



**Impact of the Russian Federation's war in
Ukraine on European and global energy security one year after the invasion**

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Senator Manchin, Senator Barrasso, Distinguished Members of the Committee, thank you for the opportunity to appear before you today to present the European Union's work to address the impacts of Russia's illegal and unprovoked war of aggression in Ukraine on European and global energy security. Our efforts to boost energy security and resilience are fully aligned with accelerating our clean energy agenda for climate neutrality by 2050. The urgency and importance of this work has never been more apparent.

I have been a European civil servant for over 30 years, having had the privilege to work in international trade, competition, sustainable development, and energy. I currently serve as Director-General for Energy at the European Commission, the executive arm of the European Union, and I am proud to work under the political leadership of our President, Ursula von der Leyen, Executive Vice-President Frans Timmermans, and Commissioner Kadri Simson. In this capacity, I have worked with highly committed EU staff to develop and deliver our policy response to this unprecedented challenge at an exceptional pace to stabilise the situation and protect businesses and households from the most severe consequences of the crisis.

The European Union (EU) has reacted in unity, swiftly and decisively, proving that our institutions and democracy are robust and prepared for the challenge. If anything, the current challenges have only strengthened our commitment to liberty and to double down on a clean energy transition, for our health and wellbeing, for jobs and growths in a new economy, and for strong geopolitical reasons.

Throughout my professional life, the Transatlantic partnership has been central, from addressing bilateral trade questions through negotiations and dialogue to our close cooperation on energy security today. Indeed, while the last year has been by far the most challenging in terms of ensuring secure, affordable and climate friendly energy to our citizens, it also showed just how far the solutions to the energy crisis in Europe rely on working with our partners and allies, most notably the United States.

Introduction

The Russian invasion of Ukraine and Russia's weaponization of energy have caused human suffering and have sharply impacted global security and the global energy system. The resulting rise in prices of energy, food and commodities has had a direct impact on our citizens and businesses, especially on the most vulnerable groups and on developing countries.

A key part of my message today is that the events of 24 February 2022 demonstrated that, despite previous efforts, we were still too dependent on imports of gas from the Russian Federation. In the aftermath of the Russian gas supply disruptions in 2006 and 2009, the Union took important steps to develop a more resilient and interconnected pan-European energy market, ensuring alternative sources of natural gas and reverse flows.

A key part of these reforms relates to the European Green Deal. Europe is the first continent to have committed to achieve climate neutrality by 2050. The European Union remains fully committed to this objective. The transformation of our energy systems towards greener energy also improves security and affordability of our energy, it helps avoid new dependencies and gives a boost to our competitiveness. The European Green Deal also aims to make sure that the transition is fair and just, leaving nobody behind. With the legal frameworks in place, the EU was already on track to reduce natural gas consumption by 30 per cent by 2030 even before Russia started its illegal war in Ukraine. The Russian war and its unilateral disruption of natural gas supplies have accelerated this energy transition.

While the backbone of the future European carbon free power system will predominantly be renewable energy sources, nuclear will continue to play an important role, complementing renewables as a reliable baseload electricity generation. Already now, nuclear power is the most prevalent low-carbon source in the European Union. And we acknowledge its potential in decarbonising the energy sector and ensuring energy security.

At the same time, the EU sees natural gas as an important energy source for the transition towards climate neutrality in 2050. In this context, it is critical to ensure that natural gas is produced and transported to the highest environmental and sustainability standards, in line with our shared climate objectives. EU's continued cooperation with the United States on methane emissions reductions is crucial, in line with the ambitions of the Global Methane Pledge and the Joint Declaration from Energy Importers and Exporters on Reducing Greenhouse Gas Emissions from Fossil Fuels adopted in November 2022.

With this testimony I would like to present our energy policy response to the global energy crisis and the results, our immediate and strong support to Ukraine and the Republic of Moldova, and the outlook in the short-, mid and long-term including on our Transatlantic partnership.

1. The EU's swift and forceful response to the Russian aggression against Ukraine

The timing of the Russian aggression against Ukraine coincided with the global energy supply crunch. Natural gas prices had been rising in the second half of 2021 among others due to the global economic rebound from the COVID-19 pandemic. At the same time, offers of Russian gas supplies on certain trading facilities ahead of winter 2021 were already significantly reduced and Russian-owned gas storage facilities in Europe were undersupplied compared to previous years. These factors further exacerbated the supply crunch and led to more volatility in the European and global energy prices.

The EU's response came just two weeks after the invasion, on 8 March 2022. With the **REPowerEU Plan**, the European Commission presented **a strategy to reduce EU's demand for Russian natural gas by two-thirds before the end of 2022**. It rests on three complementary and mutually reinforcing pillars: reducing demand through energy savings, expanding generation of renewables, and energy diversification through new and deepened partnerships. We have underpinned this proposal with an investment plan of up to EUR 300 billion. Meeting on 10 March 2022, European leaders were unanimous and unequivocal in endorsing the plan, agreeing to phase out EU's dependency on Russian gas, oil and coal imports as soon as possible in response to the Russian aggression in Ukraine. REPower EU also recognises the need to diversify energy sources away from Russian supplies in the nuclear sector. A high dependence on Russian nuclear fuel and related services poses a risk not just in Europe but in global markets.

In a short period of time, the EU has taken **ten** steps to turn the REPowerEU Plan into concrete results. And we managed to replace more than 70 bcm of Russian gas by diversification, demand reduction and fuel switch.

First, we are saving energy, especially gas. We have introduced a common European target to reduce gas demand by 15% over six months. Data for the first half of this period (August-November) shows that we are currently exceeding this goal with overall savings reaching more than 20%. The EU consumes less energy, and it consumes it more responsibly.

Second, we are accelerating the roll-out of renewable energy sources. In 2022 alone, we added over 55 gigawatts of new wind and solar capacity to the grid - over 40% more than the previous year. This is contributing to our European Green Deal objectives towards climate neutrality by 2050 and a 55% reduction in greenhouse gas emissions by 2030 compared to 1990, expanding high quality jobs and fostering innovation. In this context, there is a special focus on faster deployment of heat pumps and efficient appliances.

Third, to further accelerate the deployment of renewables, we have introduced faster permitting processes, simplifying the approval procedures for projects. This will facilitate also renewable hydrogen production, as we aim to double renewable hydrogen production in Europe to 10 million tons by 2030, to be matched by 10 million tons of renewable hydrogen imports.

Fourth, we have diversified away from Russian fossil fuels towards reliable suppliers. The United States of America has stood in solidarity with the EU. The US exported 56 billion cubic meters to EU countries in 2022 exceeding the target agreed by President Ursula von der Leyen and US President Joe Biden and announced in the Joint Statement of 25 March 2022; a record supply almost tripling the level compared to 2021.

Fifth, we ensured that our gas storage facilities were as full as possible ahead of the winter 2022/2023, in line with EU rules put in place last summer. Thanks to a swift political agreement at EU level and the determination of all EU Member States, at the onset of this winter, the storage level in the EU was above 95%. This overshoot the legal target of 80%.

Sixth, we reinforced the solidarity mechanisms within the EU. We established binding arrangements for the supply and sharing of gas between Member States. This ensures that, in an energy emergency, gas will flow to where it is most needed.

Seventh, we have set up the EU Energy Platform for demand aggregation, joint purchasing and improved coordination of natural gas purchases. The Platform supports increased LNG inflows

and maximization of inflows from pipelines from reliable suppliers. We are also looking region by region at how best to optimize our use of existing infrastructure to help ensure the gas gets to where it needs to go.

Eighth, we have identified existing bottlenecks in our energy infrastructure and are addressing them through targeted investments and upgrades. Already on 1 October 2022, we inaugurated the interconnector between Greece and Bulgaria, a crucial pipeline for the diversification of supplies in Southeast Europe, a region historically dominated by Russian gas. Further identified needs include the expansion of the Southern Gas Corridor, the construction of the second LNG terminal in Poland and the expansion of the existing LNG terminal on the Krk island in Croatia. We will continue our efforts under our “Trans-European networks in energy (TEN-E)” framework to provide funding for better connected energy networks across national borders, new energy infrastructure projects where they are needed.

Ninth, we have ensured tailored support for vulnerable households and businesses across Europe to enable them to withstand high and volatile energy prices.

Tenth, we have agreed on a financial market mechanism which will make it possible to correct the prices of futures and derivatives to avoid the extraordinarily high gas prices like those we experienced over August 2022, with a number of careful conditions to avoid market disruption.

Finally, next to our actions at EU level, the EU has demonstrated immediate solidarity with **Ukraine and the Republic of Moldova** by swiftly imposing unprecedented sanctions. The measures are intended to reduce Russia’s ability to develop and exploit its resources and deprive its industry of modern and critical technologies. Regarding energy, we imposed sanctions on Russian coal, oil, petroleum products and relevant technologies for energy.

For Russian crude oil, sanctions are in place since December and for refined petroleum products, they took effect this month, February 2023, with only limited exceptions due to Security of Supply. In addition, together with G7+ partners, the EU has agreed to price caps on oil and petroleum products with the double objective of limiting Russia’s revenues while keeping global markets stable. It has also prohibited related services such as technical assistance, brokering services or financing or financial assistance along the same conditions on prices. The crude oil price cap has delivered, with Russian revenues decreasing in December by 26% while prices have even decreased.

Our response has proven effective

In the past year, in the face of the unprovoked aggression against Ukraine, Europe has shown its capacity to take rapid and far-reaching decisions to ensure we are more resilient and better prepared for the future. The actions in 2022 have shown that Russia’s capacity to use energy as political leverage has been sharply curtailed: the EU has been able to obtain natural gas volumes from reliable partners, and prices have gone down.

While we will not allow ourselves to become complacent, the security of supply situation in Europe is now stable. As a result of extensive and timely policy measures undertaken by the EU and Member States as well as close cooperation with international partners, no imminent physical shortage of gas is expected.

Let me focus on the main indicators.

First, the EU is on track to exceed the 15 per cent target for gas demand reduction this winter. The EU has managed to reduce demand significantly without a significant drop in industrial output. We expect additional savings in 2023 to come from an expedited rollout of renewable energy capacity equivalent to replacement of almost 14 bcm of natural gas.

Second, our gas storage situation. The level of gas storage is now at satisfactory levels for the rest of this winter. So far, all Member States are overshooting their intermediate targets of 55 per cent for 1 February with an expected filling level between 68 per cent and 75 per cent. We now expect storage levels to be above 50 per cent at the end of this winter season which will serve as a strong starting point for preparing for the 2023/24 winter season, and in turn contribute to avoiding price spikes in 2023 by relieving demand pressures. While prices are expected to remain higher than over the last few years, less volatility is also expected in 2023 thanks to the decisive policy actions taken.

Third, our work with alternative gas suppliers continues in 2023. Let me once more underline the role of the U.S. LNG in this regard. We expect that the U.S. will remain a key LNG supplier to the EU in 2023 and beyond with imports overshooting the records set in 2022.

In addition, we expect further LNG deliveries from producers in Africa, and the high levels of pipeline gas in 2022 from Norway, Algeria and Azerbaijan to be sustained. We also expect that some Asian producers will step up their production, notably Malaysia and Indonesia, so that the demand pressure from the Asian markets is eased. New and upgraded infrastructure has increased EU import capabilities in 2022 and further improvements are expected in 2023 with the commissioning of projects under development, including floating LNG terminals coming into operation.

Fourth, the role of renewables has significantly increased, and it will continue to grow. Market estimations of the solar industry forecast a significant growth in solar rooftop installations in the coming years - around 50 GW in 2023 and 85 GW by 2026. Moreover, we expect that new EU permitting rules, which entered into force in December 2022, will have a catalytic effect on the development of new sources of renewable energy.

We will also set and implement a new industrial strategy. With the Green Deal Industrial Plan, we want to create the right conditions for net-zero industries to thrive in Europe – without having to compromise on our open economy. Access to critical raw materials and reliable supply chains remain a concern also in this context and call for close partnership and coordination with international partners such as the U.S. We are conscious that the United States in the Inflation Reduction Act, as well as other major economies, is also stepping up their investment in the net-zero industry. The EU and the U.S. must work together to fight climate change; for our planet and citizens, for our economic prosperity, and for our strategic independence and security, based on fair and open markets and a level playing field.

2. Integration of and support to Ukraine and the Republic of Moldova

Regarding our response in **support to Ukraine and the Republic of Moldova**, the EU has demonstrated immediate solidarity with numerous actions. I would like to highlight four points here.

First, the clear path for Ukraine's future in the European Union.

The aspiration to become part of the European Union has for many years been an important priority for Ukraine, its governments and citizens and a strong driver for democratic change and reforms founded on shared European values.

On 28 February 2022, Ukraine applied for EU membership, and on 17 June 2022, the European Commission issued its opinion on Ukraine's application. In less than a week, on 23 June 2022, European leaders, in the European Council, granted candidate status to Ukraine, and at the same time granted candidate status to the Republic of Moldova.

Second, Europe is committed to the economic security of Ukraine. The EU has mobilised EUR 67 billion of support to Ukraine in the last 12 months – from budget support to fast recovery; from energy supply to military capabilities; from humanitarian aid to refugee support. In January, we delivered the first tranche of our EUR 18 billion financial assistance for 2023.

Just 2 weeks ago, on 3 February, the EU-Ukraine Summit took place in Kyiv. One week later, a Special European Council met on 9 February - the first European summit that President Zelenskyy attended in person since the outbreak of Russia's war.

The European Commission brought a set of proposals to ensure Ukraine seamless access to the European Single Market, giving a clear signal to investors. This will ensure vital revenues for Ukraine by trading with and through Europe and will help to mobilise Ukraine's full economic potential now and during the reconstruction phase.

Third, we integrated the Ukrainian and Moldovan systems with the EU.

Following an urgent request by Ukraine and the Republic of Moldova for emergency synchronisation, the Transmission System Operators of Continental Europe agreed on 16 March 2022 to start the trial synchronisation of the Continental European Power Grid with the electricity grids of Ukraine and the Republic of Moldova. Trading electricity across the borders is now a fact since June 2022; we aim to increase as fast as possible the available capacity for commercial electricity trade with Ukraine and the Republic of Moldova, in coordination with the European Network of Transmission System Operators for Electricity (ENTSO-E). This will help Ukraine cover their generation deficit amid Russian shelling of critical energy infrastructure, including the nuclear power plants.

Finally, the EU is providing emergency support. In light of the systematic, targeted destruction of the Ukrainian energy system by Russian forces, the EU has been supporting the repair and replacement of Ukrainian energy infrastructure by providing coordination, logistics and financial help since the beginning of the Russian invasion. Generators as well as transformers and other specialised energy equipment are crucial for both immediate support and to ensure that the energy system remains functional.

So far and among others, the EU and Member States have provided 40 large generators to ensure uninterrupted power supply to 30 hospitals in Ukraine that need these generators to operate and around 1 600 generators and 1420 transformers overall via the Union Civil Protection Mechanism (UCPM).

The EU responded to President Zelenskyy's call on the international community to support the purchase of 50 million energy efficient LED light bulbs for Ukrainian households. When deployed, they would save some 1 gigawatt of electricity, which is equivalent to the annual output of one nuclear power plant. These savings are crucial to reduce the pressure on the

Ukrainian power grid. Therefore, the Commission has announced funding that will cover roughly 30 million of these LED light bulbs.

The EU, the European Commission together with the Energy Community Secretariat and EU Member States, is first in line in supporting urgent repairs of energy infrastructure by providing needed funding and equipment. We are also continuing to support essential supplies for nuclear safety and radiation protection in Ukraine, having provided over 50 million EUR of EU material assistance and financing for restoring safety equipment and infrastructure. In addition, the EU has provided funding to the International Atomic Energy Agency for their safety and security missions to Ukraine's nuclear power plants.

3. Transatlantic partnership

From the very beginning of the energy crisis, the Transatlantic energy relationship, based on common goals of security and shared values, has played a critical role in our efforts. Our partnership is unique and stronger than ever.

In March 2022, President Von der Leyen and President Biden established a Task Force on Energy Security to reduce Europe's dependence on Russian fossil fuels and strengthen European energy security through the diversification of LNG supplies and reducing demand for gas. The United States and the EU, in this Task Force, have worked with international partners and secured additional LNG volumes for Europe: 56 billion cubic meters of LNG have been delivered from the U.S. to the EU in 2022, almost tripling compared to 2021 (22 bcm). The US LNG exports to the EU have played an essential role to keep the EU market supplied and are expected to continue to do so in the forthcoming years.

In parallel, the U.S. EU Energy Security Task Force has been looking into immediate measures to reduce energy consumption. The Task Force has coordinated a series of vital discussions between the EU and its Member States and the U.S. Government, as well as with industry and NGOs for example to establish best practices for successful consumer campaigns for energy saving, gas demand reduction and peak shaving.

The U.S. EU Energy Council, which has existed since 2009, has also remained a key Transatlantic energy forum during the energy crisis. The next Energy Council is scheduled to meet again on 4 April 2023.

With the continued efforts to diversify supplies of natural gas, and in particular LNG, the EU aims to attract further LNG supplies from the U.S. in 2023. U.S. companies can play an important role in EU joint purchasing. Under the political leadership of Vice-President Maroš Šefčovič, we are working to establish the key mechanisms for joint purchase in the coming weeks and stand ready to address the questions that these companies may have in order to make the EU energy platform attractive from the perspective of American gas producers including in relation to long-term contracts.

The EU welcomes plans to increase LNG liquefaction and export capacities in the U.S. This aligns with the EU efforts to increase LNG regasification and infrastructures across the EU. In the longer term, this mechanism could support U.S. companies to export the renewable hydrogen capacities they may produce in the future.

Closing remarks

Let me summarise my key messages that I would want to leave with you today:

First, a year ago, Europe was dependent on Russian natural gas for 40 per cent of its imports and on Russian fossil fuels, a dependency built up over decades. In less than a year, Europe has proven that it can become independent from Russia successfully and without interruption of supplies to its citizens and industries.

Our energy systems are stable: we did not experience any shortages of supply or blackouts. The European response to the energy crisis has been united, decisive, and impactful. It is clear evidence that we are strongest in our response when we work together, united in purpose and in action, both within the European Union and with our international partners. And we have shown that energy security and the transition towards a climate neutral energy system are aligned and mutually reinforcing.

Second, the global energy crisis remains of concern and the supply situation is tight. There is no room for complacency. This calls for continued efforts to reduce our energy consumption, both in the European Union and by international partners. The European response will continue to be based on further energy savings, acceleration of renewable energy and close cooperation with our partners.

Third, our cooperation with United States is indispensable. We expect that the U.S. will remain a key LNG supplier to the EU in 2023 and beyond with imports overshooting the records set in 2022. Transatlantic trade of LNG is more than just trade. It is also about security, shared values, and a strong partnership. I am hopeful that we will see the support of this committee for a continued Transatlantic energy security partnership.

Our Transatlantic bond is stronger than ever. Our joint action is critical for global peace and economic stability and for this planet and our climate.