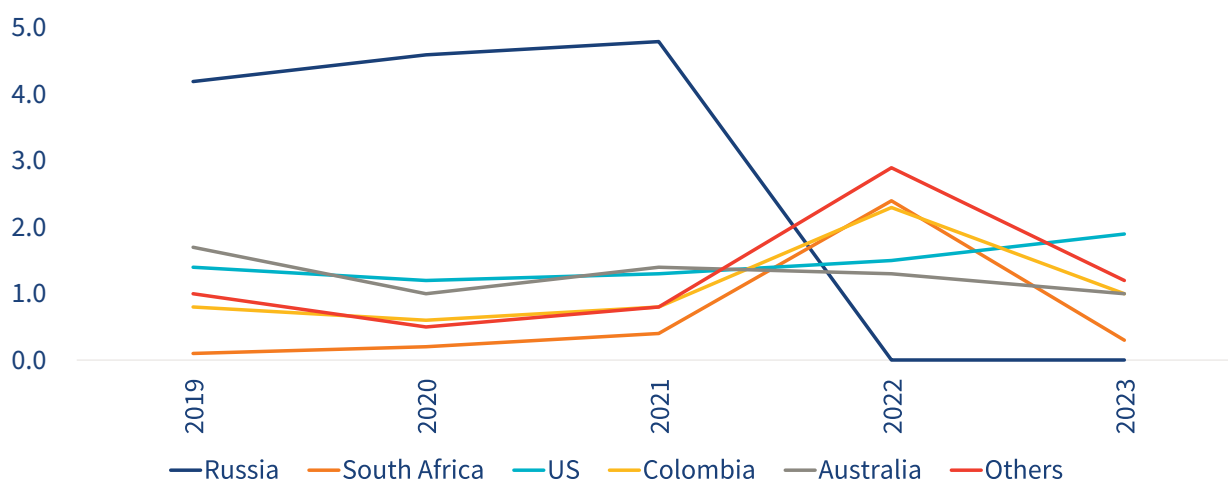


Figure 19. | EU coal imports from main trading partners (million tonnes), 2019-2023. Source: TEHA elaboration on European Commission data, 2024

Given the specific stability measures the EU has implemented since the start of the war, which will be discussed in the last section of this chapter, the European Commission projects that long-term EU energy security will be achieved through the replacement of imported fossil fuels with locally produced renewable energy and enhanced energy efficiency.

In 2021, coal made up just 4% of Russia's export value, totaling about \$17 billion, compared to the \$110 billion from crude oil (excluding oil products). However, the EU, along with Japan and South Korea, comprised about 40% of Russia's coal exports that same year. The import ban on Russian coal could have significantly impacted regions in Russia reliant on coal. Following the ban, production slowed in Russia's largest coal basin, Kuznetsk, and some open-cast mines halted operations. Additionally, several Western companies shut down their mining operations in Russia.

The IEA predicts **further declines** in coal production in Central and Western Russia, while Eastern regions are expected to boost production, enhancing trade with China. Russia adapted to the ban by redirecting coal exports to Asia, with reports indicating a 52% increase in coal exports to China and a 43% increase to India by 2023.

Overall, the EU has shown **resilience** in response to the separation from Russian oil and gas, largely due to the strength of its internal market and solidarity among Member States. Although the EU has successfully managed the supply crisis, its focus is now shifting to the persistent issue of high prices and the long-term effects on competitiveness. Breaches of the oil price cap highlight the need for stricter enforcement and coordinated efforts from G7 countries. Additionally, the EU should work towards eliminating reliance on Russian nuclear fuel products, achievable only through a long-term investment strategy.

2.3

The concrete measures in place for energy diversification and security within the EU

At the onset of the crisis, EU leaders directed the Commission to develop **contingency plans for energy security** and to guarantee an adequate energy supply at reasonable prices for EU citizens and businesses, particularly for the winter of 2022-2023. Member States followed this directive by implementing renewable energy support programs, grants, and preferential loans for home retrofits and heat pump installations. Additionally, EU leaders emphasized the importance of speeding up the adoption of renewable energy sources, enhancing energy efficiency, conserving energy, and ensuring the interconnection of EU energy networks.

The policy measures implemented to alleviate the energy crisis are categorized into two main types: structural measures that focus on natural gas consumption, supply, and storage; and fiscal relief measures aimed at supporting businesses and households impacted by the rising gas and energy prices.

Structural measures

In March 2022, EU leaders released the **Versailles Declaration**, which set the foundation for the EU's response to the energy crisis. These principles were later integrated into the EU Commission's **REPowerEU Plan** in May 2022, forming the core of the EU's energy strategy. The Plan's main goals are to quickly decrease reliance on Russian fossil fuels and to ensure the long-term sustainability and stability of the EU's energy system. The Plan raises the renewable energy target from 32% to 45% by 2030 to speed up the green transition. Additionally, the EU pledged to eliminate Russian gas by 2027 and reduce its overall dependence on imported fossil fuels as it shifts towards a predominantly green energy system.

To achieve these goals, the Plan includes regulatory measures that set storage capacity targets, reduced gas consumption, and establishes a joint gas-purchasing facility along with a mechanism to control gas prices. Furthermore, EU nations increased their LNG capacities and expanded import terminals, aiming to diversify their natural gas suppliers. They also formed partnerships with non-Russian suppliers to enhance LNG and piped gas imports.

Fiscal relief measures

To mitigate the impact of rising energy prices on households and businesses, EU governments implemented various fiscal support measures, including energy tax reductions, energy price caps, and financial assistance to vulnerable populations. These initiatives inevitably strained government finances, with European countries allocating over €650 billion between September 2021 and January 2023 to address the energy crisis. Germany contributed the largest portion, committing around €158 billion, followed by the UK and France, which allocated approximately €100 billion and €90 billion, respectively.

In the EU, fiscal interventions in 2022 amounted to about 2% of the bloc's GDP. However, the implementation of several national measures in an uncoordinated manner raised concerns about the lack of a unified EU energy policy. This could potentially intensify competitive disparities within the EU and weaken the EU single market.

Potential scenarios

The analysis highlights how the war in Ukraine and the disruption of Russian gas pipeline supplies to Europe have created a short-term opportunity for LNG suppliers to bridge Europe's gas consumption gap. Europe has an established infrastructure for LNG receiving terminals, with the potential to expand further following the war.

However, Europe's status as a stable long-term customer depends on several factors. These include:

- Alternative gas supply options available from within Europe, including from alternative fuels;
- The evolution of European gas demand, particularly in relation to ambitious policy targets;
- The availability and cost of alternative energy sources.

Achieving full energy independence requires a comprehensive strategy. Despite significant progress in increasing the share of renewables in its energy mix, with figures more than doubling from 2004 to 2022, natural gas still accounts for about 25% of energy consumption in the EU. Furthermore, the EU remains heavily dependent on external energy suppliers. Therefore, in the short to medium term, until the EU meets its ambitious goal of full decarbonization by 2050, diversifying gas supplies and forming strategic partnerships with reliable producers are essential for maintaining a secure energy supply and protecting citizens, businesses, and essential services from potential disruptions.

03

The implications of the war for global food security

3

The implications of the war for global food security

As previously stated, the implications of Russia's war in Ukraine have extended to global food security. This chapter analyzes the evolution of the global food crisis, focusing on the most vulnerable countries, particularly those in Sub-Saharan Africa. In doing so, it examines the disrupted scenario in food supply chains, including the blockade of Ukrainian grain exports, and reviews concrete measures in place to ensure global food security.

The global food crisis and its consequences on the food supply chain

The war has inflicted substantial damage and losses on Ukraine's agriculture sector, causing significant effects on food security and malnutrition both domestically and globally. Previously a major grain exporter, Ukraine's exports have plummeted since the start of the war, causing food security issues for millions of people worldwide. Despite the international community's efforts to mitigate rising food prices, many economies remain trapped in the food crisis, leading to a challenging global situation.

The impact on global food markets has been so severe: according to FAOSTAT, agriculture contributed 11% to **Ukraine's** GDP, making up over 40% of its exports, and employing 15% of its population before the war began. In 2021, Ukraine, known for its exceptionally fertile soil, ranked among the top ten global producers and exporters of wheat (12% of global exports), maize (16%), barley (18%), and sunflower oil (50%). Indeed, that same year, Ukraine exported nearly \$12 billion (approximately €11.5 billion) worth of cereals. However, as the war persists, Ukraine's status as a leading agricultural producer and exporter is increasingly threatened.

In 2023, the number of airstrikes rose, mainly targeting Ukrainian civilian infrastructure. These attacks, along with resulting disruptions to economic flows and production, have critically impacted Ukraine's agricultural sector, causing an estimated \$10 billion in damages and \$70 billion in losses. Grain storage facilities, irrigation systems, farms, and agricultural machinery have been stolen, damaged, or destroyed, worsening supply chain and export logistics issues (including initial lack of sea access and subsequent frequent delays in vessel processing) and driving up production costs.

Mines have contaminated arable land. The June 2023 attack that destroyed the Kakhovka Dam affected agriculture, fisheries, commerce, and industry, impacting the regional economy. The irrigation damage from the dam breach led to \$377 million in crop losses.

These extensive damages and losses are transforming Ukraine’s agricultural sector. According to the 2024 Global Report on Food Crises (GRFC) of the Food Security Information Network, the total planted area decreased in 2023, with 7% of Ukraine’s cropland, mostly near the frontlines, being abandoned. Small and medium-sized agricultural enterprises reported a 9% reduction in cultivated areas for grain and oilseed crops compared to pre-war levels, increasing to a 20% reduction for those in frontline areas.

Between 2022 and 2023, the area planted with wheat decreased by more than 75,000 hectares (-11.1%), and the sunflower planting area shrank by 90,000 hectares (-1.5%). Although there was a corresponding reduction in the harvested area, the favorable weather conditions throughout 2023 led to higher yields and increased production for both wheat and sunflower compared to 2022.

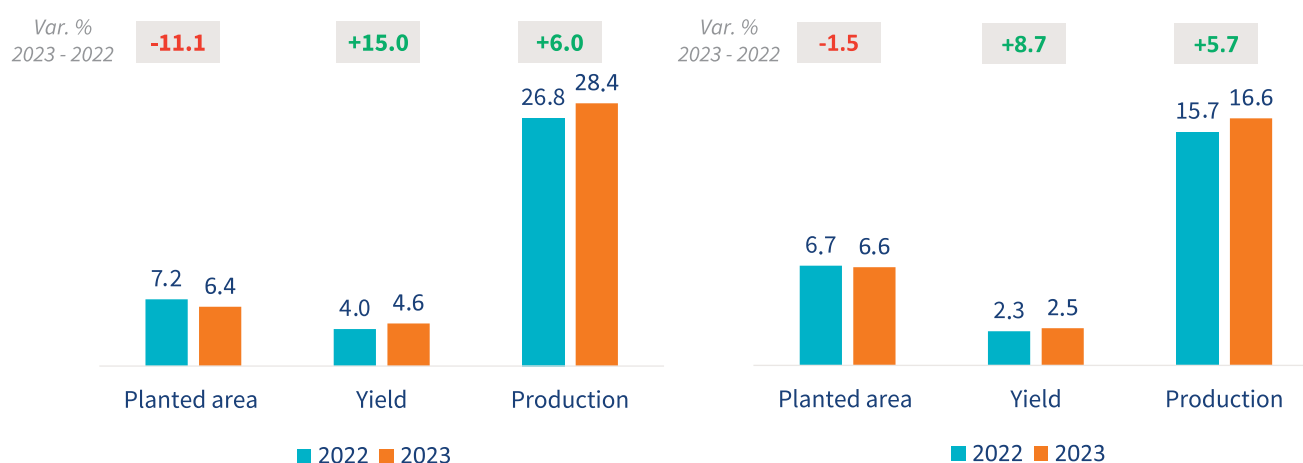


Figure 20. | Ukraine’s wheat (on the left) and sunflower oil seeds (on the right) planted areas, yield and production (hectares, metric tons per hectare, mt), 2022-2023. *Source: TEHA elaboration on Food Security Information Network data, 2024*

The war's impact on Ukraine's agricultural sector is hindering the production of key export commodities essential to the country's economy and people's livelihoods. The UN predicts that if these damages and losses persist, they could significantly affect Ukraine's future agricultural production, potentially resulting in a scenario where agricultural output fails to satisfy both domestic and export demands.

Over the past 2 years, both Ukraine and global markets have had to adapt to Ukraine's **reduced export capacity**. Ukrainian exports, especially wheat, are particularly significant for Asia and Africa, which together secured 92% of Ukraine's wheat exports from 2016 to 2021. The primary recipients in these regions were Egypt (14%), Indonesia (13%), Bangladesh (9%), the Philippines (6%), Morocco (5%), and Tunisia (5%). The European Commission reports that 65% of the wheat exported through the Black Sea Grain Initiative went to developing countries.

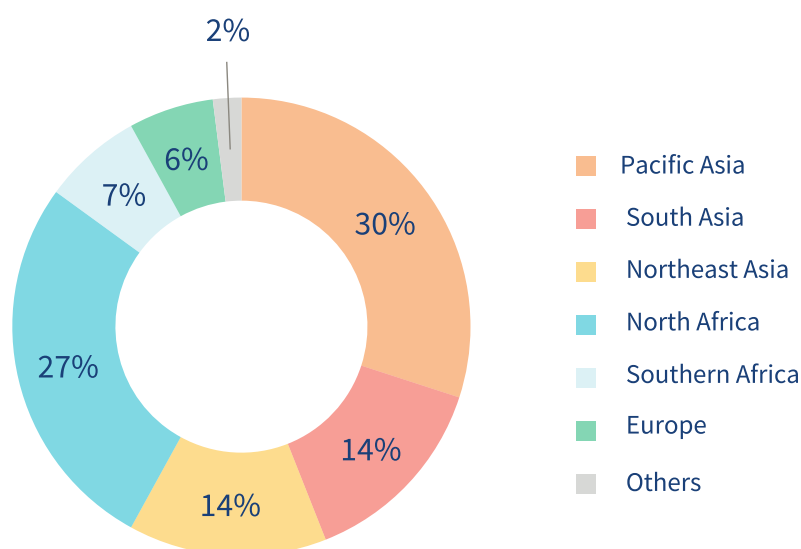


Figure 21. | Wheat exports from Ukraine to selected regions (% values), 2019-2021. Source: TEHA elaboration on International Grains Council data, 2024

However, since the full-scale invasion in February 2022, the blockade of Ukraine's Black Sea ports has severely limited Ukrainian farmers' ability to export agricultural products to their intended markets. This reduced access to efficient export routes has left many farmers unable to sell their crops, resulting in decreased incomes and a reduced ability to repay debts and invest in future activities.

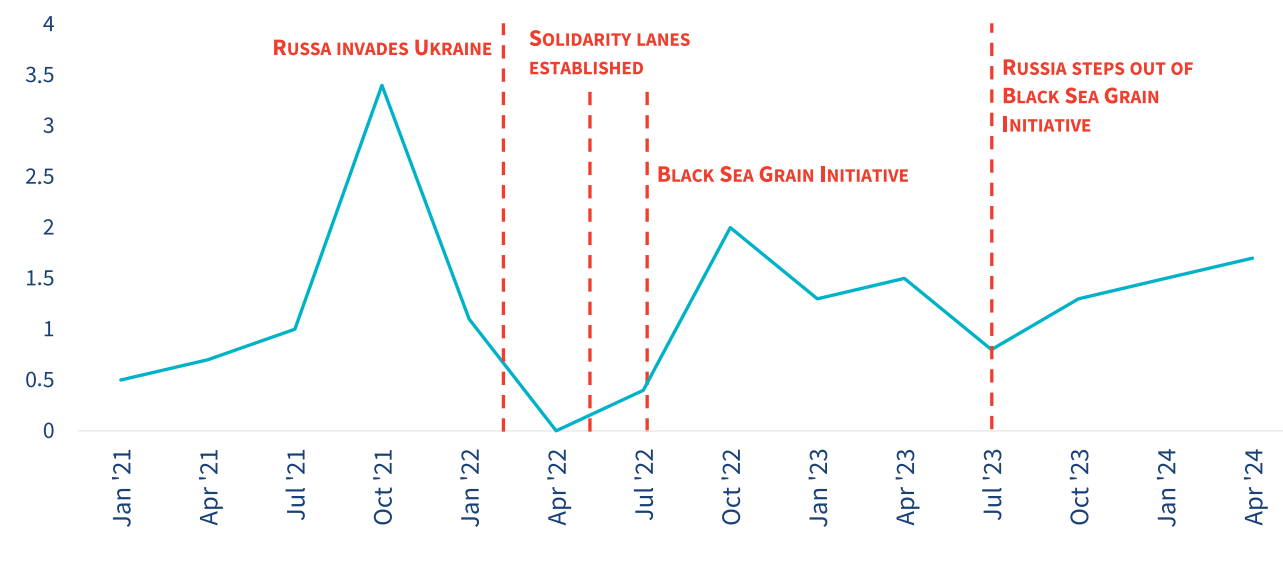
As Ukraine's maritime export capacity remains constrained, its export focus has increasingly shifted towards Europe, sometimes neglecting markets in low-income countries. The FAO suggests that by 2023 over half of Ukraine's wheat and maize exports were directed to European markets, raising concerns about food security in Low-Income Food-Deficit Countries (LIFDCs), heavily reliant on Ukrainian imports. Particularly within regions such as the Middle East, North and East Africa, and Southeast Asia, many countries experienced a significant decline in their imports of Ukrainian wheat, with volumes halving between 2021 and 2023.

Hence, as mentioned in Chapter 1, the World Bank shows that many regions dependent on agricultural goods from Ukraine are experiencing a persistent decrease in imports, impacting their ability to fulfill domestic food requirements. For instance, Southeast Asia, a significant importer of Ukrainian wheat (notably Indonesia and the Philippines, importing wheat valued at \$578 million and \$382 million respectively), saw a sharp 75% decline in import volumes. This indicates an overall downward tendency of Ukraine's grain exports, which fell by 24% in 2023-2024 and are expected to decrease further in 2024-2025.

Looking at overall Ukrainian export volumes of wheat between 2021 and 2023, as shown in Figure 22, Ukrainian **wheat exports** underwent significant fluctuations. Following the Russian invasion in the period from March to May 2022, exports plummeted by more than 90%. Despite efforts by the EU to establish alternative transport routes – known as solidarity lanes – and initiatives by the UN and Türkiye to reopen ports through the Black Sea Grain Initiative, export volumes started to recover from June onwards but remained notably below 2021 levels. Even during peak months like September and October, exports were respectively 57% and 42% lower compared to the previous year. Subsequently, exports have shown a gradual decline with occasional oscillations.

In July 2023, Russia exited the Black Sea Grain Initiative. Up until then, 40% of Ukraine's grain had been transported

through Black Sea ports, with the remaining 60% using the solidarity lanes. Following Russia's withdrawal, Ukrainian exports decreased until August - leading to an increase in prices - and have now started a steady growth.



The **disruption of global food markets** intensified vulnerabilities already heightened by the COVID-19 pandemic. This contributed to significant inflation, worsening macroeconomic instability and further escalating acute food insecurity and malnutrition in countries already facing food crises.

Despite a current stabilization in prices due to a promising global harvest, concerns persist over food security worldwide. As represented in Figure 23, both the **grains and oilseeds index** as well as the **wheat sub-index** of the International Grains Council (IGC)⁸ saw significant increases in March 2022, with wheat prices increasing by 58% and grain prices by 34% compared to March 2021. Figure 23 depicts a sharp

Figure 22. | Wheat exports from Ukraine, (millions of tons), 2021-2023. Source: TEHA elaboration on Ministry of Agrarian Policy and Food for Ukraine data, 2024

⁸ The IGC Grains and Oilseeds Index is comprised of the Agricultural Market Information System (AMIS) commodities plus barley, sorghum, and rapeseed/canola. With January 2000 taken as its base, component weightings are based on their five-year average share of the total trade of all commodities considered. The sub-index for wheat is based on daily price quotations from several official and trade sources.

decline in both indices starting from May 2022, coinciding with the establishment of solidarity measures. Following the introduction of the Black Sea Grain Initiative in July 2022, prices continued to decline. However, uncertainty regarding the initiative's future led to price increases in September and October 2022, followed by declines in November and December 2022. Since then, prices have gradually decreased with some fluctuations, including after Russia's withdrawal from the initiative in July 2023. Prices have been soaring again since May/April 2024.

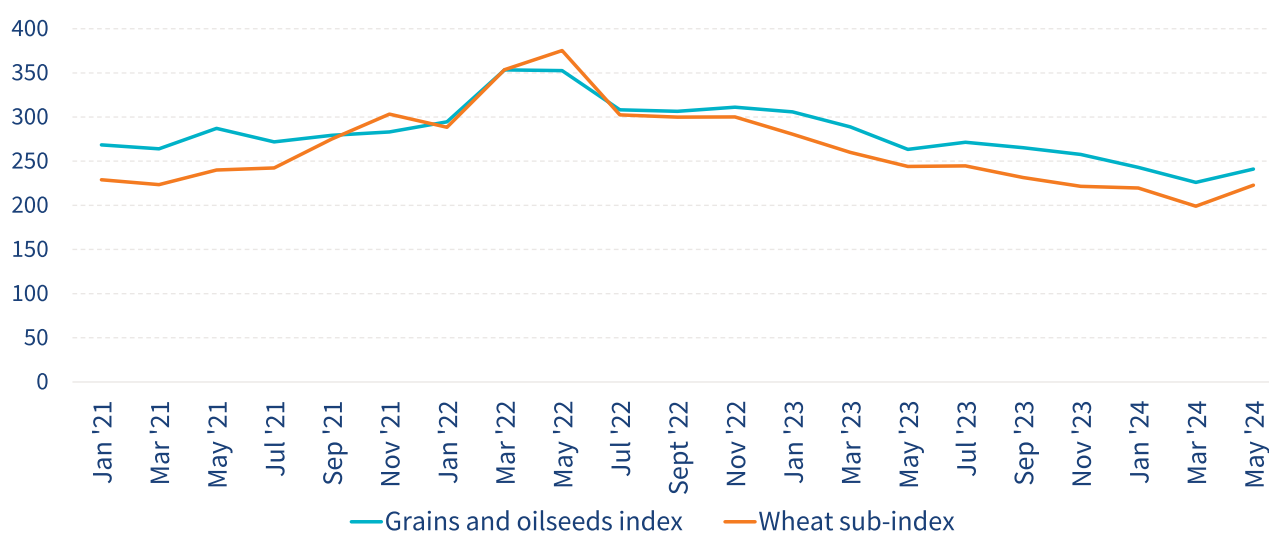


Figure 23. | IGC grains and oilseeds index and wheat sub-index, (basis January 2000 = 100), January 2021 – March 2024. *Source: TEHA elaboration on IGC data, 2024*

Price reductions did not flow through to local markets at the same pace, especially in lower-income nations. Prices of essential food items in national currencies, which directly impact consumers, continued to rise, exacerbating the cost-of-living crisis for many low-income families. Additionally, disruptions in supply chains and reduced agricultural outputs have led to a surge in food prices. For example, wheat prices have reached unprecedented levels, affecting the cost of bread in countries heavily dependent on imports. Shortages of fertilizers have also driven up production costs, putting additional pressure on food systems in low-income regions. The scarcity of food and instability in its supply chain directly impede access to adequate nutrition, impacting public health and social stability. FAO predicts that prolonged conflicts could

increase the number of chronically undernourished people to nearly 600 million by 2030, around 23 million more than previous projections, with Africa expected to bear the brunt of this crisis.

Russia's war in Ukraine and food security in Africa

In Africa, a continent still recovering from the socio-economic fallout of the COVID-19 pandemic, Russia's war in Ukraine poses a significant threat to food security. By 2025, wheat consumption in Africa is projected to reach 76.5 million tons, of which 48.3 million tons (63.4%) are expected to be imported. Russia and Ukraine play crucial roles in supplying wheat and sunflower to Africa, with 32% of total African wheat imports originating from Russia and 12% from Ukraine. North Africa, Nigeria, Ethiopia, Sudan, and South Africa collectively account for 80% of such wheat imports.

The impact on Africa manifests through three channels: food prices, fuel prices, and fertilizer prices, each affecting different aspects of the food system. Fertilizer costs directly impact agricultural production expenses and productivity. Food price shocks disproportionately affect agro-processing by raising the costs of imported inputs, such as wheat milling. Fuel price shocks primarily affect the transportation sector for food.

These channels affect countries and populations differently. Rising food prices can benefit GDP in countries exporting maize, wheat, or oilseeds, where agricultural exports are vital for foreign exchange earnings (e.g., Tanzania and Zambia). Conversely, increased fuel and fertilizer prices inflate agricultural production costs and reduce productivity, indirectly leading to higher domestic food prices. These elevated prices for wheat and edible oils notably impact the cost and accessibility of calorie-dense foods. As a result, in Africa many households are grappling with both rising prices and shrinking incomes, exacerbating their vulnerability.

3.2

The concrete measures in place for global food security

In response to the food security crisis, various measures have been implemented at both regional and global levels. Increasing agricultural production and strengthening storage and distribution systems are critical components of these efforts.

While the resilience and self-sufficiency of the EU's food system have ensured that the availability of food in the EU is not at risk, the Commission continues to take measures to prepare for and respond to potential threats to global food supply and food security. As detailed in the **Farm to Fork Strategy**, the Commission has formulated a backup plan aimed at maintaining food supply and security during crises. This plan is designed to guarantee that citizens have access to a plentiful, diverse, safe, nutritious, cost-effective, and sustainable food supply consistently.

The Commission is also assisting Ukraine in developing and executing a **short and medium-term strategy for food security**. This effort aims to ensure that agricultural inputs reach Ukrainian farms whenever possible, and that essential transportation and storage infrastructure is maintained. These initiatives are crucial for Ukraine to sustain its population and eventually recover its ability to export agricultural products. Additionally, in Western Ukraine, the Commission is collaborating with FAO to support small farms and ensure the continuity of agricultural production.

Moreover, the Commission has implemented measures to aid EU farmers who are most affected by increased input costs and the loss of export markets. The EU's **Common Agricultural Policy** (CAP), designed to bolster production and stabilize markets, includes subsidies aimed at boosting crop yields and enhancing storage facilities. This support framework is intended to create a more dependable food supply chain.

For example, under the CAP, EU Member States are required to allocate a minimum of 10% of their direct payments to a redistributive income support tool, which specifically addresses the financial needs of smaller and medium-sized farms. The CAP benefits from a substantial long-term budget totaling €387 billion for the period from 2021 to 2027. This funding is sourced from two main funds: the European Agricultural Guarantee Fund (EAGF), which allocated €291.1 billion in current prices, and the European Agricultural Fund for Rural Development (EAFRD), with a budget of €95.5 billion.

International cooperation has also been vital. Collaboration among International Organizations (IOs), governments, and Non-Governmental Organizations (NGOs) has facilitated the sharing of resources, knowledge, and best practices. For instance, the World Bank and the IMF have mobilized significant financial resources to support countries facing food insecurity. These institutions provide not only emergency financial aid, but also long-term development assistance aimed at building resilient agricultural systems.

Furthermore, **regional initiatives** have played a crucial role. In Africa, for example, the African Development Bank has launched several programs to enhance agricultural productivity and ensure food security. These initiatives include investing in infrastructure such as irrigation systems and storage facilities, as well as providing training and resources to smallholder farmers to increase their yields and improve market access.

However, despite receiving significant external funding over the last seven years, countries and territories grappling with food crises have not effectively tackled acute food insecurity. The Global Network Against Food Crises reports that these regions received three-quarters of global humanitarian aid and nearly 1/3 of global development aid during this period. Nonetheless, acute food insecurity reached record levels in 2022, affecting 258 million people across 58 countries and territories. Funding for food sectors in crisis areas remained stagnant at around \$7 billion annually, representing only a small portion of global development and humanitarian

financing, with food sectors in crisis contexts receiving just 3% of global development funding and 32% of global humanitarian funding.

Technological innovation is another key aspect of global food security efforts. G7 countries have pledged to enhance global food security by providing emergency food aid and investing in agricultural technology. These measures aim to mitigate the immediate impacts of the crisis and build long-term resilience in global food systems. Advances in agricultural technology – such as precision farming, genetically modified crops, and improved irrigation techniques – have in fact the potential to greatly boost food production. International partnerships are essential in facilitating the transfer of these technologies to developing countries, enabling them to enhance their agricultural productivity and resilience.

In conclusion, Russia's war in Ukraine has profound implications for global food security, with the most severe impacts on vulnerable countries. Disruptions in food supply chains and market speculation have exacerbated the crisis, but international measures are in place to address these challenges and support the recovery and resilience of global food systems.

04

The war's broader economic impacts: Disruptions in critical supply chains

4

The war's broader economic impacts: Disruptions in critical supply chains

Russia's war in Ukraine, coupled with the economic sanctions imposed on Russia, have prompted a reconfiguration of global trade relationships and patterns, compelling businesses to seek new markets and suppliers to replace restricted Russian goods. At the same time, countries are implementing increased trade barriers and protectionist measures to secure critical supplies and shield their economies from the war's repercussions. Economies heavily reliant on imports from the war zone are particularly vulnerable. Expansion plans are being delayed or scaled back due to the unpredictable geopolitical landscape. Financial sanctions complicate trade as companies struggle to find viable financial channels for transactions with Russia. Inevitably, these dynamics are contributing to a global economic slowdown or potential recession, exacerbated by energy shortages, high inflation, and disrupted supply chains.

The war has also fostered an environment of **uncertainty**, causing businesses to reduce investments in critical infrastructure and industries. Additionally, potential damage to transport infrastructure, especially Ukrainian ports, worsens existing supply-chain issues. Disruptions stem from difficulties with land-based routes, air link restrictions, and the cancellation of sea freight routes from Ukraine.

The war has significantly strained supply chains already weakened by the COVID-19 pandemic, impacting essential goods such as energy, food, fertilizers, chemicals, and semiconductors. This '**polycrisis**' has elevated the political importance of securing supply chains for critical raw materials, with a growing concern that the supply of these materials might be jeopardized in the current geopolitical climate.

4.1 The impact on the Donbas region

4.1

Significant supply chain disruptions started to arise during the height of the trade wars⁹ in 2018 and 2019, and were exacerbated by the COVID-19 pandemic, persisting to the day. Although the primary concern rightly remains on the tragic loss of life and the devastation of Ukrainian territory, the Russian invasion has led to sanctions and other barriers that have disrupted global supply chains, hampering essential logistics and trade routes.

For instance, **critical minerals** are defined as nonfuel minerals or mineral materials which have a supply chain susceptible to disruption. These minerals possess strategic importance in various key industries, including electronics, renewable energy, and defense. Their strategic nature is underscored by the anticipated surge in demand, driven significantly by their role in the energy transition. For example, the IEA projects that nickel demand for batteries in electric vehicles and backup energy storage for variable renewable electricity will rise from 196,000 tons in 2020 to 3,804,000 tons by 2040.

The rising demand of critical minerals becomes an extremely relevant matter when it comes to the Russian invasion of Ukraine. Indeed, if on the one hand, in 2021 Russia was the world's third-largest nickel producer, contributing 10% of the global supply, on the other, the Donbas region in Ukraine is endowed with a rich variety of critical minerals. Among the most notable minerals are **coal** and **iron ore**, which are fundamental to energy production and steel manufacturing. **Manganese**, another critical mineral in the region, is vital for strengthening

⁹ The 2018 and 2019 trade wars, primarily involving the US and China, were marked by an escalation of tariffs with the US targeting Chinese import to address trade imbalances, intellectual property concerns and unfair trade practices. China in turn imposed tariffs on US goods. The economic conflict led to global uncertainty and disruption until the "Phase One" trade deal was signed in January 2020.

steel and is also used in battery technologies, particularly for electric vehicles. The region also possesses significant deposits of **titanium**, essential for aerospace applications, medical devices, and strong, lightweight industrial components. As a matter of fact, Ukraine is one of the ten leading countries in the world in terms of reserves, accounting for 7% of global production.

Furthermore, the Donbas region contains **uranium**, crucial for nuclear energy production, and lithium, indispensable for battery technologies used in renewable energy storage solutions. **Zirconium**, used in nuclear reactors and corrosion-resistant alloys, is another important mineral found within the region. Additionally, Ukraine, within Donbas, has potential reserves of **Rare Earth Elements (REEs)**, which are vital for high-tech applications due to their unique properties. In electronics, REEs are used in powerful magnets for smartphones and display screens. They are central for renewable energy technologies like wind turbines and electric vehicles as well. REEs are also essential in defense for precision-guided munitions and radar systems, in medical imaging for MRI contrast agents, and in industrial catalysts for automotive and petroleum refining. Lastly, they play a key role in energy-efficient lighting, lasers, and aerospace materials, underscoring their importance in modern technology and industry.

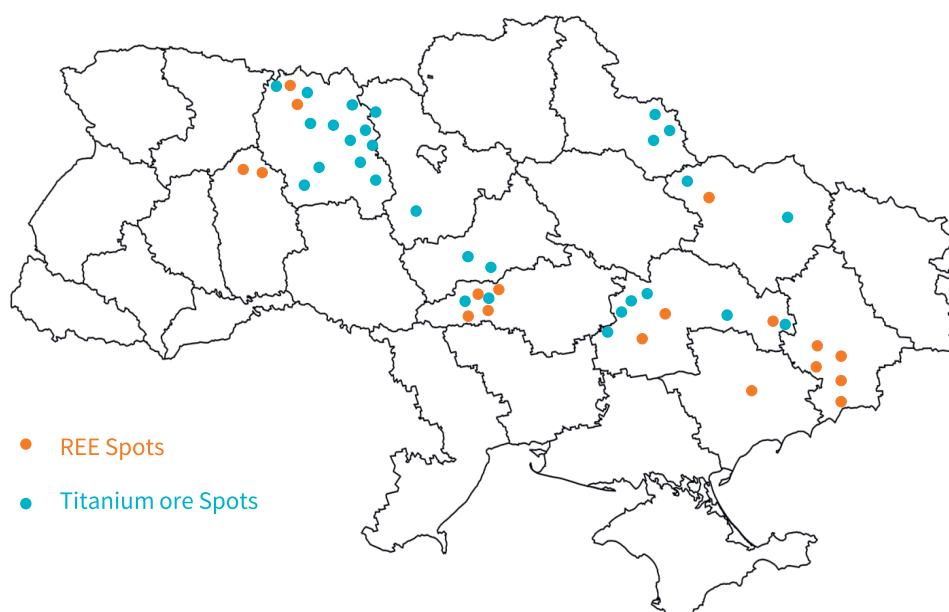


Figure 24. | Rare Earth Element and Titanium ore Spots in Ukraine, 2024. *Source: TEHA elaboration on Ukrainian Geological Survey data, 2024*

Disruption of the supply chains

The ongoing war in the Donbas region has severely impacted the extraction and processing of these minerals with an overall alteration of supply chains. **Infrastructure damage** from bombings and shelling, safety concerns in active conflict zones, labor shortages due to displacement, and disruptions in transportation networks have collectively led to a significant reduction in mineral production and export capabilities. For instance, the disruption of neon gas supplies, crucial for semiconductor manufacturing, has exacerbated the global chip shortage, affecting the electronics and automotive industries, with falling imports from foreign countries.

These disruptions have far-reaching implications for global supply chains. Industries that depend on stable supplies of these critical minerals face increased costs, production delays, and innovation slowdowns. The impacts are indeed multifaceted and significant: the widespread damage has crippled the sector's ability to function efficiently. Additionally, the displacement of workers due to the war has led to a significant shortage of skilled labor, negatively affecting the quantity and quality of mineral extraction.

Mining operations face numerous challenges in active conflict zones. Safety concerns are paramount, as mines are frequently targeted, and the presence of unexploded ordnance makes extraction efforts dangerous. Moreover, the damage to infrastructure and operational difficulties have escalated the risk of environmental contamination, particularly through water pollution from mining runoff. These factors collectively create a hazardous and unsustainable environment for mining activities.

The **processing of critical minerals** has been impeded, with industrial and technological setbacks creating significant challenges. Processing plants have often been targeted or caught in crossfire, resulting in partial or complete shutdowns that disrupt the entire supply chain from raw materials to finished products. The destruction of infrastructure impedes the transport of raw minerals to these facilities, and the

instability of power supplies and other utilities further hampers processing activities. The technological progress associated with the development of processing methods has also been stymied - as resources are redirected towards immediate survival and basic operational continuity, rather than advancements and efficiency improvements in processing methods. Quality control suffers as well, with disruptions and hastily conducted processes leading to lower quality outputs that affect industries dependent on high-grade materials.

Subsequent **shipping** and **freight** have not been spared either, with port blockades in the Black Sea disrupting global trade flows. The threat of naval mines and blockades has hindered the movement of goods, causing delays and increased shipping costs. Air freight has been similarly impacted, as airspace closures over Ukraine and parts of Russia have forced airlines to reroute, leading to longer transit times and higher fuel costs. Additionally, the destruction of infrastructure, including railways and highways, has severely hampered overland transport routes, affecting the movement of goods both within the region and to global markets.

Economic sanctions and blockades add another layer of complexity to the trade of critical minerals. International sanctions on Russia and occupied territories restrict the trade of these minerals, aiming to weaken the aggressor's economic base but also complicating export and import dynamics for Ukrainian businesses. Military control over key transport routes, including ports, railways, and highways, further impedes the movement of goods.

Said disruptions contribute to market fluctuations, with uncertainty and reduced supply from the Donbas region causing global price volatility for critical minerals.

Industries such as electronics, renewable energy, and Artificial Intelligence (AI), which rely on a stable supply and pricing, are particularly affected. Supply shortages force industries to seek alternative sources, often at higher costs or with longer lead times, exacerbating the overall economic impact.

Industry implications

In the **electronics industry**, vital elements include lithium, cobalt, and rare earth metals which are fundamental for the production of batteries and semiconductors: their limited availability is leading to production delays and higher costs for electronics manufacturers. Consequently, the pace of innovation in electronics is slowing down, hampering the development of new technologies and products.

The **renewable energy sector** is also facing considerable challenges due to supply disruptions of key minerals like silicon and rare earth elements, which are essential for manufacturing solar panels and wind turbines. These disruptions threaten to delay renewable energy projects and hinder the global transition to cleaner energy sources as the production of solar panels, wind turbines, and batteries, has slowed down drastically, impacting the global shift towards sustainable energy. Indeed, as the availability of critical minerals becomes a bottleneck, the scalability of renewable technologies may be compromised, potentially slowing the progress towards global energy sustainability goals.

In the realm of **AI**, the development of high-performance computing is heavily dependent on advanced semiconductors and specific materials whose shortages are impeding advancements. Shortages of semiconductors and other critical materials have slowed AI development and the production of telecommunications equipment, affecting global connectivity and digital transformation efforts. Research and development efforts in AI are particularly affected, as companies and research institutions are forced to reallocate resources to manage supply chain issues, detracting from their ability to innovate and push the boundaries of AI capabilities.

The strategic importance of the Donbas region's mineral resources underscores the urgent need for stability and reconstruction to ensure the continued availability of these essential materials for global markets.

4.2

From supply chain disruptions to diversification strategies

The war in Ukraine has significantly impacted Europe's supply chain for critical minerals, leading to substantial disruptions in the import of raw materials, essential for various industries. The above-mentioned disruptions have caused a marked decrease in the availability of these minerals: as a result, between 2022 and 2023 the EU has experienced a decline in the import of raw materials, chemicals and minerals, highlighting the vulnerabilities in the supply chain exacerbated by the ongoing war.

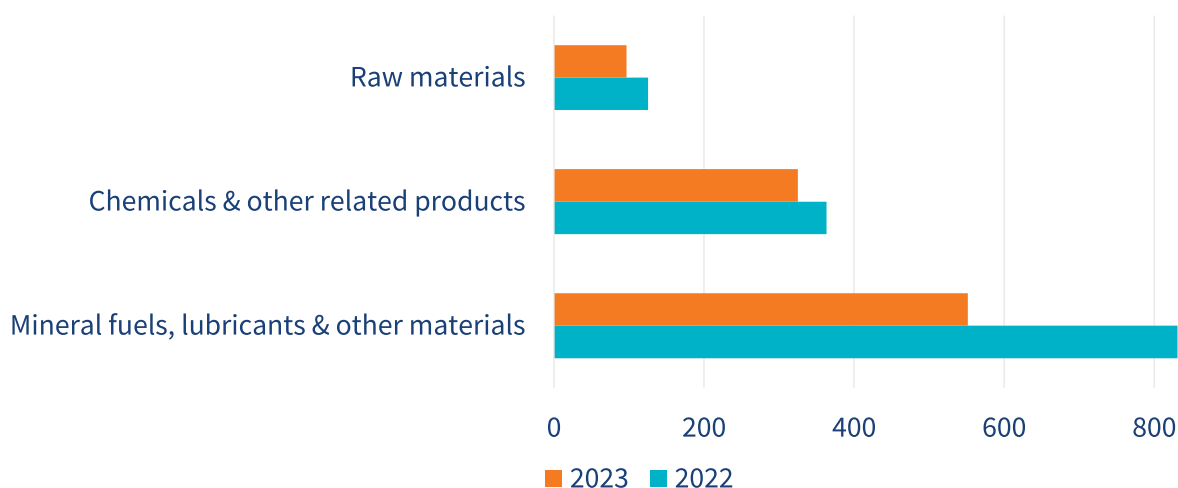


Figure 25. | EU Imports of Raw Materials, Chemicals and Minerals (billion €), 2022-2023. Source: TEHA elaboration on Eurostat data, 2024

In addition to critical minerals, Europe has also seen a significant decline in the import of steel and iron, essential for construction, manufacturing, and infrastructure development. The war has disrupted production and export routes from Ukraine, a key supplier of these materials, and has fur-

ther strained supply chains already under pressure from the COVID-19 pandemic. This decline in imports has created shortages and increased costs for European industries dependent on these materials, underlining the broader economic impact of the war on the region's industrial base.

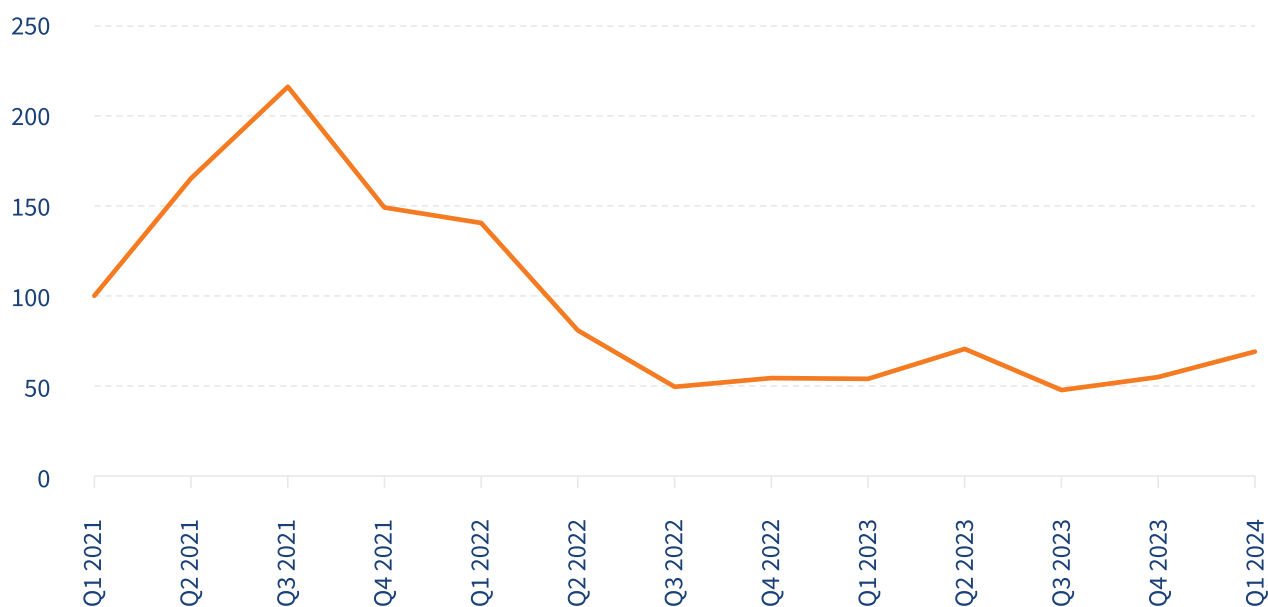


Figure 26. | EU Imports of iron and steel from Ukraine (value, indexed at 100 in Q1 2021), 2021-2024.
Source: TEHA elaboration on Eurostat data, 2024

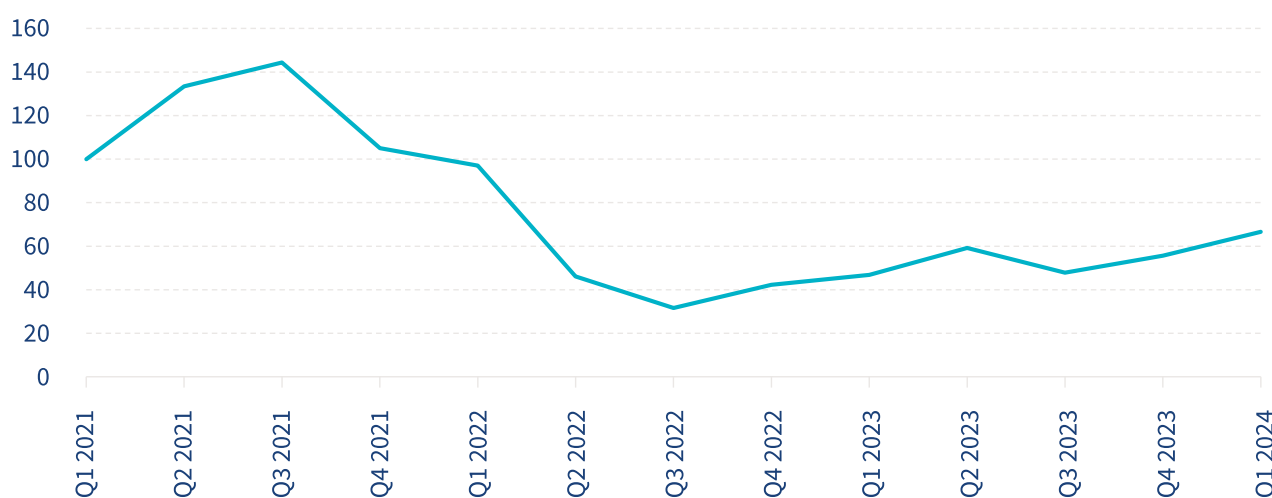


Figure 27. | EU Imports of iron and steel from Ukraine (volume, indexed at 100 in Q1 2021), 2021-2024.
Source: TEHA elaboration on Eurostat data, 2024

Consequently, the EU has had to diversify and change its import partners, seeking new sources from other regions to mitigate the supply shortages and stabilize the supply chain. Figure 28 and 29 illustrate how the scenario led to a change in imports partners for both steel and iron, emphasizing the critical challenges faced by Europe in maintaining a stable supply of essential resources.

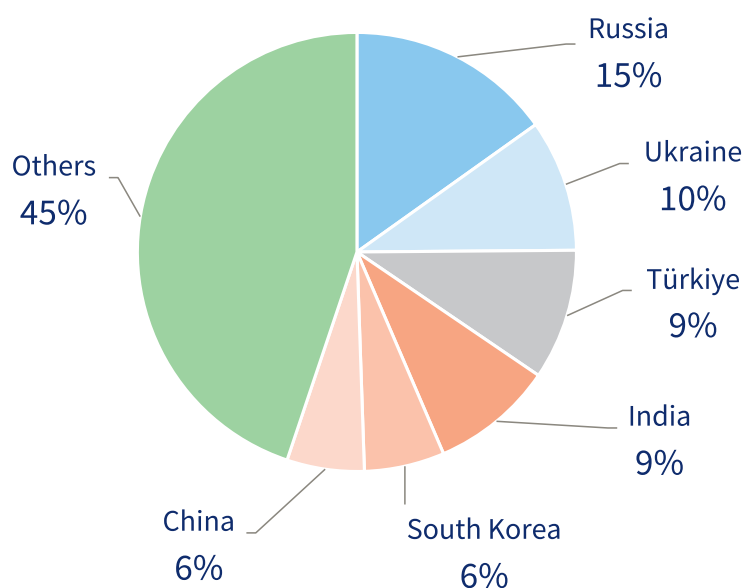


Figure 28. | Main partners for extra-EU imports of iron and steel (% values), Q2 2021 to Q1 2022. Source: TEHA elaboration on Eurostat data, 2024

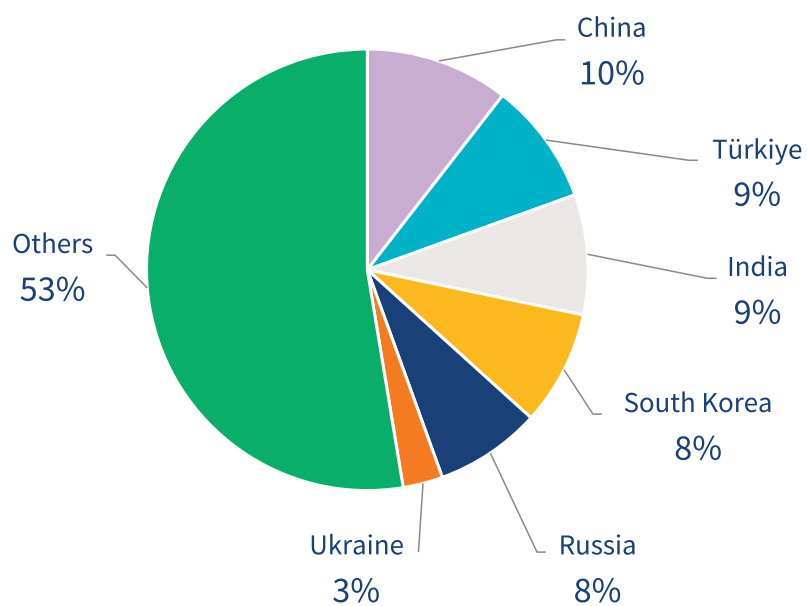


Figure 29. | Main partners for extra-EU imports of iron and steel (% values), Q2 2022 to Q1 2023. Source: TEHA elaboration on Eurostat data, 2024

In point of fact, the war has prompted companies to reconsider their supply chain strategies, leading to a shift towards reshoring and nearshoring with the goal of reducing dependency on conflict-prone regions and ensuring more stable supply chains. The ripple effects are being felt across the globe, underscoring the interconnectedness of modern economies and the critical need for strategic adjustments to mitigate these impacts.

The long-term consequences of the war and resulting strategic adjustments are **reshaping global supply chains, geopolitical alliances, and policy frameworks**. Companies are increasingly looking to diversify their sources of critical minerals to mitigate the risks posed by reliance on conflict-prone regions. This diversification is leading to considerable investments in mining operations in more stable areas, such as Australia, Canada, and parts of Africa. Additionally, there is a growing emphasis on recycling efforts to recover critical minerals from electronic waste and other sources, which not only reduces dependency on new mining but also addresses environmental concerns associated with traditional extraction methods.

Strategic stockpiling is another adjustment businesses are making to buffer against future disruptions. By increasing their reserves of essential minerals, companies can better navigate supply chain interruptions and price volatility. This approach provides a safeguard against sudden shortages and allows for more stable production planning in industries heavily reliant on these materials, such as electronics, renewable energy, and automotive manufacturing.

Geopolitically, the need to secure reliable supply chains is driving the formation of new alliances and partnerships. Countries and companies are seeking collaborations with nations that have stable supplies of critical minerals. For instance, partnerships between Western companies and mining operations in countries like Chile, South Africa, and Indonesia are becoming more common. These alliances are not limited to raw material extraction but extend to technological

collaborations aimed at improving processing and extraction efficiencies. Innovations in these areas can help reduce costs, enhance productivity, and minimize environmental impacts, making the entire supply chain more resilient and sustainable.

Governments are also playing a central role in these strategic adjustments through regulatory changes and policy initiatives. In an effort to reduce dependency on unstable regions, many governments are introducing policies to encourage local extraction and processing of critical minerals. For example, the US has implemented measures to support domestic mining projects and streamline the permitting process for new operations.

Similarly, the EU Commission has introduced the European Critical Raw Materials Act (CRMA) with the goal of securing a sustainable and resilient supply of critical raw materials, seeking to reduce dependency on non-EU countries by promoting the extraction, processing, and recycling of these materials within Europe. Key measures include setting targets for domestic production to be achieved by 2020: 10% of the EU's annual needs for extraction, 40% for processing, and 15% for recycling. Additionally, no more than 65% of the EU's annual needs for any strategic raw material at any processing stage should be sourced from a single third country. Furthermore, the Act emphasizes the need to establish strategic partnerships with resource-rich third countries, enhance trade efforts by forming a Critical Raw Materials Club with like-minded countries to bolster global supply chains, reinforce the World Trade Organization (WTO), expand its network of Sustainable Investment Facilitation Agreements and Free Trade Agreements, as well as address unfair trade practices. The Act aims to reduce administrative burdens by streamlining permitting procedures for critical raw materials projects in the EU: selected strategic projects will receive support for financing and expedited permitting timelines and EU Member States will also be required to create national programs for geological resource exploration. The CRMA also underscores the importance of developing a circular economy to enhance recycling and reduce waste. Indeed, the EU has

increased imports from alternative sources like Canada, Australia, Indonesia, and South Africa for critical minerals and it has turned to Türkiye, South Korea, and India for the provision of steel and iron.

Clearly, the long-term consequences of the war are prompting a comprehensive rethinking of how critical minerals are sourced, processed, and managed. The strategic adjustments being made today are likely to shape the future of global supply chains, geopolitical relationships, and environmental policies, leading to a more resilient and sustainable framework for the production and use of critical minerals.

05

Strengthening energy and agrifood security: An Agenda for action

5

Strengthening energy and agrifood security: An Agenda for action

As explored in the previous chapters, while Russia's war in Ukraine continues to unfold, it disrupts critical supply chains, elevates energy prices, and threatens food availability, particularly in regions already facing food insecurity. These disruptions necessitate the formulation of robust and comprehensive strategies to safeguard energy and food supplies, not only for immediate relief but also for long-term resilience and stability.

Building on the existing literature and thanks to the precious input of experts, TEHA has formulated **10 policy proposals** and recommendations to address these pressing issues. The first paragraph examines the imperative for enhanced energy security within the EU. Given the EU's significant reliance on Russian energy supplies, the war has underscored the urgency of diversifying energy sources, investing in renewable energy, and improving energy efficiency. The outlined proposals focus on fostering a resilient and sustainable energy infrastructure that can withstand geopolitical shocks and contribute to the EU's overall energy independence.

The second paragraph extends the scope to a global scale, presenting strategies for ensuring agrifood security across the world. The war's impact on food supply chains has been particularly severe, highlighting the need for international coordination in food crisis management, increased aid to vulnerable countries, and comprehensive reforms to the global agricultural system. Such policy recommendations emphasize the necessity of a green transition in agriculture, promoting sustainable practices that not only enhance food security but also mitigate environmental degradation and climate change impacts.

Together, these proposals represent a holistic approach to managing the intertwined challenges of energy and agrifood security in a world increasingly shaped by geopolitical tensions and environmental uncertainties. By implementing these strategies, the international community may enhance resilience, ensure equitable access to resources, and foster a more sustainable and secure future for all.

5.1

Strategies and proposals for energy security at the European level

TEHA has formulated **5 proposals** for actions (summarized in Figure 30) through which the EU could enhance its energy security, reduce vulnerability to geopolitical conflict, and pave the way for a more sustainable and resilient energy future.

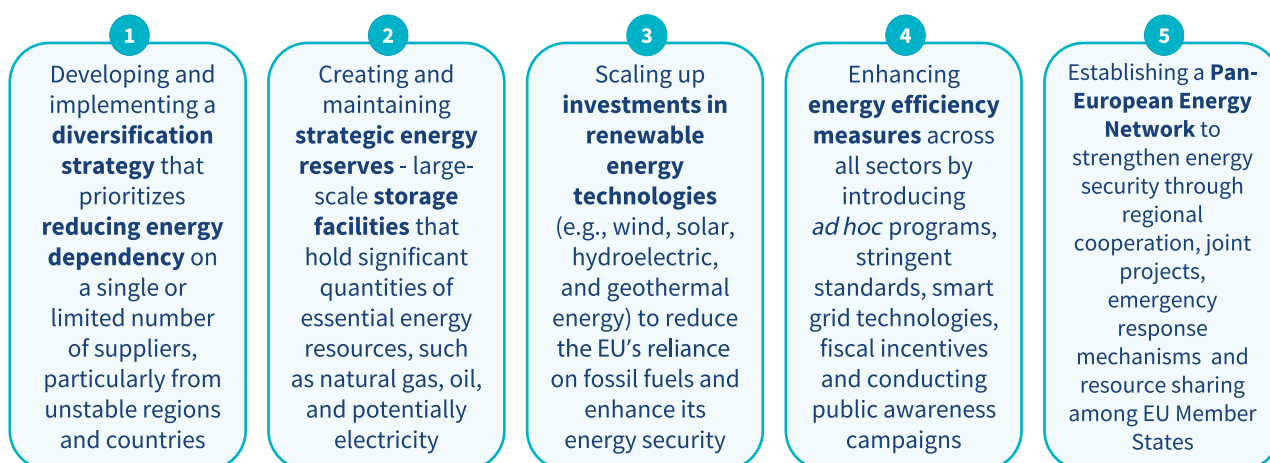


Figure 30. | TEHA's strategies and proposals for energy security at the European level.
Source: TEHA elaboration, 2024

1. Diversification of energy supply sources

To avoid future shocks, the EU should develop and implement a comprehensive energy diversifications strategy that prioritizes reducing dependence on a single or limited number of energy suppliers, particularly from unstable regions and countries.

Firstly, it is necessary to conduct a thorough assessment and mapping of current energy supply sources and dependencies, including the identification of high-risk supply routes and sources that are heavily influenced by the ongoing war. Subsequently, the EU should be encouraged to:

- Identify, establish and strengthen relationships with **alternative energy suppliers** from more politically stable regions. Potential suppliers may include countries in the Middle East, Africa, and North America;
- Invest and develop the necessary **infrastructure** to facilitate the import of energy from diverse sources. This includes the construction of new LNG terminals, upgrading existing pipelines, and establishing new trade routes;
- Negotiate **long-term energy contracts and agreements** with alternative suppliers to ensure a stable and continuous supply of energy. These agreements should encompass clauses that safeguard against sudden supply disruptions;
- Foster **regional cooperation** within the EU to share resources and infrastructure. This should involve joint investments in energy projects and the creation of a shared energy grid to distribute energy efficiently across Member States.

2. Strategic energy reserves

The concept of strategic energy reserves involves the creation and maintenance of large-scale storage facilities that hold significant quantities of essential energy resources, such as natural gas, oil, and potentially electricity. These reserves act as a buffer to mitigate the impacts of supply disruptions, whether due to geopolitical conflicts, natural disasters, technical failures, or market fluctuations. Building such reserves means:

- Establishing **large-scale storage facilities** for essential energy resources such as natural gas, oil, and potentially electricity, and ensuring they have adequate capacity to cover supply gaps during disruptions, based on comprehensive assessments of historical consumption and potential crisis scenarios;
- **Strategically locate** storage facilities across different regions of the EU to ensure broad coverage and accessibility;
- Implementing **EU-wide legislation** mandating the creation and maintenance of strategic energy reserves, setting minimum storage requirements and safety standards, and securing funding through public and private investment;
- Developing **clear protocols** for the release and distribution of energy from reserves during crises, including predefined triggers and prioritization of supply to critical sectors. Conducting regular emergency drills to test the effectiveness of these protocols and the readiness of infrastructure and personnel;
- Utilizing **advanced monitoring and control systems** for efficient management of energy reserves, providing real-time data on reserve levels and usage – also incorporating sustainable practices.

3. Scaling up renewable energy investments

Scaling up investments in renewable energy technologies (e.g., wind, solar, hydroelectric, and geothermal energy) would significantly reduce the EU's reliance on fossil fuels and enhance its energy security. In order to reach this goal and accelerate the energy transition already in motion, the EU should:

- Introduce **financial incentives and subsidies** to encourage private sector investments in renewable energy projects. This may entail tax credits, grants, and low-interest loans for companies and households investing in renewable energy systems;
- Increase **funding for Research and Development (R&D)** in renewable energy technologies. Focus areas should include improving the efficiency of solar panels, developing advanced wind turbines, and exploring new renewable energy sources;
- Foster **Public-Private Partnerships (PPPs)** to leverage private sector expertise and funding in the development and deployment of renewable energy projects. Such partnerships can facilitate large-scale renewable energy installations and grid integration;
- Establish **supportive regulatory frameworks** that promote the adoption of renewable energy. This includes streamlining permitting processes, setting ambitious renewable energy targets, and implementing policies that prioritize renewable energy over fossil fuels;
- Support **community-based renewable energy projects** that allow local communities to generate and manage their energy. Such projects can increase local energy resilience and promote public acceptance of renewable energy.

4. Enhancement of energy efficiency measures

To reduce overall energy demand and improve energy security, the EU should implement comprehensive energy efficiency measures across all sectors – including residential, commercial, industrial, and transportation. This entails:

- Launching **large-scale building retrofit programs** to improve the energy efficiency of existing buildings – by upgrading insulation, windows, heating and cooling systems, and lighting;
- Setting **stringent energy efficiency standards** for new buildings, appliances, and industrial equipment, and ensuring said standards are regularly updated to reflect technological advancements;
- Investing in **smart grid technologies** that enhance the efficiency of electricity distribution and consumption. This entails deployment of smart meters, grid automation, and demand response systems;
- Conducting **public awareness campaigns** to educate citizens and businesses about the benefits of energy efficiency and provide practical tips for reducing energy consumption;
- Offering **financial incentives** such as rebates, tax credits, and low-interest loans for energy efficiency improvements in homes and businesses. These incentives can encourage widespread adoption of energy-saving measures.

5. Creation of a Pan-European Energy Network

Establishing a Pan-European Energy Network would enhance energy security through regional cooperation and resource sharing among EU Member States. To build a fruitful and resilient Network, the EU should:

- Develop an **integrated energy market** that allows for the seamless exchange of electricity and natural gas across borders. To do so, it is fundamental to harmonize regulations, remove trade barriers, and improve cross-border infrastructure;
- Promote **joint energy projects** that involve multiple EU Member States. Examples include the development of cross-border renewable energy installations, shared LNG terminals, and regional energy storage facilities;
- Create **emergency response mechanisms** that enable swift and coordinated action in the event of energy supply disruptions (e.g., establishing strategic energy reserves, mutual aid agreements, and rapid response teams);
- Negotiate **energy solidarity agreements** among EU Member States to ensure mutual support during energy crises, which must encompass provisions for sharing energy supplies and infrastructure in times of need;
- Develop **regional energy hubs** that serve as central points for energy distribution and storage and can facilitate the efficient flow of energy within and between regions, enhancing overall energy security.

5.2

Global strategies and proposals for agrifood security

TEHA has formulated an additional **5 proposals** for actions (summarized in Figure 31) through which the international community at large could strengthen agrifood security, support vulnerable populations, and drive the transformation of the global agricultural system towards sustainability and resilience.

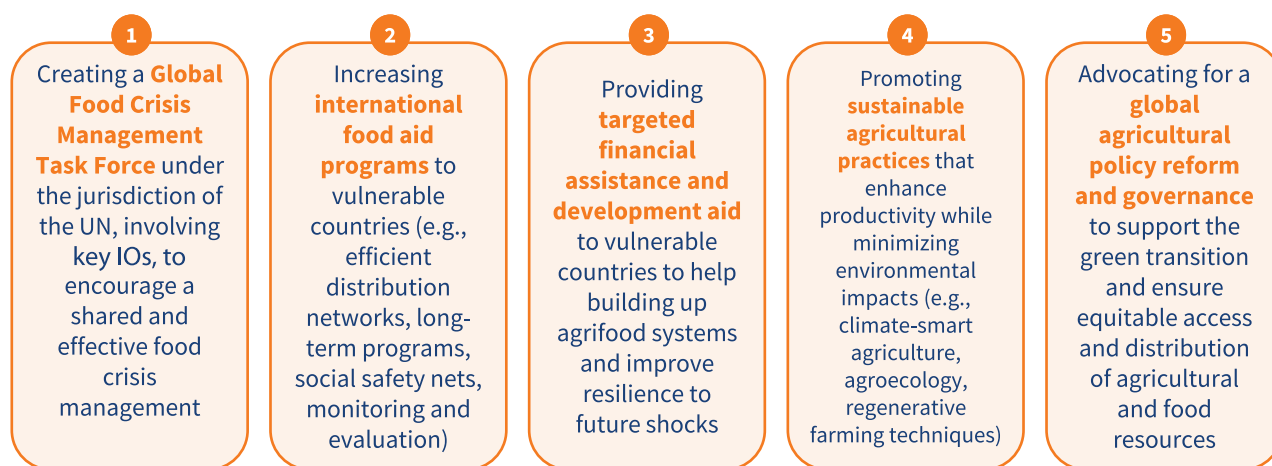


Figure 31. | TEHA's global strategies and proposals for agrifood security.
Source: TEHA elaboration, 2024

1. International coordination for food crisis management

To encourage the shared and effective management of food crisis, the international community should create a **Global Food Crisis Management Task Force** under the jurisdiction of the UN, involving key IOs such as the FAO, the WFP and the International Fund for Agricultural Development (IFAD). The Task Force should:

- Comprise representatives from major food-producing and -consuming nations, IOs, NGOs, and relevant stakeholders in the agrifood sector;
- Develop and deploy **advanced early warning systems** to detect and monitor potential food crises. These systems should use satellite imagery, climate data, and market analysis to predict disruptions in food production and supply chains;
- Establish **rapid response mechanisms** to provide immediate relief during food crisis (e.g., pre-positioning food stocks in strategic locations and mobilizing resources quickly to affected regions);
- Implement a **robust framework for coordination and information sharing** among international organizations, governments, and NGOs. This includes regular meetings, data exchange platforms, and joint planning exercises to ensure a unified response to food crises;
- Secure **funding and resources** from states, international donors, and private sector partners to support the task force's activities. In addition, a dedicated **emergency fund** to be used for immediate crisis interventions should be established.

2. Increased aid to vulnerable countries

In order to support vulnerable countries facing food insecurity due to Russia's war in Ukraine or future geopolitical tensions, international food aid programs should be significantly expanded by:

- Conducting **comprehensive needs assessments** in vulnerable countries to identify the most affected populations and prioritize aid distribution accordingly. Such activity should involve local governments, community organizations, and international partners;
- Developing efficient and transparent **food aid distribution networks** to ensure that aid reaches those in need promptly, also by working with local partners to overcome logistical challenges and prevent corruption;
- Ensuring that **food aid packages** are nutritionally balanced to address not only hunger but also malnutrition. Said packages should contain staples as well as nutrient-dense foods like pulses, fortified cereals, and micro-nutrient supplements;
- Transitioning from emergency food aid to **long-term support programs** that build local capacity for food production and resilience (e.g., training programs for farmers, investments in agricultural infrastructure, and support for local food systems);
- Establishing **social safety nets** for smallholder farmers to protect them against risks such as crop failures, market fluctuations, and climate change impacts (e.g., crop insurance, price stabilization mechanisms, and direct income support);
- Implementing robust **monitoring and evaluation mechanisms** to track the effectiveness of food aid programs, ensuring that resources are used efficiently and impact is maximized.

3. Targeted financial assistance and development aid

Providing targeted financial assistance and development aid to vulnerable countries helps building up their agrifood systems and improve resilience to future shocks. The international community should:

- Establish **grant and low-interest loan programs** specifically for agrifood development projects in vulnerable countries. Such programs should prioritize projects that enhance food security, sustainability, and resilience;
- Fund **capacity-building initiatives** that equip local governments, agricultural institutions, and community organizations with the skills and resources needed to manage food security challenges effectively;
- Invest in **critical agrifood infrastructure** (including irrigation systems, storage facilities, transportation networks, and market access points) to reduce post-harvest losses, improve market connectivity, and enhance overall food system efficiency;
- Provide **technical assistance and expertise** to support the implementation of agrifood projects (e.g., knowledge transfer, advisory services, and partnerships with international research institutions);
- Strengthening local food value chains by **supporting small and medium-sized enterprises** (SMEs) involved in food processing, storage, and distribution. Measures may include capacity building, infrastructure development, and market linkages;
- Improving smallholder farmers' **access to finance** through microcredit schemes, cooperative banking, and innovative financing models such as crowd-funding and impact investing.

4. Promotion of sustainable agricultural practices

Climate change adaptation and agrifood security entails reforming global agricultural systems by promoting sustainable agricultural practices that enhance productivity while minimizing environmental impact – such as climate-smart agriculture, agroecology, and regenerative farming techniques. To reach this goal, it is necessary to:

- Develop and implement **policy frameworks** that incentivize sustainable agricultural practices (e.g., subsidies for sustainable inputs, tax incentives for eco-friendly farming methods, and penalties for environmentally harmful practices);
- Increase **funding for R&D** in sustainable agriculture, with a focus on developing high-yield, climate-resilient crop varieties, improving soil health, and optimizing water use efficiency;
- Launch accessible **training programs for farmers**, tailored to local contexts, to educate them on sustainable farming practices and providing practical guidance on topics such as crop rotation, organic farming, and integrated pest management;
- Facilitating the adoption of **modern agricultural technologies** among smallholder farmers by providing access to affordable tools, machinery, and digital platforms that enhance productivity and efficiency;
- Encouraging **community-based initiatives** that enhance local food security and resilience, such as supporting community gardens, farmers' markets, and cooperative farming models that promote collective action and resource sharing.
- Create **market incentives** for sustainably produced agricultural products (e.g., certification schemes, premium pricing, and support for farmers' cooperatives that prioritize sustainability);
- Conduct **public awareness campaigns** to promote the benefits of sustainable agriculture among consumers and policymakers, highlighting the environmental, economic, and social advantages of adopting sustainable practices.

5. Global agricultural policy reform

In conclusion, it is fundamental to advocate for all-encompassing global agricultural policies to support the green transition and ensure equitable access to food resources. This include:

- Reforming **international trade policies** to promote fair and sustainable trade practices. The priorities should be reducing trade barriers for sustainable products, eliminating harmful agricultural subsidies, and ensuring that trade agreements include provisions for environmental and social standards;
- Strengthening **global governance mechanisms to oversee and coordinate** the implementation of sustainable agricultural policies, also by enhancing the role of international organizations such as the FAO and the International Food Policy Research Institute (IFPRI) in policy development and monitoring;
- Advocating for policies that ensure **equitable distribution of agricultural resources**, including land, water, and seeds. This involves addressing issues such as land tenure security, water rights, and access to genetic resources;
- Further **integrating climate action into global agricultural policies** by setting ambitious targets for reducing greenhouse gas emissions from agriculture, promoting climate-resilient practices, and supporting farmers in adapting to climate change impacts;
- Promoting **multilateral agreements** that commit countries to sustainable agricultural practices and food security goals. Such agreements should be backed by strong monitoring and enforcement mechanisms to ensure compliance.

06

Which pathways to peace?

6

Which pathways to peace?

Russia's war in Ukraine has drawn remarkable international attention and efforts towards attaining peace, with significant divergences amongst influential global actors in terms of action plans. Building upon the efforts of the present Paper to collect qualitative data from interviews with institutional and civil society high-level representatives from key countries, TEHA has elaborated an overview of the most influential actors' perception about proposals for action, the main international peace conferences and potential paths towards peace.

Proposals for peace

6.1

Ukraine

Since February 2022, calls and proposals for peace in Ukraine have increased, with many European and non-Western countries stressing the need for a ceasefire and peace talks - sometimes even compromising Ukrainian sovereignty, territorial integrity, or international justice. Kyiv's refusal to yield on these crucial principles has led some international leaders to accuse Ukraine of not being 'peace-minded' and having a vested 'interest' in prolonging the war.

In his September 2022 address to the UN General Assembly, Ukraine's President Volodymyr Zelenskyy emphasized that Ukraine seeks peace, yet not on Russian terms or just any kind of peace, but rather a just and enduring one. He presented five elements as the Zelenskyy's Peace Formula: Punishment for aggression; Protection of life; Restoration of security and territorial integrity; Security guarantees; and Determination to defend oneself.

This marked the beginning of a series of steps and initiatives on Ukraine's path to peace, further developed into a more detailed operational plan. The **10-point peace plan**, presented at the G20 summit in Bali on November 15, 2022, outlines ten specific steps towards peace and their sequence:

1. Radiation and nuclear safety
2. Food security
3. Energy security
4. Release of all prisoners and deportees
5. Implementation of the UN Charter and restoration of Ukraine's territorial integrity and the world order
6. Withdrawal of Russian troops and cessation of hostilities

7. Justice
8. Immediate protection of environment in the face of ecocide
9. Prevention of escalation
10. Confirmation of the end of the war

Ukraine's primary objective is thus the full restoration of its territorial integrity and sovereignty, insisting on the withdrawal of Russian forces from all occupied areas – including Crimea and the Donbas region – as well as addressing security, justice, territorial integrity, and the release of prisoners. From the Ukrainian perspective, key priorities also include issues related to radiation and nuclear safety, food security, energy security, and environmental protection.

On August 8, 2023, the Office of the President of Ukraine released the Peace Formula Philosophy, which elaborates on the tenth point by highlighting that the end of the war would only be possible with the participation of a wide range of States taking part in the implementation of the Peace Formula to contribute to the achievement of comprehensive, just and lasting peace in Ukraine.

Russia

Russia's pre-requisites for peace include Ukraine's neutral status and exclusion from NATO, as well as the rejection of the country's nuclear arsenal¹⁰. Russia also demands: the demilitarization and so-called "denazification" of Ukraine; the resolution of the language issue; the recognition of separatist regions; the acknowledgment of Russia's sovereignty over Crimea, annexed illegally in 2014. Russian President Vladimir Putin insists that Russian actions are defensive and necessary to protect Russian-speaking populations in Ukraine and counter NATO's eastward expansion. Moscow's proposals for peace

¹⁰ Although in 1994 Ukraine agreed to transfer these weapons to Russia in exchange for assurances to respect the Ukrainian independence and sovereignty in the existing borders, this decision was debated when Russia invaded Ukraine.

often include the recognition of Crimea as Russian territory, the independence of the Donetsk and Luhansk People's Republics, and a neutral, non-aligned status for Ukraine. Russia seeks to solidify its territorial gains and demands the lifting of Western sanctions.

Putin's restated prerequisites for peace negotiations, presented the day before the Ukrainian-initiated Global Peace Summit in Bürgenstock, Switzerland on June 15-16, 2024 (in which Russia was voluntarily not involved), include the recognition of Russia's illegal annexation of occupied and Ukrainian-controlled territory and Ukraine's agreement to demilitarization, the replacement of the current Ukrainian government with pro-Russian proxies, and Ukraine's agreement to abandon efforts to join any external security blocs – essentially the same demands that he had made prior to the start of the invasion in 2022 and that he has consistently reiterated throughout the war. Most recently, commenting on a possible follow-up of the Bürgenstock Summit, Russia's Deputy Minister of Foreign Affairs, Mikhail Galuzin, stated that the country – if invited – would not attend such conference.

China and Brazil

China has attempted to present itself as a neutral mediator, abstaining from three UN General Assembly votes that condemned Russia's actions and advocating for restraint and dialogue. However, this stance has been described as 'pro-Russian neutrality,' as China neither condemns nor explicitly supports Moscow. Beijing's efforts to appear as an impartial mediator are compromised by the Joint Declaration of a 'no limits' partnership made with Russia in early February 2022, as well as the political, diplomatic, and economic support it has given to Russia.

In late February 2023, the Chinese government established a **12-point plan** for a peaceful settlement of the war, which emphasized the following priorities:

1. Respecting the sovereignty of all countries

2. Abandoning the Cold War mentality
3. Ceasing hostilities
4. Resuming peace talks
5. Resolving the humanitarian crisis
6. Protecting civilians and prisoners of war
7. Keeping nuclear power plants safe
8. Reducing strategic risks
9. Facilitating grain exports
10. Stopping unilateral sanctions
11. Keeping industrial and supply chains stable
12. Promoting post-conflict reconstruction

In addition, China's President Xi Jinping has recently elaborated on his strategies for attaining peace during discussions with German Chancellor Olaf Scholz. Putin has praised China's efforts, stating that they demonstrate a clear understanding of the underlying causes and geopolitical ramifications of the Ukrainian crisis, along with a genuine desire for peace.

Welcoming China's proposal, **Brazil's** plan involves Russia returning all Ukrainian territories seized after February 24, 2022, in exchange for legitimizing Russia's sovereignty over Crimea.

On May 23, 2024, Celso Amorim, Chief Advisor to the President of Brazil, and Chinese Foreign Minister Wang Yi met in Beijing and reached a consensus on pushing for a political resolution to the Ukraine crisis, emphasizing the need for de-escalation and dialogue. Their **joint proposal** includes six key points:

1. De-escalation Principles: All relevant parties should avoid expanding the battlefield, escalating fighting, or provoking any party;
2. Dialogue and Negotiation are deemed the only viable solutions. Conditions should be created for resuming direct

talks, aiming for a comprehensive ceasefire. An international peace conference, recognized by both Russia and Ukraine, with equal participation from all parties, is supported;

3. **Humanitarian Assistance:** Efforts should be increased to prevent a larger-scale humanitarian crisis, protect civilians, including women, children, and POWs, and facilitate the exchange of POWs;
4. **Weapons of Mass Destruction:** The use of nuclear, chemical, and biological weapons must be opposed, with all efforts made to prevent nuclear proliferation and avoid nuclear crises;
5. **Nuclear Facility Safety:** Attacks on nuclear power plants and other peaceful nuclear facilities must be opposed, ensuring compliance with international law to prevent man-made nuclear accidents;
6. **Global Cooperation:** Oppose the division of the world into isolated groups and enhance international cooperation on various fronts, including energy, finance, trade, and security of critical infrastructure, to maintain global stability.

The proposal calls on the international community to endorse these agreements and actively help reducing tensions and encouraging peace negotiations. However, US and EU officials have rejected this, viewing it as a tactic to divert attention from the countries' pro-Russia position.

Vatican

With its approach deeply rooted in moral and ethical considerations – emphasizing the human cost of the war – the Vatican has consistently advocated for peace, dialogue, and reconciliation. The Pope has offered the Vatican as a neutral ground for peace talks and has called for an immediate ceasefire and humanitarian assistance to those affected by the war.

The Vatican has also initiated a **peace mission** led by Cardinal Matteo Zuppi, President of the Italian Episcopal

Conference, with the goal of achieving a ceasefire. Cardinal Zuppi has engaged with leaders from both Ukraine and Russia, highlighting the importance of mutual respect, humanitarian aid, and the protection of human rights. The mission underscores the Vatican's commitment to leveraging its unique position as a neutral entity to facilitate negotiations and create an environment conducive to lasting peace that is fairly negotiated. In this respect, the Vatican promotes the idea that learning from history presupposes a true examination of past events in order to understand errors and ensure improvements. Failing to learn from history entails avoiding its maintenance.

Indonesia

Indonesia has proposed a scenario which includes an immediate ceasefire, withdrawal of forces, the establishment of demilitarized zones, the deployment of UN peacekeeping forces, and a UN-supervised referendum for Ukraine's peace plan. The Indonesian Minister of Defense Prabowo Subianto, who has been formally declared President-elect starting from October 20, 2024, proposed a **5-point peace proposal** on June 3, 2023:

1. Immediate ceasefire
2. Withdrawal of forces and establishment of a demilitarized zone in eastern Ukraine
3. Deployment of a UN monitoring and observer mission
4. Urgent and direct negotiations between Russia and Ukraine
5. Holding a UN-sponsored referendum in Eastern Ukraine to determine its future status

India

Over the past year, India has maintained regular communication with both Ukrainian and Russian officials. Demonstrating a balanced approach, India welcomed Ukraine's Foreign Minister Dmytro Kuleba to New Delhi at the end of March 2024. Indian Foreign Minister Narendra Modi has been advocating for a swift

resolution to the war in Ukraine: talking with both Putin and Zelensky in March, he emphasized the importance of **dialogue and diplomacy** amidst the military deadlock and the growing political momentum for a negotiated settlement.

Although it may be too early to discuss a significant Indian role in ending Russia's war in Ukraine, conditions for peace initiatives have notably improved. India's successful hosting of the G20 summit in September 2023 has enhanced its global standing, both as a leader of the world's largest democracy and as a representative of the Global South. The official invitation from Switzerland for India to participate in the Ukraine Peace Summit in Geneva in June 2024 underscores the West's acknowledgment of New Delhi's importance in diplomatic efforts to end the ongoing war. This invitation also provides India with an opportunity to reassess its stance on the war and reconsider its security engagement with Europe.

Türkiye

Türkiye's perspective on Russia's war in Ukraine highlights a preference for a "**peaceful and equitable**" solution, underscoring its strategic interest in regional stability and its traditional role as a mediator. Turkish parliamentary spokesperson Numan Kurtulmus has stressed the importance of ending the war for the sake of both Russia and Ukraine, as well as for regional and global stability. Türkiye has been proactive in its diplomatic efforts, with President Recep Tayyip Erdogan staying in close contact with both Russian and Ukrainian leaders, pushing for direct negotiations to end hostilities. Notably, Türkiye facilitated the first high-level meeting between Russia and Ukraine at the Antalya Diplomacy Forum in March 2022, where Ukrainian Foreign Minister Dmytro Kuleba met with Russian Foreign Minister Sergei Lavrov. Further talks were held in Istanbul later that month, but they did not yield significant results.

Overall, Türkiye's strategy is heavily influenced by its geopolitical position, sharing borders with both countries and having strong relationships with them. This unique role

as a mediator has been internationally acknowledged and appreciated. However, Kurtulmus has voiced concerns that the interventions and attitudes of some Western nations, including the exclusion of key stakeholders, have hindered progress towards a peaceful solution. In addition, Hakan Fidan - Türkiye's Foreign Minister - has warned that the Russian invasion of Ukraine could potentially escalate into a wider confrontation between Russia and the West, possibly leading to a global conflict: *“It is increasingly becoming a war more than between Russia and Ukraine”*. *“We have the Ukrainian peace plan in front of us, and Russia has recently shared some terms. Regardless of the content and the conditions put forward, these are important steps and glimpse of hope to start with. [...] Türkiye, as always, is ready to facilitate the process. [...] Our vision for peace is realistic, inclusive and practical. [...] A fair peace will have no losers”* he added.

South Africa

In June 2023, South African President Cyril Ramaphosa and Senegalese President Macky Sall headed a prominent pan-African delegation, including representatives from Uganda, Zambia, the Comoros, and Congo-Brazzaville, on a mission to Kyiv and St. Petersburg. Their aim was to persuade Ukraine and Russia to commence peace talks. The delegation presented a **10-point peace plan** emphasizing the significance of territorial sovereignty, de-escalation, and security assurances for all involved parties:

1. Mutual respect
2. Dialogue and direct negotiations between Russia and Ukraine
3. Conflict de-escalation
4. Sovereignty and respect for UN Charter
5. Security guarantees
6. Opening of supply chains of food, fertilizer and fuel through the Black Sea

7. Humanitarian assistance to victims of the war
8. Release of prisoners and children abducted during the war
9. Post-war reconstruction
10. Imperative engagement of African states in conflict resolution efforts.

While the initiative mentions security guarantees and their importance for all countries in the world, it does not specifically address Ukraine, which poses a problem. Yet, unlike the Chinese one, the African proposal highlights the need to prioritize post-war reconstruction.

Although the peace initiative did not bring the conflicting parties to the negotiating table, it underscored the Global South's deep concern over the war's broader impacts, particularly the surge in food prices. At the Second Russia-Africa Summit in July 2023, African leaders continued to urge Putin to seek a negotiated end to the war. They called for the renewal of the Black Sea Grain Initiative, asserting their right to advocate for peace as the ongoing war adversely affects them. Putin reiterated his stance that the West holds responsibility, adding that rising global food prices were the result of Western policy errors predating the war in Ukraine.

US

With Washington's public stance being that Russia must withdraw from all occupied Ukrainian territories, the US has strongly supported Ukraine by providing extensive **military, economic, and humanitarian aid**. In particular, in April 2024 the US House of Representatives passed a bill authorizing more than \$60 billion worth of military aid to Ukraine. Although no official action plan has been presented, the US supports the Ukrainian view of strengthening NATO, imposing stringent sanctions on Russia, and holding it accountable for war crimes. Therefore, the Biden administration advocates for a peace process that ensures Ukraine's sovereignty and security.

In light of the recent stalemate and the shifting dynamics that favor Russia in a protracted war, the US recognizes the growing urgency of finding a **diplomatic solution** to Russia's war in Ukraine. Acknowledging that continued military support alone may not be sufficient to achieve a decisive victory, the Biden administration is reportedly advising Ukraine to consider negotiations. Despite public declarations of support for Ukraine's complete territorial integrity, there is thus a growing understanding that a ceasefire and peace talks are increasingly necessary.

EU

The EU's unwavering support for Ukraine extends beyond solidarity against an unjust invasion; it represents a commitment to democratic values and maintaining international order and peace in Europe. This support has persisted throughout Russia's unprovoked aggression and illegal annexation of Ukrainian territory. In particular, the EU's action plans towards peace among Russia's war in Ukraine encompass a multifaceted approach that includes diplomatic efforts, economic measures, humanitarian aid, and support for Ukraine's sovereignty and territorial integrity.

First, the EU has been actively involved in diplomatic initiatives aimed at resolving the situation through mediation and dialogue efforts, working closely with international partners such as the UN and the Organization for Security and Cooperation in Europe (OSCE). As already explored in the previous chapters, the EU has also imposed a series of sanctions on Russia in response to its actions in Ukraine targeting key sectors of the Russian economy – including finance, energy, and defense, as well as specific individuals and entities involved in the war – to encourage compliance with international law.

The EU has provided substantial economic and humanitarian aid to Ukraine to help it withstand the impacts of the war and support its recovery. In terms of financial assistance, significant aid packages, including macro-financial assistance and budgetary support, have been allocated to stabilize Ukraine's

economy, facilitate reforms, and support infrastructure rebuilding. The EU has also been a major provider of humanitarian assistance to Ukraine, addressing the needs of displaced persons and those affected by the war. This includes food aid, medical supplies, shelter, and support for refugees.

While the EU itself does not provide direct military aid, individual Member States have supplied Ukraine with military equipment and training. Additionally, the EU has launched initiatives like the European Peace Facility, which can be used to fund military support to partner countries, including Ukraine. The EU has increased its support for Ukraine's security and defense capabilities also through sharing expertise, providing technical support, and coordinating efforts to counteract misinformation – working in tandem with the US and NATO to align strategies and actions.

Considering some relevant case studies from Member States, in addition to cutting off payments for oil, gas and coal as soon as possible, **Poland, Slovenia and the Czech Republic** have prepared a **10-point plan** to support Ukraine and bring an end to the war:

1. Cutting off all Russian banks from the SWIFT international payment system;
2. Putting in place a common asylum policy for Russian soldiers who refuse to serve the criminal regime in Moscow;
3. Stopping Russian propaganda in Europe;
4. Blocking Russian ships from European ports;
5. Establishing a blockade for road transport in and out of Russia;
6. Imposing sanctions not only on oligarchs but on their entire business environment;
7. Suspending visas for all Russian citizens who want to enter the EU;
8. Imposing sanctions on all members of Putin's party, United Russia;

9. Putting in place a total ban on the export to Russia of technologies that can be used for war;
10. Excluding Russia from all International Organizations.

Switzerland

Switzerland, known for its neutrality and humanitarian tradition, advocates for a **peaceful resolution through dialogue**. Swiss authorities emphasize the importance of international law, human rights, and providing humanitarian aid to affected populations. Switzerland has publicly offered its international institutions' offices for mediation and supports multilateral efforts to achieve peace.

International Peace Conferences

6.2

Moving forward from national stances, attention ought to be given to those peace conferences, meetings, and summits that have showed efforts towards resolution discussions. Rather than attempting to cover every organized conference, the Paper concentrates on the most relevant gatherings that have played a crucial role in shaping the course of the war or which have led to tangible outcomes and meaningful progress.

Istanbul Talks – March 2022

The Istanbul Talks of March 2022 represented a significant diplomatic effort aimed at resolving Russia's war in Ukraine, at the time newly started. After more than a month of talks, the diplomacy between Ukraine and Russia running in parallel to their war entered a new phase. The fact that negotiations had become more serious was reflected in the setting, the palace where President Erdogan – who has maintained ties with both Moscow and Kyiv – often holds major government events when in Istanbul.

Such Talks aimed to de-escalate the war, establish a ceasefire, and lay the groundwork for a longer-term peace agreement. The negotiations addressed several key points, including a potential ceasefire, binding international security guarantees for Ukraine, and Ukraine's proposed neutral status in exchange for these guarantees. Territorial issues, particularly the status of Crimea and the Donbas region, were also on the table, along with measures to address the humanitarian crisis resulting from the war.

Some progress was reported during the talks, particularly on Ukraine's proposal for neutrality in exchange for security guarantees. Both sides indicated a willingness to continue discussions within this framework. Russia announced a significant reduction of military activities around Kyiv and Chernihiv, framing it as a goodwill gesture to facilitate further negotia-

tions. Despite these optimistic signals, fighting continued in various parts of Ukraine, and skepticism remained about the sincerity of Russia's intentions.

The international community cautiously welcomed the progress but remained vigilant about the on-ground reality and Russia's strategic goals. Ukraine reiterated its commitment to sovereignty and territorial integrity, stressing that any final agreement would need to be ratified by a national referendum. Russia's reduction of military activities was seen by some analysts as a tactical move rather than a genuine step towards peace, with speculation that it aimed to regroup and focus on other strategic areas.

The Istanbul Talks set a **framework for further negotiations** and highlighted the complexity of reaching a comprehensive peace agreement. They provided a glimmer of hope for a diplomatic resolution, but the continued military actions underscored the challenges ahead.

St. Petersburg Peace Conference – July 2022

Less than four months later, in July 2022, the St. Petersburg Peace Conference was held, marking another significant attempt to broker peace amidst the war on Ukraine. This meeting followed several rounds of talks, reflecting the persistent international and regional efforts to find a resolution.

Hosted in the historic Tauride Palace, a symbol of Russian political history, the Conference brought together delegations from Russia and Ukraine, as well as representatives from several international bodies and countries acting as mediators. The choice of venue highlighted Russia's intent to host and influence the peace process, while also demonstrating a willingness to engage in high-level diplomatic dialogue.

Key issues discussed at the Conference included the continuation and implementation of a ceasefire, securing international guarantees for Ukraine's neutrality, and addressing the humanitarian crisis exacerbated by the war. Ukrainian delegates emphasized the need for a comprehensive security framework

that would protect Ukraine's sovereignty and territorial integrity, whilst Russian delegates focused on security concerns and sought assurances regarding NATO's presence in Eastern Europe. The presence of international mediators, including representatives from the UN, the EU, and Türkiye, added a layer of legitimacy and hope to the proceedings.

The Conference produced **mixed outcomes**. While there was some progress on the framework for Ukraine's neutrality, significant disagreements remained, particularly on the territorial issues involving Crimea and the Donbas region. Ukraine proposed a phased approach to discussing these territories, while Russia demanded immediate recognition of the status quo. Both sides agreed to establish working groups to continue addressing these complex issues in future meetings.

Geneva Peace Summit – November 2022

The Geneva Peace Summit of November 2022 was a pivotal diplomatic event. Held in the neutral setting of Switzerland, symbolizing a renewed commitment to finding a peaceful resolution, the Summit once again aimed to address unresolved issues and build on the progress made in earlier talks. Organized by the UN, the Summit saw the participation of high-level delegations from Russia and Ukraine, along with representatives from key international stakeholders and mediators, such as the EU, the US, and Türkiye.

Key issues on the agenda included the establishment of a lasting ceasefire, the framework for Ukraine's neutrality and security guarantees, and the resolution of territorial disputes. The Ukrainian delegation, led by President Zelensky, sought firm commitments on security guarantees and the restoration of Ukraine's territorial integrity. The Russian delegation, led by Foreign Minister Sergey Lavrov, continued to emphasize security concerns related to NATO's expansion and the status of Crimea and the Donbas region.

A significant aspect of the discussions was Ukraine's presentation of 10-point peace plans, which outlined various proposals for achieving a durable resolution to the war. These plans

included measures such as international security guarantees, phased troop withdrawals, the establishment of demilitarized zones, and frameworks for economic reconstruction and humanitarian aid. While some of these plans were met with cautious interest, others faced resistance, particularly from the Russian side, due to conflicting territorial claims and security concerns.

One notable development was a preliminary agreement on a structured **ceasefire plan**, which included monitoring mechanisms involving international observers. Additionally, discussions on Ukraine's neutrality status saw further refinement, with potential guarantor states expressing conditional support for a security framework akin to NATO's Article 5¹¹. However, substantial disagreements persisted with Ukraine proposing international arbitration and phased negotiations, and Russia insisting on recognizing the current territorial realities.

The humanitarian crisis remained a central concern at the Geneva Summit: agreements were indeed reached on establishing humanitarian corridors, facilitating the delivery of aid, and ensuring the safe return of refugees.

The Geneva Peace Summit highlighted the complexity of achieving a comprehensive peace agreement. While the discussions advanced several critical issues, the enduring war and deep-seated mistrust between the parties underscores the difficulties ahead.

Jeddah Peace Talks – August 2023

The Jeddah Talks, held in Saudi Arabia in August 2023, were a significant attempt to address the ongoing war in Ukraine. This meeting brought together representatives from 42 countries, including major global players such as the US, China, India, and South Africa. Notably, Russia was not invited to participate in the conference due to its role as the aggressor in the war.

¹¹ NATO's Article 5 establishes a principle of collective defense, meaning that an attack against any NATO member is considered an attack against all members, prompting a collective response.

The primary aim of the Jeddah Talks was to discuss and build consensus around President Zelenskyy's 10-point peace plan, which emphasizes the restoration of Ukraine's territorial integrity, including the return of Crimea, and the withdrawal of Russian forces. Despite differing viewpoints, the participants of the Jeddah Talks expressed unanimous support for the principles of the UN Charter and international law, emphasizing the importance of Ukraine's sovereignty and territorial integrity. This was a crucial aspect of the discussions, as it reaffirmed the global consensus against the Russian invasion.

Represented by Special Representative for Eurasian Affairs Li Hui, China's participation was particularly noteworthy as it indicated its interest in playing a constructive role in the peace process, despite its close ties with Russia. This move was seen as China carefully balancing its position in the war.

Saudi Arabia's role as the host underscored its growing ambitions as a mediator in international conflicts. The Kingdom has maintained a delicate balance, supporting UN resolutions against Russia's actions while also having cooperative ties with Moscow, particularly in the oil sector.

The Talks were a **step towards the practical implementation of Ukraine's peace formula**. Andriy Yermak, Head of Zelenskyy's Office, emphasized the productive nature of the consultations, noting that each participating country had the opportunity to demonstrate leadership in global peace efforts – including the Global South. While no concrete agreements were finalized, the Jeddah Talks were seen as a significant diplomatic assembly. The discussions aimed to pave the way for a potential global peace summit, which Ukraine hoped to convene later in the year. The Talks also helped Ukraine gain support from countries that had previously remained neutral or less engaged in the war.

Bürgenstock Summit – June 2024

In late 2022, Ukraine set out its vision, wishes and ways to guarantee security while transitioning from the war's end to peacebuilding, including its strategic objective of acceding to NATO – the so-called **Kyiv Security Compact** (KSC). At NATO's 2023 Summit in Vilnius, G7 states adopted a Joint Declaration of Support for Ukraine, which echoed some of the KSC's propositions in a multilateral framework guiding future bilateral security commitments and arrangements to be negotiated and formalized between Ukraine and each G7 member to ensure Ukraine's sustainable defense force and capacity to deter Russian aggression in the future via:

- Security assistance and modern military equipment;
- Support to further develop Ukraine's defense industrial base;
- Training and training exercises for Ukrainian forces;
- Intelligence sharing and cooperation;
- Support for cyber defense, security, and resilience initiatives, including to address threats;
- Strengthen Ukraine's economic stability and resilience, including through reconstruction and recovery efforts;
- Provide technical and financial support for Ukraine's immediate needs stemming from Russia's war, as well as to enable Ukraine to continue implementing effective reform agenda.

Following Ukraine's call for G7 countries to support the plan, a series of five international conferences aiming at a peaceful resolution of Russian full-scale invasion of Ukraine has been organized. These conferences brought together key international stakeholders, including diplomats, political leaders, and representatives from IOs. The discussions focused on comprehensive strategies for achieving a sustainable ceasefire, ensuring the withdrawal of Russian forces, and providing extensive humanitarian aid.

The last one, the Bürgenstock Summit (formally known as the Summit on Peace) took place on June 15-16, 2024, in Switzerland. Hosted by Swiss President Viola Amherd, it brought together representatives from 92 nations and 8 IOs. Notably, Russia was not invited to the Summit.

The primary objective of the Bürgenstock Summit was to develop a framework for a comprehensive, just, and lasting peace in Ukraine, based on international law and the principles of the UN Charter. The discussions were grounded in Ukrainian President Zelenskyy's 10-point peace plan. The summit concluded with the adoption of a **Joint Communiqué on a Peace Framework**, which was supported by 84 states and 6 Organizations. This document emphasized nuclear safety, ensuring that Ukrainian nuclear power plants operate safely under Ukrainian control, and condemned any threats or use of nuclear weapons. It also addressed food security, declaring attacks on merchant ships and ports unacceptable, and called for the secure and free provision of Ukrainian agricultural products to interested countries. Additionally, it demanded the release of all war prisoners and the return of abducted Ukrainian civilians.

While the majority of the participants endorsed the final Communiqué, several key countries such as India, South Africa, Saudi Arabia, Mexico, and Brazil did not. The absence of Russia and China from the Summit underscored the challenges in achieving a unified global approach to peace in Ukraine. Despite these difficulties, the Summit was viewed as a significant step towards rallying international support for Ukraine's peace efforts and building a coalition of intermediaries to facilitate future negotiations with Russia.

50th G7 Summit in Apulia (Italy) – June 2024

The G7 Summit that was held at Borgo Egnazia Resort in Apulia, Italy, on June 13-15, 2024, also addressed several critical issues regarding the war in Ukraine. While G7 Leaders reaffirmed their unwavering support for Ukraine's right to self-defense and committed to enhancing Ukraine's long-term security, they also agreed on a significant financial commitment to support Ukraine. They reached a consensus to provide a **\$50 billion loan to Ukraine**, using the interest generated from frozen Russian sovereign assets. This decision marks a crucial step in providing long-term funding for Ukraine's war effort and reconstruction needs.

The \$50 billion loan will be disbursed within the calendar year, with the funding coming from the profits of approximately \$300 billion in Russian assets that have been frozen in Western financial institutions since the invasion of Ukraine in 2022. The US has committed to providing a significant portion of this loan, with the possibility of fronting the full amount, if necessary – though other G7 countries are expected to contribute as well.

This financial arrangement aims to insulate the funding from potential political changes and ensure a steady flow of support for Ukraine. The agreement highlights the G7 continued resolve to apply economic pressure on Russia and support Ukraine's sovereignty and defense capabilities.

NATO Summit – July 2024

The NATO Summit, held from July 9-11, 2024, in Washington, D.C., marked the 75th anniversary of the alliance and was a precious opportunity to address strategic issues related to the Russian war in Ukraine. The Summit brought together leaders from 32 NATO countries to discuss key matters of defense and support for Ukraine amidst the ongoing Russian aggression.

Since Russia's illegal annexation of Crimea in 2014, NATO has undertaken the largest reinforcement of its collective defense in a generation, enhancing capabilities across land, sea, air, cyberspace, and space. NATO Allies have been providing

unprecedented support to Ukraine, helping the country uphold its right to self-defense as enshrined in the UN Charter.

The Summit reaffirmed NATO's commitment to unity and adaptation in response to evolving global threats, emphasizing its role in maintaining international security and stability. It also reaffirmed its support for Ukraine's Euro-Atlantic integration and membership, contingent on reforms and conditions. NATO will take over coordinating military aid to Ukraine. In addition, the Alliance condemned Russia's nuclear threats and weapons deployment in Belarus but remains open to communication to reduce risks.

6.3

Fil rouge of the international community's sentiments

The evaluation of the state of the art concerning peace efforts among Russia's war in Ukraine reveals several evolving elements influenced by global political dynamics, notably the US elections and escalating challenges faced by both parties. While Ukraine's difficulties are more evident, the war's uncertain duration presents significant complications for Russia as well. The strategic ambiguity introduced by Western military aid and the US' implied threat of potential strikes on Russian territory, though controlled and not yet actualized, complicates Russia's previously more predictable strategic pathway.

Consequently, Russia may now appear more inclined towards a swift resolution to the war. This perspective is reinforced by studies indicating a rising desire among Russians, particularly the youth, for peace negotiations. Yet, the essential conditions for a peaceful breakthrough remain absent.

The current situation regarding prospects for peace is more appropriately defined by the term '**truce**', which is a rather more feasible outcome in the short term. Various factors from both the Russian and Ukrainian perspectives support this possibility. For Russia, strategic uncertainty, economic instability, and shifting public opinion are critical considerations. In Ukraine, the stark realities of economic distress, significant demographic losses, and concerns for future sovereignty underscore the urgency for a cessation of hostilities.

Although the sum of these factors might be the driver of further steps towards a truce in the short to medium term, the two countries' **diverse strategic interests** complicate the achievement of a lasting peace. From a territorial point of view, Russia's insistence on retaining occupied territories juxtaposes Ukraine's unwavering commitment to preserving its sovereignty, which precludes any territorial concessions.

Global geopolitical players also significantly influence peace negotiations. For instance, Hungarian Prime Minister Viktor Orbán's proposal of a **three-week truce** to Putin in June 2024, despite being already rejected by President Zelensky, marks the first European diplomatic engagement in Moscow since 2022. Nevertheless, this initiative does not reflect an official stance from the EU, which has promptly distanced itself from Orbán's overture.

This proposal shares similar goals with the aforementioned Chinese vision, which relates to a utility-based approach to the war. By positioning themselves as neutral mediators, and becoming potential influencers in the international peace landscape, China and Hungary both share similar aspirations and ambitions.

Europe certainly plays an important role as well. It has, with considerable difficulty, managed to maintain a semblance of unity and has aligned with the US in a comprehensive severance of ties with Russia. However, the EU cannot afford to adopt an equally stringent stance towards China due to its economic constraints, which require Chinese interests to be represented in the dialogue.

China's role as an essential counterpart is further reinforced by Russia's significant economic dependence on the country, which has generated internal tensions within Russia. Indeed, President Putin has been facing criticism for his reliance on China, stemming from a perceived lack of alternatives and a desire for stability. This dynamic should be leveraged by the EU and the US to foster a constructive dialogue with Russia.

The year 2025 will mark the 50th anniversary of the **Helsinki Accords**¹², an important historic milestone that should prompt the international community to scrutinize the shortcomings of that period. A critical unresolved issue is the concept of

¹² An agreement signed by 35 nations that concluded the Conference on Security and Cooperation in Europe, held in Helsinki, Finland. The multifaceted Act addressed a range of prominent global issues regarding Cold War discussions.

indivisibility of security, on which the US and Russia were never able to reach an agreement: while Russia conceptualized security in terms of spheres of influence, the US maintained that alliances must be inherently free. Russia's war in Ukraine epitomizes the clash between these two irreconcilable visions, underscoring the need for a retrospective analysis and proactive measures based on history's lessons, rather than acquiescing to conditions imposed by Russia or other nations.

This lack of a solid foundation in the security architecture became increasingly evident years later with the definitive failure of the **Minsk Agreements**. Designed to end the Donbas war between armed Russian separatist groups and Armed Forces of Ukraine, following Russia's illegal annexation of Crimea in 2014, they included provisions for a ceasefire, the withdrawal of heavy weaponry, and the decentralization of power to grant greater autonomy to certain regions in Ukraine. However, the implementation of the Minsk Agreements was hampered by deep-rooted mistrust and divergent security perspectives between Russia and Western countries. This failure not only perpetuated tensions in Eastern Ukraine but also highlighted the ongoing challenges in achieving a cohesive and effective European security framework.

The persistence of these unresolved issues underscores the urgent necessity for a comprehensive reevaluation of the existing security arrangements and the development of new strategies that can accommodate the multifaceted interests of all parties involved. Failing to review current security arrangements might result in a potential arms' race, creating a further precondition for new risks both in the present and in the future.

Given that a rearmament cycle is not feasible in the short term for neither coalition, an opportunity is opening to prioritize and politically emphasize other critical issues – such as **renewed joint security commitments and disarmament rules** and a **stronger security cohabitation** – and to explore whether and how they can be agreed upon by the international community at large.

In conclusion, while there is a consensus among many influential actors on the need for de-escalation, dialogue and a peaceful resolution, the specifics of their proposals for peace vary. These efforts are characterized by diverse perspectives and strategic interests each actor has in regard to Russia, Ukraine, and the broader international community, often reflecting geopolitical alignments and historical contexts.

Therefore, proposals for peace in Ukraine reflect a complex interplay of geopolitical interests, humanitarian concerns, and diplomatic maneuvers overall. While efforts differ widely among global actors, the **common goal** remains the achievement of a sustainable and just resolution to the war.

6.4

TEHA's recommendations

Based on these premises, TEHA has elaborated **5 key points**, drawing on the evidence emerged during the interviews with selected think tanks and institutions, that summarize the pre-requisites to start building concrete and effective pathways towards peace.

1. Recognition of the extensive damage caused by the war both regionally and globally

A comprehensive peace process necessitates the initial recognition of the extensive damage caused by the war initiated by Russia, not only upon the belligerent nations but also upon third-party states. The ramifications of this regional war are far-reaching, with significant global repercussions especially on the agrifood and energy sectors.

The disruption of the Black Sea Grain initiative has critically affected **global food security**. Ukraine, one of the world's breadbaskets, has experienced a substantial decline in grain exports due to blockades and attacks on maritime route, precipitating food shortages and inflating prices. These outcomes adversely impacted countries reliant on Ukrainian grain supplies.

Russia's war in Ukraine has also destabilized energy supplies, engendering a **European energy crisis**. Given Russia's pivotal role as a major energy supplier, the imposition of sanctions and disruptions in supply chains have catalyzed significant increases in energy prices globally, thereby affecting several national economies and individual households all over Europe.

By acknowledging the extent to which the damage caused by the war has impacted both the countries involved and third parties alike, solutions that address the broader fallout of the war may be crafted, thereby mobilizing effective international support to enhance the prospects for a durable peace.

2. Critical analysis of the Minsk Agreements' diplomatic failure

Conducting a thorough critical analysis of the Minsk Agreements' failure can help shaping a more resilient peace, provided that it encompasses an extensive examination of the diplomatic shortcomings and the geopolitical dynamics that precipitated the Agreements' collapse.

For instance, the **historical context** of the Minsk Agreements, including the political and military conditions prevailing at the time, as well as the **roles and motivations of the main actors** involved, can elucidate the fundamental causes of their failure, revealing the complexities and competing interests that undermined the agreements.

Identifying the specific challenges encountered in implementing the Minsk provisions, such as ceasefire violations and the pervasive lack of trust between the parties, is essential to design more robust future agreements and enable peace negotiations based on successful diplomatic efforts.

3. Segmentation of the peace process into short-term and long-term actions

A pragmatic peace pathway should be segmented into two distinct phases – short-term actions and medium to long-term actions – establishing clear milestones and objectives to facilitate progressive achievements and ensuring that both immediate needs and long-term goals are met.

More immediate measures should first include the establishment of a **ceasefire** to halt hostilities and provide relief to affected populations. **Minimum guarantees** for both Russia and Ukraine should be instituted to foster trust and create an environment conducive to further negotiations. Addressing the humanitarian crisis through the facilitation of aid and the protection of civilians is imperative for stabilizing the situation.

Longer-term actions should focus on the establishment of a **new security system** that addresses the root causes of the war. Crafting a **new peace architecture**, prioritizing

renewed joint security commitments and a stronger security cohabitation (“New Helsinki Accords”), is fundamental to redefine security and cooperation within the region and globally. In order to ensure a lasting peace, this long-term approach should also encompass disarmament initiatives (especially concerning nuclear weapons) – which are now dangerously outdated – economic integration, and political reforms.

4. Organization of a comprehensive Peace Conference involving both belligerent countries

The organization of a comprehensive Peace Conference, strengthening the Bürgenstock path and involving both belligerent nations and key international stakeholders, is crucial for achieving enduring solutions.

The Conference should ensure that representatives from both Russia and Ukraine are allowed to articulate their positions and negotiate terms within a neutral setting, still acknowledging that the former bears responsibility for initiating the aggression. In addition, mediators from international neutral countries and organizations should be involved to foster trust and cooperation.

Addressing various aspects of the war – including security guarantees, territorial disputes, humanitarian issues, and economic recovery plans – the Conference may serve as a global **platform for negotiating peace terms**, discussing grievances and establishing a framework for future relations.

The ultimate goal should thus be to produce concrete agreements and a detailed roadmap for implementation, with international guarantees to ensure compliance.

5. Creation of an economic and financial assistance plan for post-war Ukraine

Any viable peace pathway must incorporate a robust economic and financial assistance plan for Ukraine, as already highlighted in the Ukraine Recovery Conference in Berlin in

June 2024. Given the severe economic challenges faced by the country, including a significantly higher public debt (which the Wilson Center predicts will double by the end of 2024) and a declining population, support is essential for **post-war recovery**.

Substantial financial assistance should be provided to stabilize Ukraine's economy, addressing urgent needs such as public services, infrastructure repairs, and social welfare programs. In particular, investing in the reconstruction and modernization of Ukraine's infrastructure – including transportation, energy, and telecommunications – is vital for supporting the country's **long-term economic growth**.

To achieve this, a favorable environment for foreign investment should be created through increased transparency and incentives for businesses to invest in Ukraine after the end of the war. Ensuring that Ukraine can rebuild and thrive economically is crucial for sustainable peace and regional stability. Economic stability will not only help prevent future tensions but also support the overall recovery of a war-torn society.

Conclusions

Russia's war in Ukraine has profoundly altered the landscape of international relations, economics, and security. Deeply rooted in historical tensions and geopolitical balances, not only does it threaten the life of millions of people in Eastern Europe, but it also continues to cause significant global disruptions, notably in the energy and agrifood sectors.

The war has in fact highlighted the vulnerability of European energy security and global agrifood security. As key suppliers of crucial commodities in both sectors – such as wheat, barley, maize, sunflower oil, natural gas, and oil – Ukraine and Russia's disrupted supply chains have had far-reaching implications on global trade. Despite international efforts to mitigate these effects, commodity prices remain elevated relative to pre-war levels, with particularly severe impacts on developing countries and vulnerable populations.

In particular, Europe's energy security has faced severe challenges. The EU's historical dependence on Russian gas revealed critical weaknesses, prompting a substantial shift in energy import strategies and a drive towards diversification. This crisis has accelerated the transition to renewable energy sources, with policy measures from the US and the EU setting the stage for significant growth in this sector. Nevertheless, short-term challenges persist in ensuring stable and affordable energy supplies, especially amidst ongoing geopolitical uncertainties.

This **volatility** in global markets has disrupted the delicate balance of international energy and agrifood systems, necessitating robust and comprehensive strategies to safeguard supplies in both sectors. To enhance energy security at the European level, TEHA proposes **measures such as diversifying energy sources, investing in renewable energy, and improving energy efficiency.**

At a global scale, ensuring agrifood security requires international coordination in food crisis management, increased aid to vulnerable countries, and comprehensive reforms to the agricultural system. Therefore, TEHA's policy recommendations emphasize the **need for a green transition in agri-**

culture, promoting sustainable practices that enhance food security while mitigating environmental degradation and climate change impacts.

These proposals represent a holistic approach to managing the intertwined challenges of energy and agrifood security in a world increasingly shaped by geopolitical tensions and environmental uncertainties. Beyond the economic repercussions, the Russian invasion of Ukraine also influenced political stability, social cohesion, and environmental sustainability. On the one side, international responses aim to weaken Russia's economic and military capabilities primarily through extensive sanctions. On the other, the war has moved the international community's attention towards peace, with the most influential global actors advancing different proposals and stands.

From the insights of the interviewed high-level representatives of key countries, it has emerged that it is essential to address the root causes of the war when charting a path to long-term peace. Although sentiments towards peace vary widely across countries, there is consensus on the need for a peaceful dialogue and a sustainable and just resolution to the war, balancing Ukraine's sovereignty with regional stability and international peace. Based on these premises, **TEHA's recommendations** recognize the extensive damage caused both regionally and globally and highlight the importance of a comprehensive peace process that takes into account a critical analysis of previous diplomatic failures, the involvement of both belligerent countries and economic assistance for post-war Ukraine.

In conclusion, Russia's war in Ukraine has underscored significant vulnerabilities in global systems as well as the need for resilient, adaptable strategies. The international community must draw lessons from this to build a more secure and stable future, addressing both immediate needs and long-term challenges. In this respect, more collaborative efforts and comprehensive analysis navigating the complex landscape of post-war recovery and contributing to enduring peace are needed.

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