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CLOSING THE FERTILIZER SANCTIONS LOOPHOLE

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TCUP REPORT

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TCUP Report: Closing the Fertilizer Sanctions Loophole

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Closing the Fertilizer Sanctions Loophole

THIS PAPER ARGUES that since the onset of Russia's full-scale invasion of Ukraine in February 2022, the Western allies have signally failed to address Russian fertilizer imports. Not only have Ukraine's allies, in particular the European Union (EU) and the United States (US), failed to sanction fertilizer imports, they have also seen significant increases in such imports. These increased imports add to the revenues of the Russian war machine and threaten to generate new Western supply dependencies on Russian fertilizers. I argue that allied powers need to develop a comprehensive strategy to replace Russian fertilizer in domestic and international markets and implement a coordinated tariff and sanctions regime to undermine Moscow's export capacity.

1 Introduction

Much of the controversy and debate around sanctions on Russian markets have focused on oil and gas exports. This is understandable because of the scale of oil and gas revenue flowing into the Russian economy. The receipts for the first three years since the full-scale invasion of Ukraine were in excess of $800 billion.[1] In 2024 alone, those receipts amounted to approximately €242 billion.[2] Concern from both Western and Ukrainian sources has grown, due to Western nations' limited efforts to reduce their use of Russian fossil fuels. This controversy was reinforced as a result of a February 2025 report by the Centre for Research on Energy and Clean Air (CREA) that found that the EU member states in 2024 had imported over €21 billion worth of oil and gas while, by contrast, they had dispatched just over €18 billion in aid.[3] This funding of the Russian war effort by the EU has attracted significant criticism, not least from President Trump. He called on EU Member States to cease buying Russian oil immediately and end this funding stream for the Russian war effort.[4]

Nevertheless, Western powers have progressively taken action to prohibit seaborne Russian oil from accessing their markets.[5] In addition, Russian gas flows into the EU

1 Vaibhav Raghunandan et al., *Three Years of Invasion: EU Imports of Russian Fossil Fuels in the Third Year of the Invasion Surpass Financial Aid Sent to Ukraine* (Helsinki: CREA, February 2025).

2 Ibid.

3 Ibid.

4 Kate Winston and Maya Weber, "Trump Urges Europe to 'Immediately' Stop Buying Russian Energy at UN Meeting," S&P Global, 23 September 2025.

5 From December 2022, Western policy aimed to reduce access and then eliminate almost all imports of Russian oil. As a result, the EU saw oil imports fall from 21 percent in 2022 to 3 percent in 2024. The remaining oil imports are pipeline flows via the Druzhba pipeline in Hungary and Slovakia. European Commission, "RePower EU 3 Years On: Commission Takes Stock of Progress to Phase Out Russian Fossil Fuels," press release, 16 May 2025. With respect to third countries, the aim was less to prohibit oil imports but rather to reduce the value of oil exports for Moscow. The major mechanism G7 states agreed upon was the adoption of a price cap. This was set initially at $60 a barrel. This did have the initial advantage that it forced many third country price negotiations below $60 a barrel. However, leakage has subsequently occurred due to the operation

have collapsed, falling from 45 percent of imports in 2021 to just 13 percent in 2025.[6] The EU has prohibited imports of Russian liquefied natural gas (LNG) from 2027[7] and is in the process of prohibiting remaining flows of pipeline gas into the EU by January 2028.[8] In the meantime, the US has imposed sanctions on Russian oil producers Rosneft and Lukoil.[9]

The global annual value of the Russian fertilizer market is clearly smaller than Russia's oil and gas revenues, at $13.9 billion in 2024. Russia does, however, rank as the world's top fertilizer exporter with 16.6 percent of the global market.[10] With those exports, the fertilizer industry provides a flow of revenue into the Russian economy and thereby provides funding for the war machine. Until relatively recently those exports have been subject to only very limited sanctions. At the onset of the full-scale war, both the EU and the US permitted actors in the Russian fertilizer market—unlike those in the oil and gas sector—to increase their revenues in Western markets. US imports of Russian fertilizer have increased every year since the onset of the full-scale invasion of Ukraine.

In both the EU and the US, this initial policy of exempting the Russian fertilizer market from sanctions was based on the concern about the impact on food security globally. However, this "open-door policy" provided Russian exporters with an opportunity to accelerate their fertilizer exports to both the EU and US. In addition to the concerns that the West has inadvertently created an opening for Moscow to generate additional revenues to fund its war effort, there is also a risk that the West will have inadvertently facilitated supply dependence on Russia. The advent of greater flows of Russian fertilizer into both US and EU markets raises the prospect, at least in some sectors of the fertilizer market, of greater Russian supply reliance, which could then be used as leverage against Western states. These concerns are reinforced by the dual-use potential of some fertilizers as war materiel. Cheaper Russian fertilizer forces the shutdown of Western fertilizer plants, which then can no longer produce fertilizer or the materiel necessary for a range of explosives.

Europe, in particular, risks becoming dependent on Russian supply in some fertilizer sectors. The continent has already suffered from the damaging economic effects of Russian natural gas dependency in the 2021/2022 energy crisis. Belatedly, the EU has taken steps to address this issue. In June 2025, the EU announced it was levying tariffs on certain types of Russian fertilizers.[11] The US response has been weaker than the EU's. Since the beginning of the war, the United States has not imposed any sanctions on Russian fertilizers, and although it did impose tariffs on fertilizer imports from other countries, tariffs were not applied to Russian importers.[12] Consequently, in 2024, US imports of Russian fertilizer surged from just over $1 billion to over $5 billion in value. Now the Trump administration has lifted tariffs on some fertilizers from third countries other than Russia, so Russian fertilizers will face at least some competition in the US market.[13]

This paper argues that the EU, the US, and other Western allies should seek to develop and execute a comprehensive strategy to sanction Russian actors in the fertilizer market while providing a full support program for farmers and food markets in the West and developing countries to ensure full availability of a range of fertilizers at low prices from secure and trusted suppliers. Part two of this paper examines the development and operation of the Russian fertilizer market. Part three examines how Russian operators were able to expand their market share and revenues in the EU and the US since the onset of the full-scale invasion of Ukraine. Part four provides a conclusion that makes the case for a framework of comprehensive sanctions and a program of support to strengthen and expand supply from domestic and trusted external suppliers.

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of the so-called shadow fleet. For an overall analysis of the price cap regime, see Volodymyr Dubrovskiy and James Nixey, "Tightening the Oil-Price Cap to Increase the Pressure on Russia," research paper, Chatham House, September 2025.

6 Lukas Heuck et al., "Geopolitics and Europe's Natural Gas Supply: Aspects and Consequences from a Gas and Electricity Markets Perspective," *Intereconomics* 60 (2025): 346ff.

7 Council Decision 2025/2032 (CFSP), Article 4wa, EU Council, Brussels, 23 October 2025.

8 EU Council, "Council Agrees Its Position on Rules to Phase Out Russian Gas Imports Under REpowerEU," press release, 20 October 2025.

9 US Dept. of the Treasury, "Treasury Sanctions Major Russian Oil Companies, Calls on Moscow to Immediately Agree to Ceasefire," press release, 22 October 2025.

10 International Fertilizer Show, News Center, "Ranking of Major Fertilizer Exporting Countries and Regions in 2024," Shanghai, 9 June 2025.

11 Regulation (EU) 2025/1227 of the European Parliament and the Council, 17 June 2025, annex II.

12 This is due to the decision of the Trump administration to take the view that Russia had already been sanctioned by the withdrawal of MFN status. However, MFN withdrawal had no impact on the flow of fertilizers into US markets. Ed Gresser, "US Imports from Russia Are Up 30% This Year, Likely to Hit $5 Billion," PPI, 8 October 2025.

13 Ibid.

2 The Russian Fertilizer Industry

As early as 1919, the Soviet government set up the Scientific Institute of Fertilizers.[14] By the 1930s, the USSR had over one hundred chemical plants producing nitrogen-based fertilizers.[15] However, even by 1940, total production was only 756,000 tons.[16] Given the scale of arable land resources in the USSR, this was in no way sufficient to significantly raise yields and the Soviet government had to rely heavily on imports.

It was only after the Second World War that the USSR substantially expanded its production capacity. On the one hand there were the demands of a rising domestic population, as well as the populations of the newly acquired territories and from the occupied Warsaw Pact states. On the other was the increased capacity as a result of the newly developed Ukrainian and then Siberian natural gas fields to provide the critical feedstock necessary for ammonia production. In addition, fertilizer production was expanded into potash fertilizers. Between 1960 and 1990, production increased at an annual rate of 8.75 percent, drawing on the extensive potash deposits in Soviet-era Belarus and elsewhere in the USSR.[17]

By 1980, the USSR was not only able to produce sufficient nitrogen and potash fertilizer for its own needs, but had also become one of the world's major exporters. In that year it exported 4.5 million tons of fertilizer.[18] While the development of the fertilizer industry had boosted Soviet agriculture production and produced a new source of hard currency export revenue, it still had to operate within the strictures of a command economy. That command economy undermined economic incentives and constrained the access to investment capital. It left the USSR often relying on food imports, despite having a major fertilizer industry and huge amounts of arable land. The inability to effectively reform agriculture within the command economy was one of the factors that led to the USSR's collapse in 1991.

That economic collapse saw the end of the Soviet internal market, domestic supply chains, local subsidies and a major, albeit temporary, collapse in demand. The economic shock saw numerous plant closures and a restructuring of the industry. Fertilizer use fell from 88 kg/ha in 1990 to just 15 kg/ha in 1997.[19] Not unnaturally, faced with such a collapse in demand, fertilizer production fell 43 percent from 1990 levels.[20] This dramatic fall in fertilizer use led to a negative agricultural spiral with falling yields, and as fertilizer use fell, soil nutrient depletion occurred over time.

The late 1990s and early 2000s saw rising Russian incomes on the back of rising oil and gas prices together with a broader economic expansion. This economic expansion permitted the fertilizer industry to begin to invest and expand. The initial privatizations in the mid-1990s, together with later restructurings in the early 2000s, led to the emergence of a group of major domestic and international players in the Russian market. By 2024, Russian producers had produced nearly 63 million tons of fertilizer, making them the world's second-largest producer after China and the largest exporter.[21]

The post-2000 development of the industry led to Russia becoming the world's largest exporter of a critical input in food production. As a result, both the firms and their owners became of significant interest to the Kremlin. This was on account not just of their potential for revenue (and thereby tax) generation but also because of the strategic importance of fertilizer to food supply. This significance of the industry to the Russian state is illustrated by the close connections of the owners and operations of the four current principal fertilizer firms, PhosAgro, Uralchem, TogliattiAzot, and EuroChem.

This firm is one of the largest producers of fertilizer in Russia. It produced 11.8 million tons of fertilizer in 2024.[22]

14 Olga Y. Elina, "Private Initiatives, Public Support and War Practices: Development of Fertilisers in Russia," *Ambix* 58 (2013): 29ff.
15 V. I. Spitsyn, "Fulfilling V. I. Lenin's Outline for the Development of Soviet Chemistry," *Russian Chemical Reviews* 39, no. 4 (1970): 259–64.
16 Michael Freeman, "Industry Progressions in Russia and France," *Fertilizer Focus* 41, no. 3 (2024): 6–9.
17 T. P. Levchenko and I. S. Konstantinov, "Potash Fertilizers Production in Russia," *Gornyi Zhurnal*, 2016, no. 4: 10–14.
18 CIA Intelligence Report, *Soviet Fertilizer: Expansion of Output and Exports*, March 1975.
19 OECD, *OECD Review of Agricultural Policies: Russian Federation 1998* (Paris: OECD Publishing, 1998).
20 Ibid.
21 "Mineral Fertilizers Production Gain 7% in Russia in 2024—Deputy PM," Tass, Moscow, 24 March 2025.
22 Dmitry Savinsky, "PhosAgro Reports 4.3% Increase in Production and 15.3% Increase in Revenue for 2024," Fertilizer Daily, 17 February 2025.

The most significant part of PhosAgro's shareholding is held by Andriy Guryev. Guryev holds an approximately 48.48 percent stake, giving him a controlling interest in the firm.[23] PhosAgro is perceived by the Kremlin to be of strategic importance, and Guryev works closely with the state. With the onset of the full-scale invasion of Ukraine, his son and he stepped down respectively as CEO and deputy CEO of PhosAgro following the imposition of sanctions on both of them by the US and the UK.[24] Guryev, together with his wife, retains a controlling interest in the company. He also remains the president of the Russian Association of Fertilizer Producers.[25] In that capacity, he briefed President Putin on the forward strategy of the industry and its capacity to deal with Western sanctions in July 2025.[26] The other principal shareholder, Vladimir Litvinenko, also has close connections to the Kremlin and is notable for being the supervisor for Vladimir Putin's PhD thesis in the 1990s.[27] After the invasion of Ukraine, Litvinenko transferred almost all of his stake in the company (20.6 percent) to his wife Tatyana. This step was probably taken as a preemptive measure to avoid the impact of further Western sanctions on the operation of the company. This was a prudent measure, as in 2023 Litvinenko was subject to US and Canadian (but not EU) sanctions.[28]

23 PhosAgro, *Driving Sustainable Soil Fertility*, annual report, 2022.

24 US Dept. of the Treasury, "Treasury Sanctions Elites and Companies in Economic Sectors that Generate Substantial Revenue for the Russian Regime," press release, 2 August 2022; Office of Financial Sanctions Implementation, HM Treasury, "Consolidated List of Financial Sanctions Targets in the UK," November 2025. Sanctions were also imposed on Guryev by the EU, Canada, Australia, New Zealand, Switzerland, and Japan.

25 President of Russia, "Meeting with President of the Russian Association of Fertiliser Producers Andrei Guryev," press release, 17 July 2025.

26 Ibid.

27 "Putin's Professor Owns Part of PhosAgro," *Moscow Times*, 31 March 2011.

28 See US Executive Order 14024, available via OFAC, "Russia-Related Designations," press release, 19 May 2023.

Uralchem appears to have the largest fertilizer production capacity in Russia at approximately 23 million tons.[29] There are two major entities in the Uralchem structure. One is Uralchem itself, which focuses on nitrogen and phosphate-based fertilizers. The data is limited, but available estimates suggest that Uralchem's nitrogen fertilizer and ammonium production is approximately 6 million tons. The second arm of Uralchem is Uralkali, which focuses on potassium production and produced 12.8 million tons in 2024.[30]

Until the onset of the full-scale invasion of Ukraine in February 2022, it was very clear who owned Uralchem. The shares of the company were wholly vested in Dmitry Mazepin, who founded the company in 2007. However, in March 2022, fearing the impact of Western sanctions, Mazepin sought to restructure his shareholding. He began by selling a nominal controlling interest of 52 percent of the stock to an undisclosed buyer in early March 2022.[31] That controlling shareholder interest was then ultimately transferred into the names of Mazepin's long-time associates Dmitry Tatyanin and Dmitry Konyaev, with his two associates holding 48 and 4 percent, respectively. Mazepin also stepped down as CEO, with Tatyanin taking that role.[32] The timing of the ownership transfer, the presence of an undisclosed buyer, and the concentration of control in the hands of long-term associates—one of whom serves as CEO—all suggest that the transaction was a sham. The probable aim here was to reduce Mazepin's nominal shareholding below 50 percent to minimize the likelihood of Western sanctions on Uralchem itself. Despite these attempts to evade sanctions, Mazepin was in fact subject to personal sanctions by the EU and the UK, and a number of other states including Switzerland, Canada, and Australia, but not the US. However, so far

29 Uralchem, "Uralchem Group Presents New Products for Russia, Latin America, and South-East Asia," press release, 28 December 2023.

30 "Uralkali Increased Its IFRS Revenue by 14% in 2024," IMRC, 11 March 2025 (heading translated from Russian). Uralkali's figures are more transparent and recent because it is a public company, whereas its parent Uralchem is privately held and there is therefore less information available for analysts to consider when examining the full company operations.

31 "Mazepin Reduces Stake in Uralchem to Below 50%, Steps Down as CEO," Interfax, 11 March 2022.

32 Ibid.

the company itself has not been subject to any direct sanctions.

The onset of the full-scale invasion of Ukraine created significant challenges for Mazepin and Uralchem. Given its size, revenue generation capacity, and export potential, Uralchem is viewed as a key asset by the Russian state. That Kremlin view of Uralchem is illustrated by the scale of state support Mazepin has received over the years. This is evident in his long-running attempts to take over TogliattiAzot by using regulators and courts to support his corporate raiding of the company and its assets (see below). It is also notable that Mazepin was among the Russian business leaders invited to a 24 February 2022 meeting to discuss the full-scale invasion of Ukraine launched by President Putin that day. The EU General Court took the view that attendance at that meeting was evidence of "close circle" status proximate to the Russian leadership.[33]

Тольяттиазот

TogliattiAzot has a significant production capacity for ammonia and previously produced around 3 million tons per year. Its production has fallen significantly since the onset of the full-scale invasion of Ukraine.

There is significant controversy surrounding the ownership of TogliattiAzot. A series of academic reports[34] and court decisions[35] have provided compelling evidence that the original shareholders of TogliattiAzot were subject to corporate raiding by actors led by Dmitry Mazepin, who had access to Russian state resources. Those resources were used to prosecute the actual shareholders and management, and then the board was removed and replaced and 83.7 percent of the stock was auctioned to a corporate vehicle controlled by Uralchem.[36] As a consequence of this raiding operation Uralchem is now, with its own assets and those of TogliattiAzot, the corporate entity with the greatest level of actual capacity and actual production among Russian fertilizer companies, even if that latter "acquisition" was not lawful.

EuroChem

This is one of the major producers of all three types of fertilizers: nitrogen, phosphate, and potash. The corporate headquarters are based outside Russia in Zug, Switzerland; however, almost all the production capacity is in Russia. In 2024, potash fertilizer production reached 3.5 million tons, nitrogen fertilizers 6.2 million tons, phosphates 1.8 million tons, with a further 2.2 million tons from blended fertilizers.[37]

Like PhosAgro and Uralchem, the onset of the full-scale invasion resulted in the restructuring of the company. Before that invasion, Andrey Melnichenko was the benefi-

33 Case T-282/22, *Mazepin v. Council of the European Union*, 8 November 2023, paras. 33 and 39.

34 See, for example, Yulia Krylova, Judy Deane, and Louise Shelley, *Reiderstvo 2.0: The Illegal Pandemic Raiding in Russia* (Fairfax, Va.: Terrorism, Transnational Crime and Corruption Center, George Mason University, 2021), 15–16. This paper also discusses more broadly the modus operandi of corporate raiding (*reiderstvo*) in modern Russia, as well as the raiding suffered by TogliattiAzot. For further analysis of the scale and operation of corporate raiding, see Ararat L. Ospian, *Political and Economic Transition in Russia: Predatory Raiding, Privatization Reforms and Property Rights* (London and New York: Palgrave Macmillan, 2018).

35 One case that provides a significant amount of evidence of corporate raiding and Mazepin's attempt to seize TogliattiAzot is *Russian Federation v. Evgeniy Korolev*, before Chief Magistrate Arbuthnot, Westminster Magistrates' Court, 8 December 2016. This was a request for the extradition from the United Kingdom made by the Russian Federation of Mr. Korolev, formerly a senior executive of TogliattiAzot. Following the taking of extensive evidence on the TogliattiAzot case and the modus operandi of Russian corporate raiding, Arbuthnot was of no doubt that Mazepin was a corporate raider and that he was seeking to bully the majority of shareholders in TogliattiAzot into giving up their interests. See in particular paras 105 and 106 of Arbuthnot's ruling. The case of *Kostyuchenko v. Russia*, European Court of Human Rights application no. 6991/07, Strasbourg, 9 July 2019, further illustrates the willingness of the Russian state to bend the judiciary to its will. That case ostensibly concerned the lack of due process in a disciplinary case against Judge Kostyuchenko, while in fact the removal process was motivated by a lack of judicial willingness to accept government instructions.

36 This entire process was only possible due to the connivance of Russian regulators and courts. They had to first deem that the original shareholders had committed fraud on Uralchem, and then award Uralchem damages. Next, the regulators and courts had to follow through by subsequently provding further support to organize a bankruptcy and an auction, and then in that auction allow an Uralchem-controlled vehicle to acquire the overwhelming majority of the shares. This deal also required the Federal Antimonopoly Service to provide regulatory clearance, given that Uralchem had already acquired Ukralkali, making it a tremendously powerful player in the fertilizer market, which is only made even more powerful by acquiring TogliattiAzot. See "Uralchem-linked Khimaktivinvest Won the Auction for Another 32% of Togliattiazot," NANGS, 21 February 2022 (heading translated from Russian).

37 EuroChem, *Nurturing a Sustainable Future*, annual review, 2024, 4.

Despite their evident proximity to and connection with Russian state power, these fertilizer companies and their owners have been subject to only limited and uneven personal sanctions and almost no corporate sanctions have been imposed.

cial owner of the company via a trust.[38] With the invasion came sanctions against Melnichenko. Like Mazepin, he had strong links to the Russian leadership and attended the Kremlin meeting on the day of the full-scale invasion.[39] Subsequently, in early March 2022, he renounced his rights under the trust, which then fell under his wife Aleksandra's control. According to EuroChem, the company is majority-owned and controlled by EU-based trustees.[40] However, in July 2025, in *North-West 2 v. Société Générale et al.*, the English High Court held that, despite the complex trust structure, EuroChem is owned and controlled by Andrey Melnichenko.[41]

Thus the modern Russian fertilizer industry is dominated by a small number of extremely powerful companies and individuals. They generate significant revenues, as well as taxes for the Russian state. They have also given Moscow potential leverage over global food production, as they are the world's largest exporter and second-largest producer of fertilizers. The Kremlin is entirely cognizant of the revenues and potential leverage and sees these firms as a critical pillar of its revenues, power, and influence. It is not surprising that the leading figures in the fertilizer industry are part of the close circle of the Russian leadership and are supported in their operations and development by the Russian state. What is perhaps more surprising is that despite their evident proximity to and connection with Russian state power, these fertilizer companies and their owners have been subject to only limited and uneven personal sanctions and almost no corporate sanctions have been imposed.

38 EuroChem, *Delivering World Class Nutrients*, annual review, 2018, 66–78.

39 Council Decision (CFSP) 2022/937, *Concerning Restrictive Measures in Respect of Actions Undermining or Threatening the Territorial Integrity, Sovereignty and Independence of Ukraine*, March 2022, OJ 20022 L80/34, Council of the European Union, Brussels.

40 EuroChem, *Playing a Vital Role in Food Security*, annual review, 2022, 58. In essence, EuroChem claims that an independent set of trustees run the company, ensure full compliance with all Western sanctions, and that Aleksandra Melnichenko plays no role in the company and possesses no ownership or control rights over the company.

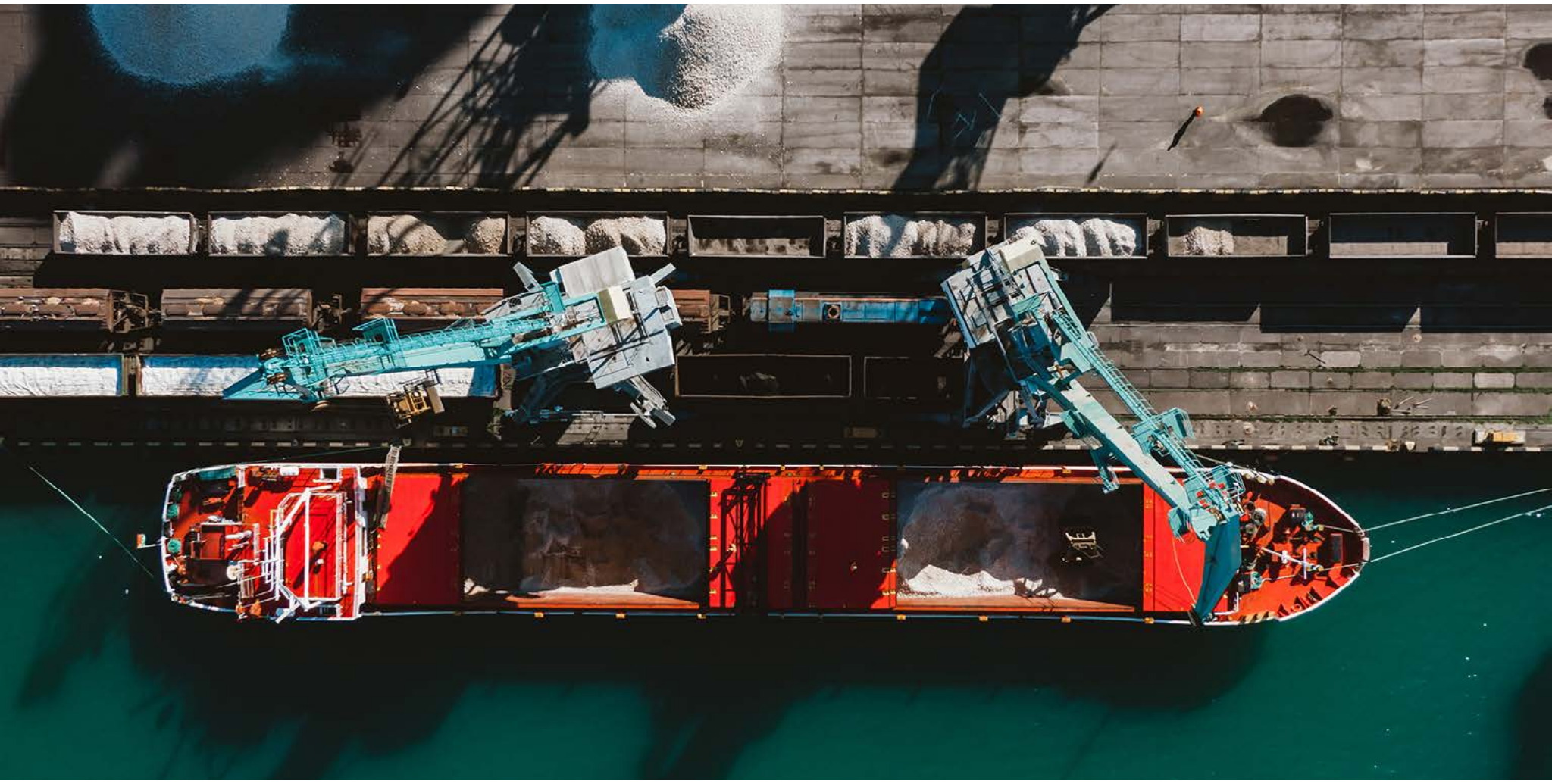
41 *LLC Eurochem North-West-2 and Eurochem Group AG v. Société Générale SA et al.*, [2025] EWHC 1938 (Comm), KBD. It should be noted that notwithstanding the English High Court's conclusion set forth above, the Court did conclude that EuroChem succeeded in putting a firewall in place. It is also worth pointing out that there is a case Melnichenko is bringing against the Council of the European Union on appeal to the CJEU that challenges the sanctions imposed on him. We are awaiting final judgment from the Luxembourg judges on this case: Case C-270/25 P *Melnichenko v. Council of the European Union and the European Commission*. In October 2025, the president of the CJEU issued an order refusing to permit the trust now running EuroChem from intervening in the case.

3 Russian Fertilizer Exports in Time of War

From the very outset of the full-scale invasion of Ukraine in February 2022, EU and US policy attempted to avoid imposing sanctions on Russian fertilizers. The reasoning, which was initially understandable, was that to impose sanctions on fertilizers would harm both US and EU farmers and drive up food prices. A further consideration was that higher fertilizer prices could cause greater economic harm to farmers and consumers in developing countries than in the US or the EU. This policy, however well-intended, led to Russian exporters gaining significant and increased economic advantages as the Russo-Ukrainian war intensified. In Europe in particular, Moscow was able to exploit the EU's decision not to sanction fertilizer imports, while also gaining significant commercial and political advantages from its own reduction of natural gas supplies to the EU.

At the onset of the full-scale invasion of Ukraine, Gazprom supplied 45 percent of EU gas imports and 55 percent of German gas imports.[42] As part of its strategy to undermine EU support for Ukraine in the run-up to the full-scale invasion and after the invasion began, the firm progressively withdrew gas supplies from the EU. The withdrawal of so much natural gas had a spectacular

42 The Brussels-based think tank Bruegel publishes a regularly updated dataset of natural gas tables. For the 2022 data, see "European Natural Gas Imports," Bruegel, accessed 22 May 2026.



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impact on natural gas prices. In late March 2021 prices reached over €53 p/mwh, they raced up to over €120 p/mwh by December 2021, and by August 2022 they reached over €340 p/mwh. (It is worth emphasizing that the 2009–2019 price range was just €9–€29 p/mwh.)[43]

Given that natural gas is the feedstock for ammonia (and is 90 percent of the price of ammonia) and ammonia is the core component of all nitrogen fertilizer, these unbelievable price hikes devastated the European fertilizer industry, which relied heavily on Russian gas to produce its fertilizer. At the height of the crisis in the summer of 2022, 70 percent of European ammonia production was suspended, and some ammonia and fertilizer producers closed permanently.[44]

While the Gazprom-organized increase in natural gas prices was a disaster for European consumers and their fertilizer industry, it created the prospect of significant gains for Russian producers. The Russian industry had access to vast amounts of cheap natural gas. At the same time, because EU institutions prioritized food security, it benefited from an open and attractive market that could no longer easily provide competitively priced fertilizer due to Gazprom's actions in the gas export market.

Before the full-scale invasion, Russian fertilizers accounted for 30 percent of EU imports. Although the data are incomplete, they suggest increasing import flows driven by higher natural gas prices in Europe and lower prices in Russia.[45] It appears that, as natural gas prices in Europe rose from mid-2021 onward, Russian nitrogen fertilizer exports surged between 2020 and 2024, increasing from 1.6 million tons to over 2.6 million tons. Ammonia exports from Russia have fluctuated. Before the full-scale invasion, exports were over a million tons per year. They then fell sharply following the onset of the full-scale invasion, reaching a low of under 250,000 tons in 2023. Exports then doubled in 2024, and in the first 11 months of 2025 were more than one-third higher than in the same period of 2024.[46]

43 Historic gas trading price information is available from the Trading Economics website.

44 "Europe Bans Russia's Gas Exports, but Still Buys Its Gas-Based Fertiliser," *The Economist*, London, 13 December 2025.

45 These statistics are likely to understate the scale of imports. They do not include compound fertilizers (e.g. mixed with potash and/or phosphates). It is also unlikely that the ammonia figures capture the full scale of imports of ammonia from Russia (this may be in part due to importation via third states). It is noticeable that the figures for 2022, for example, suggest a fall in ammonia imports into the EU when approximately 70 percent of ammonia plants in the EU were actually closing. For further details, see Alan Matthews, "Import Dependence for Nitrogen Supply," CAP Reform, 22 April 2025.

46 "EU Ammonia Imports from Russia Since 2024," Infogram, accessed 22 May 2026.

It is true that at the onset of the full-scale invasion some sanctions were imposed personally on leading figures in the Russian fertilizer industry. However, as explained above, transfers to trusts or spouses—or both—significantly reduced the personal impact of such sanctions. More fundamentally, companies—rather than the individuals who may or may not own them—were given free access to the EU market, in keeping with the Western policy not to apply sanctions to fertilizers on food security grounds. This access was given despite Europe's prior experience with supply dependence on Russian natural gas and the negative impact on the European fertilizer industry as a result of the rapid withdrawal of that gas from EU markets.

There is also a disturbing defense angle to the economic damage suffered by EU fertilizer and ammonia producers at the hands of Russian actors. When those factories go out of business or have to suspend production because of Russian market manipulation, Europe's capacity to produce its own explosives and armaments is undermined.

There is also a disturbing defense angle to the economic damage suffered by EU fertilizer and ammonia producers at the hands of Russian actors. Ammonia is also required in defense industries to produce nitric acid, which is critical for explosives. The same factories that produce ammonia and nitric acid also produce (in much smaller quantities) for the defense industry. When those factories go out of business or have to suspend production because of Russian market manipulation, Europe's capacity to produce its own explosives and armaments is undermined. *The Economist* reports that approximately one-half of European fertilizer production capacity may have been permanently lost due to the energy crisis.[47] An additional, serious security concern is that companies such as Uralchem, PhosAgro, and EuroChem are using their dual-use facilities to produce large amounts of explosives for the Russian war effort.[48]

It was not only European actors that permitted the Russian fertilizer industry to operate without restriction during the war; the US did so as well. In fact, the US Treasury, Office of Foreign Assets Control (OFAC) in April 2022 published a fact sheet making it clear that Russian fertilizer imports were not subject to US sanctions.[49] That fact sheet was underpinned by Congress withdrawing Most Favored Nation (MFN) status from Russia in early March 2022. Although it appears to be a sanction, in practice the withdrawal of MFN placed Russia on the old 1930 Smoot-Hawley tariff. These high tariff rates apply to finished manufactured goods and agricultural products, but there are limited or zero tariffs on natural resources and industrial or agricultural inputs—exactly the goods that Russia exports.[50]

At least initially, the guarantee of sanctions-free market access (and the limited impact of losing MFN status) did not have the same negative market consequences in the US as in the EU. That was because unlike the EU, the US has huge amounts of its own natural gas resources with which to run its fertilizer and chemical industries. Russian natural gas did not give the Russian fertilizer industry the competitive advantage in the US that it had in Europe.

However, with the onset of the second Trump administration, new opportunities opened up for the Russian fertilizer industry in the US. When the administration began to impose tariffs, Russia was exempted on the grounds that it had already been sanctioned, for instance by the withdrawal of MFN. However, as explained above, the consequences of the withdrawal of MFN on Russian imports to the US were minimal. Then, in July 2025, the administration imposed tariffs on fertilizer imports amounting to 10 percent ad valorem on Saudi Arabia and Qatar, and 15 percent on Nigeria, Trinidad, and Israel. Suddenly, Russian nitrogen fertilizer exports to the US had little or no competition. They surged. Subsequently, President Trump imposed a 10 percent tariff on Canada's potash imports, the US's principal source of the substance. As a consequence, Russian exports of potash

47 "Europe Bans Russia's Gas Exports."

48 "Lords of War: These Five Billionaires Run Russia's War Machine," Support4Partnership, 7 January 2025.

49 US Dept. of the Treasury, "Fact Sheet: Preserving Agricultural Trade, Access to Communication, and Other Support to Those Impacted by Russia's War Against Ukraine," April 2022.

50 Gresser, "US Imports from Russia Are Up 30% This Year."

have also surged.[51] In 2021 Russia only exported $1.1 billion worth of fertilizer. The US finished 2025 having imported at least $5 billion worth of fertilizer from Russia.[52]

The war has been a golden time for the Russian fertilizer industry. It has increased its exports to the EU and the US, and has also increased its exports beyond the West, into BRIC partners such as Brazil. EuroChem has in fact built a large new facility in Brazil to provide a base to expand its operations across Latin America.[53] The economic gains have not only benefited the corporations but also their owners. For example, Dmitry Mazepin, who controls Uralchem, has increased his wealth from approximately $1.3 billion to over $2 billion since the onset of the war, according to *Forbes*.[54]

Belatedly, the EU sought to suppress Russian fertilizer imports. Beginning on 1 July 2025, the European Commission imposed a progressively increasing tariff starting at 6.5 percent ad valorem duty. This tariff will rise progressively until it reaches a level in 2028 that should make it uneconomic for Russian imports to enter the EU.[55] There is also a higher per ton charge that will start at €40–€45 per ton. This additional charge will rise each year until it reaches €430 per ton by 2028. The full range of progressive ad valorem duty and per ton charge will apply to nitrogen fertilizers, with the per ton charge applying to some compound fertilizers (e.g., nitrogen mixed with phosphate) and some types of potash. There will not, however, be any new duties applicable on ammonia, which is the feedstock for nitrogen fertilizer. Hence ammonia imports will be unaffected by these duties.

However, all carbon-based fertilizers will be subject to new environmental charges. Both nitrogen fertilizers and ammonia will be subject to a new import charge regime under the Carbon Border Adjustment Mechanism (CBAM) Regulation,[56] whose definitive (charging) phase came into operation on 1 January 2026. This regulation will impose additional charges that will increase over time. To begin with, they are likely to add €30–€80 per ton to the cost of imported nitrogen and ammonia.[57]

This graduated approach to imposing charges and ad valorem duties has been taken in order to give European farmers and industry time to adjust and obtain alternative sources of supply. However, given the low cost of Russian fertilizers, they are likely to remain competitive at least until the higher charges and duties come into force. The limited CBAM charges on ammonia may well result in a further surge in ammonia imports into the EU with chemical plants in the EU importing more ammonia and then converting it to nitrogen fertilizers as the cheapest production option available.

At least the EU has taken some measures against Russian fertilizer imports. By contrast, as explained above, the US has not taken any substantive measures against such imports; indeed, its recent tariff policies have increased export opportunities for Russian producers. Because there were no effective sanctions on Russian fertilizer imports when the US imposed tariffs on imports from other nations, a major import opportunity opened up for Russian exporters to sell to the US. This has diminished slightly since November 2025 thanks to an executive order made by President Trump to lift tariffs on nitrogen fertilizers from third countries, which at least means Russian producers face more competition.

One can see why both the EU and US policies to exclude Russian fertilizers from sanctions were adopted. Food security and fear of higher food prices were a reasonable basis for excluding the Russian fertilizer industry from sanctions. However, the impact of Russian economic warfare—particularly the curtailment of gas supplies in the run-up to and during the early stages of the full-scale invasion—undermines the rationale for this exemption. Russian-orchestrated high energy prices have severely damaged the European fertilizer industry. At the same time, low-cost Russian fertilizer is in danger of making European agriculture much more dependent on Russian imports. Furthermore, the fact that the Russian industry is able to aid the Kremlin's war effort by providing additional tax revenues, while at the same time providing war materiel (while undermining European capacity to provide war materiel) provides further justification for

51 In a number of prisoner exchange deals with Belarus, the president has also progressively removed remaining sanctions against Belarus potash manufacturers; see OFAC, "Belarus Designations Removals; Issuance of Belarus General License; Rescission of Belarus Directive 1," 26 March 2026.

52 Gresser, "US Imports from Russia Are Up 30% This Year."

53 Martin Vladimirov, "Kremlin's Fertilizer Cash Stream is Blind Spot in EU Sanctions," Reuters, 14 March 2025.

54 "Dmitry Mazepin," Forbes Profile, accessed 22 May 2026.

55 Regulation (EU) 2025/1227.

56 Regulation (EU) 2023/956 of the European Parliament and of the Council Establishing a Carbon Border Adjustment Mechanism, Regulation 2023/956 OJ 2023 L30/52, 10 May 2023.

57 Aisling O'Brien, "ICOS Warns of Fertiliser Price Hikes Due to New EU Tax," Agriland, 1 July 2025.

sanctions. Clearly, the initial steps taken by the EU to tariff the fertilizer sector are welcome. However, they clearly leave a large part of the market open to Russian imports for some years and are far from comprehensive. Perhaps worse is current US policy, which has the effect of shoring up the Russian war economy and enabling manufacturers of war materiel.

4 Conclusion: Developing a Comprehensive Fertilizer Export Suppression Strategy

Any effective strategy to suppress Russian fertilizer exports has to recognize the critical role fertilizers play in agricultural pricing, food security, and war materiel. It was not unreasonable initially for the EU and the US to exempt Russian fertilizers from tariffs and sanctions, given food security and pricing concerns. Any suppression strategy has to integrate such concerns into its overall policy design. This means that in addition to comprehensive sanctions, it is also necessary to develop a number of alternative fertilizer producers inside and outside the Organisation for Economic Co-operation and Development (OECD) states that can replace Russian exporters.

Any sanction regime has to be comprehensive. It must apply to all allies and to all types of fertilizer produced by Russia.

Any effective suppression strategy has to be an allied effort including the EU and US, the UK, Canada, Australia, Japan, and Ukraine, as well as other allies. The Western allies also have to be willing to work with and cooperate with developing countries, many of which are particularly vulnerable to increased fertilizer costs and/or supply reductions. Such a cooperative effort is particularly important for developing alternative fertilizer producers in terms of financing, feedstock, production, and access to markets. No state, not even the US, can undertake and implement such a strategy on its own.

The case for a strategy to develop alternative fertilizer products and sources is underpinned by the recent conflict with Iran. As a result of the closure of the Strait of Hormuz, approximately one-third of fertilizer trade has been affected. This has already led to spiraling prices, impacting farmers' ability to access fertilizers and sustain food production.[58]

The US could play a major role in suppressing Russian fertilizer exports, thanks to its energy resources; the US has access to large quantities of cheap gas to produce ammonia and thereby the feedstock for nitrogen fertilizers. One can see how a comprehensive suppression regime for Russian fertilizers would create significant market incentives for US and other manufacturers with access to natural gas feedstock to ramp up fertilizer production. In the EU neighborhood, countries such as Algeria possess substantial natural gas resources that could provide an alternative supply for ammonia production. In addition, Canada, with its immense resources of potash, can also play a major role in developing and exporting potassium-based fertilizers. Cooperation could also support the expansion of phosphate production in countries such as Morocco that have significant phosphate resources. What is required here is a coordinated allied resource strategy to develop fertilizer supply that can effectively replace Russian exports. The aim here would be to put the allies in a position where they are able to produce sufficient quantities not only to suppress Russian imports within OECD countries, but also to provide an alternative source of fertilizer for developing countries.

In essence, the allies would seek to ensure a stable and low-cost supply of fertilizers both for themselves and for developing countries. Such additional supplies would undermine Moscow's capacity to use fertilizers as leverage by generating supply dependency in allied states and developing countries. Such additional supplies would limit Moscow's capacity to generate revenues from fertilizer sales that can ultimately fund its war effort. At the same time, additional fertilizer production from diverse sources would enhance global food resilience in the face of shocks such as the Iran war.

58 Charlotte Hebebrand et al., "The Iran War's Impacts on Global Fertilizer Markets and Food Production," IFPRI Blog, 1 April 2026.

Developing such additional fertilizer resources makes it possible to then impose a much more credible sanctions and tariff regime. Concerns over food security and pricing would be reduced by the potential to put in place additional, diverse, and large-scale fertilizer resources. Any sanction regime has to be comprehensive. It must apply to all allies and to all types of fertilizer produced by Russia. Accordingly, the EU policy of limiting tariffs to some, but not all, types of fertilizer—or of excluding ammonia, the feedstock for nitrogen fertilizer—should be avoided.

However, the EU policy of a progressively increasing tariff regime is not unwise, given the potential impact on food security and food pricing. Any progressively increasing tariff should aim to be applied in parallel with an increase in domestic or allied production of fertilizers.

Sanctions on the owners of the Russian fertilizer industry should also be comprehensive. We should not have a situation where some owners, like Dmitry Mazepin of Uralchem, are sanctioned in the EU but not the US, or are sanctioned in the UK but not the EU, or where others, like Vladimir Litvinenko of PhosAgro, are sanctioned in the US and Canada but not in the UK and the EU. There should be a comprehensive set of personal sanctions, and they should apply to any avoidance mechanisms, including pass-throughs to family members or vehicles such as trusts.

Such a comprehensive suppression strategy would require coordination, cooperation, and resources, but the effort would be worthwhile. It would remove the danger of Russian supply dependence on a critical element of food security and remove another layer of funding for Moscow's war machine. Globally, it would limit Moscow's capacity to accumulate leverage—particularly in developing countries—that could be exchanged for political influence, access to sanctioned goods, and diplomatic support. It would also demonstrate the ability of Western allies to address complex supply security risks and to develop effective solutions that strengthen collective security and resilience, while expanding resource options for developing countries.

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