



# COMMODITIES AS *WEAPONS*

How Russia's natural resources are fuelling  
its imperialistic aggression against the West

Sergey Sukhankin



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## Contents

Executive summary   <i>sommaire</i> .....	4
Introduction .....	8
Grains and fertilizers .....	10
Strategic minerals .....	24
Coal .....	37
Conclusions.....	41
About the author .....	43
References .....	44
Endnotes.....	65

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## Executive summary | *sommaire*

Russia's large-scale invasion of Ukraine in February 2022 caused a series of economic and geopolitical shocks that have jolted the world's economy and security. However, the Western approach to punishing Russia's aggression through economic sanctions is flawed, and so far, has failed to stop Russian President Vladimir Putin's war against Ukraine.

Since the fall of the Soviet Union in 1991, Western countries have overestimated the transformative power of the free market economy. The West willingly made Russia its largest supplier of commodities and materials and expected it to follow the path of other previously totalitarian regimes – such as Japan, Germany, and Italy – and become a “normal” European country. Instead, Russia has reversed course and is now a militarizing authoritarian power.

Today, Russia holds dominant global positions in natural resources and commodities including hydrocarbons, foods, critical metals, and fertilizers. This paper examines how Russia's exports, especially in agriculture (grains and fertilizers), critical minerals (uranium, titanium, nickel, aluminium), and coal, are fuelling the Kremlin's war machine in Ukraine, while also challenging and undermining the global financial-economic architecture and established principles of international trade.

The West's reliance on Russian goods and commodities gives Putin crucial leverage, while exposing their economies to the potential of economic blackmail from Russia. For Canada, this presents a historic opportunity to supplant Russian exports with Canadian goods and commodities.

The paper's key conclusions include:

- Despite Russia's seemingly strong competitive advantages, its economy is now feeling the strain of the sanctions imposed following Putin's invasion of Ukraine in 2022 and its ongoing rift with the West. Russia's attempt to re-orientate towards Indo-Pacific markets has resulted in lower profits, a need to redirect logistics, and increased dependence on China, which can now determine the conditions of trade.
- Russia is a major global supplier of grains and fertilizers. Moscow can and will use this fact as a geopolitical weapon to redirect its exports to so-called “friendly

countries” and to create artificial shortages in countries of the Global South. Such shortages could lead to regional political destabilization and ultimately harm the West.

- The situation with critical metals is complex. Critical minerals were excluded from the economic sanctions imposed on Russia in 2022. However, the US and the UK introduced sanctions on them this year. Weaning the West off some categories of Russian critical metals (e.g., titanium and nickel) will take time – and political will. For other critical minerals (e.g., uranium) Russia is likely to implement a broad range of measures that will make it harder for the West to diversify its supplies. Further, in a bid to overcome the pressure of sanctions, Russia will intensify its integration with China by transferring parts of the production cycle to this country.
- Russia’s coal industry is currently one of the Putin regime’s top cash cows. However, the cumulative effect of Western sanctions, decreasing coal consumption in Europe, and protective barriers erected by Russia’s Asia-based top customers have effectively made coal production in Russia economically unsustainable.

It’s clear that importers of Russian goods and commodities have made a bargain with the devil. They simply cannot afford to continue to rely on rogue nations that violate human rights and international law.

With Russia now a pariah to many democratic nations, Canada has a unique and historic opportunity to capitalize on the situation. Canada’s vast resources – comparable to those of Russia’s – position it well to supply the needs of Russia’s former clients.

There are many reasons to choose Canada, including its reliability as a supplier, its support for democracy, its peaceful foreign policy, and its support of free market economies. It also adheres to the environmental pillar of the Triple Bottom Line (TBL) – which makes its exploration and production methods commensurate with world’s highest standards. Canada’s stable political tradition also stands in stark contrast with Russia’s descent into authoritarianism.

Waiting for Russia to “change” is a dubious proposition. Now is the perfect time for Russia’s importing partners to forge stronger economic ties with Canada. At the same time, Canada needs to be open for business. The fate of the free world depends on Canadian resources and goods reaching its strategic partners. This is truly a historical opportunity for Canada. **MLI**

*L'invasion massive de l'Ukraine par la Russie en février 2022 a déclenché des secousses économiques et géopolitiques qui ont ébranlé l'économie mondiale et la sécurité internationale. Toutefois, l'approche occidentale visant à punir la Russie au moyen de sanctions économiques comporte des failles et n'a donc pas encore réussi à mettre fin à la guerre du président russe en Ukraine.*

*Après la chute de l'Union soviétique en 1991, les pays occidentaux ont surestimé l'impact transformateur de l'économie de marché. Ils se sont empressés d'en faire leur principal fournisseur de matières premières et de matériaux, espérant qu'elle suivrait la voie empruntée par certains régimes autoritaires précédents – comme le Japon, l'Allemagne et l'Italie – pour devenir une nation européenne « type ». Au contraire, la Russie a fait marche arrière et est maintenant une puissance autoritaire militariste.*

*La Russie détient actuellement des positions dominantes mondialement pour ce qui est des matières premières : hydrocarbures, aliments, métaux essentiels et engrais. Ce document analyse comment les exportations russes, notamment agricoles (céréales, engrais), minérales critiques (uranium, titane, nickel, aluminium) et charbonnières, financent la guerre en Ukraine, tout en sapant l'architecture financière et économique mondiale et les principes fondamentaux du commerce international.*

*La dépendance des pays occidentaux aux biens et aux matières premières russes confère à Poutine un avantage majeur et les expose au chantage économique. Le Canada a une occasion comme jamais de remplacer les exportations russes par ses propres produits.*

*Les principales conclusions de ce document sont les suivantes :*

- Bien que la Russie semble bénéficier d'avantages concurrentiels évidents, son économie se ressent des sanctions imposées pour l'invasion de l'Ukraine par Poutine et de son différend persistant avec l'Occident. Elle tente de se tourner vers les marchés indopacifiques, mais au prix d'une baisse des profits, d'un remaniement de sa logistique et d'une dépendance accrue envers la Chine, qui peut maintenant fixer ses propres règles commerciales.*
- La Russie, important fournisseur mondial de céréales et d'engrais, peut exploiter ces ressources – et le fera – comme instrument géopolitique pour rediriger ses exportations vers des pays jugés « alliés » et générer de manière artificielle des pénuries dans le monde du Sud. Ces pénuries pourraient déstabiliser politiquement cette région, au détriment final de l'Occident.*
- La situation des métaux essentiels est complexe. En 2022, les sanctions économiques contre la Russie excluaient les minéraux critiques. Les États-Unis et le Royaume-Uni les ont élargies à ces produits cette année, mais, pour l'Occident, se passer de certaines catégories de métaux essentiels russes (par exemple, le titane et le nickel) prendra du temps – et de la volonté politique. En ce qui concerne d'autres minéraux critiques (comme l'uranium), la Russie mettra probablement en place plusieurs mesures qui nuiront à la diversification*

*des approvisionnements. En outre, pour tenter de neutraliser les effets des sanctions, la Russie intensifiera son intégration avec la Chine en y transférant des parties de son cycle de production.*

- *Le charbon russe est actuellement une des vaches à lait du régime de Poutine. Toutefois, les sanctions occidentales, la baisse de la consommation européenne et les barrières tarifaires érigées par les principaux clients de la Russie en Asie ont rendu sa production non rentable en territoire russe.*

*Manifestement, les importateurs de biens et de matières premières russes ont conclu un pacte avec le diable. Ils ne peuvent tout simplement pas continuer à dépendre d'États voyous qui bafouent les droits de la personne et les lois internationales.*

*Comme la Russie est devenue « persona non grata » dans de nombreuses démocraties, le Canada a une occasion unique : celle de devenir une alternative commerciale intéressante pour les anciens partenaires de la Russie, grâce à d'abondantes ressources similaires.*

*Le Canada est un partenaire de choix pour de nombreuses raisons : sa réputation de fournisseur fiable, son engagement en faveur de la démocratie, sa politique étrangère pacifiste et son soutien aux économies de marché. De plus, il adhère au pilier Environnement du « Triple bilan » (Triple Bottom Line ou TBL), cadre qui garantit que ses méthodes d'exploration et de production répondent aux normes les plus élevées au monde. Son environnement politique stable contraste également avec la descente de la Russie dans l'autoritarisme.*

*Il est risqué d'attendre que la Russie se « transforme ». Pour ses partenaires commerciaux, c'est le moment idéal de renforcer les liens économiques avec le Canada. De son côté, le Canada doit s'ouvrir au commerce. L'avenir du monde libre dépend de l'accès de ses partenaires clés aux ressources et aux produits canadiens. Cette occasion est véritablement historique pour le Canada. **MLI***

## Introduction

Despite multiple red flags emanating from Russia for almost two decades – visible both inside the country (in the form of the notorious Yukos affair<sup>1</sup>) and externally in its foreign relations (including instigating gas and oil wars and trade wars with its neighbours) – the collective West kept ignoring the fact that one day Russia could turn commodities (its cash cow) into a geopolitical weapon and a tool for blackmail. In their analyses, Western experts tried to explain and predict Russia’s behaviour based on the principles of the “comparative advantage” theory (formulated by David Ricardo in 1821) and the main precepts of free trade, in which being engaged in business is much more profitable than making war. Perhaps the best demonstration of this approach was Germany’s *Wandel durch Annäherung* (change through trade) initiative (Karnitschnig 2022).

However, Russia’s large-scale invasion of Ukraine in February 2022 has forced the international (Western) community to wake up to this threat. After Russia cut off natural gas supplies to the EU to try to “freeze” Europe (Diplomatrutube 2022) and after it threatened to “starve” its opponents (Pavlenko 2022), many Western countries realized the error of their assumption that Russia would act in its own economic self interest. Addicted to cheap Russian natural resources, the West had fallen into a double trap: not only did it need to replace Russia as a supplier of many types of critical materials and foodstuffs, but it also was vulnerable to Russia withdrawing its food and raw materials to invoke hunger and political instability. Indeed, Russia used its commodities to blackmail some countries of the Global South,<sup>1</sup> inducing massive waves of illegal migration to the European Union in the hopes of destabilizing the region.

The task of this paper is to remind Western policy-makers and the expert community about the inherent risks and perils of over-relying on countries



that, like Russia, have abundant natural resources but a dubious historical track record and overarching geopolitical ambitions. This issue is particularly topical now in light of the expansion of the BRICS economies, which make up about 40 per cent of the world's population and 25 per cent of global GDP. Brazil, Russia, India, China, and South Africa are its founding members and the bloc is emerging as an alternative to the West-driven economic-political architecture. At the same time, this paper warns against giving in to alarmist moods and arguments that suggest that Russia (and other authoritarian regimes) should be allowed a free hand in their self-proclaimed spheres of interest to avoid triggering irreparable damage to Western economies. It offers alternatives and ways in which the (current) Euro-Atlantic alliance can replace Russia's commodities. In a broader context, while Russia is a very important global supplier, its economy is relatively small, weak, and one-sided compared to those of many other suppliers.

The lessons of the West's overreliance on Russia's natural resources should also be applied to China. China's growing dominance in the global market for EVs and critical metals is not only threatening Mexico and Brazil (Yu, Li, and Satoh 2024) but poses a serious challenge to the Western countries and their plans of restructuring their economies given the net-zero goal. Unlike the US, these countries are not protected by high tariff barriers. Incidentally, Beijing has reacted fiercely to Canada's decision to impose protective barriers against Chinese EVs (as well as trade barriers on Chinese steel and aluminium); Beijing has threatened to start an "anti-dumping investigation into Canadian canola imports" (CBC 2024), which could jeopardize the livelihoods of Canadian farmers. Thus, the West needs to recognize that in the current context its overreliance on the supply of raw materials and commodities from Russia – and potentially on EVs and the means of green energy production from China – based on the Ricardian model (or the ideas of Milton Friedman and like-minded thinkers) may endanger national security.

This paper proceeds as follows. In the first section I discuss the role of grains and fertilizers in Russia's geopolitical confrontation with the West. I then analyze the place of strategic minerals in Russia's confrontation with the EU and North America. In the final section I discuss coal; its use is reportedly dying out, but in fact it is still a very important part of Russia's exports and the global economy.

## Grains and fertilizers

### *Grain*

The production and export of food – grains in particular – has become perhaps one of the most dramatic outcomes of Russia’s transition from a centrally planned to an (almost) free market economy. Up until its final days, the USSR, with its cumbersome, utterly ineffective, and artificially subsidized agricultural sector, imported many of the agricultural products it needed from the United States, Canada, and Australia. After the collapse of the USSR in 1991, Russia did an about-turn. Due to liberalization of the economy, growing commodity prices, and Russia’s inclusion in the global economic architecture, Russia regained its status of one of the world’s biggest producers of food and grains (Sukhankin 2024a). It continued to strengthen its position on the global foods market, reaching a record high crop yield of 160 million tons (Interfax 2023a) and exporting a record 60 million tons by June 30, 2023 (Kostreva 2023). Russia exports its grain to a diverse spectrum of destinations. Aside from China and countries in the Global South (to be discussed later in the paper), Russia also exports its grain to the European Union (EU). In 2023, Russia exported a record amount of grain to the EU, ranking fourth among countries exporting there (180,000 tons) (Dobrunov 2023); Spain, Italy, and France became key customers of Russian grain (Politico 2024).

In the wake of Russia’s large-scale invasion of Ukraine in February 2022, it began using food (mainly grain) as a tool by which it could apply geopolitical pressure. Specifically, Russia threatened to stop supplies of grain to so-called “unfriendly countries” (Shakurova 2022). That “food blackmail” turned out to be (yet another) bluff: Russia’s rapidly growing war expenses require an inflow of hard currency and its export of agricultural products (grain in particular) is one of its main profit sources. Further, Russia’s main grain sales go to “friendly countries” of the Global South, making threats to the West less relevant than they appear on the surface. The problem, however, goes much deeper. Russia’s grain supplies are strategically vital for overpopulated, economically weak, and politically unstable countries of the MENA region (Middle East and North Africa) and Sub-Saharan Africa. In those countries, any lack or severe shortage of agricultural products may lead to spreading destabilization and could trigger a massive (illegal) migration to countries in the EU. Russia is well aware of the

potential reaction of European countries to this threat (as was evident in 2015) and has no hesitation about activating its “grain weapon” to intimidate and blackmail the EU. Elsewhere, Russia recognizes that its grain (and foodstuffs) could become a key tool as it seeks to forge ties with food-hungry China, India, and other emerging economies. As will be discussed below, in pursuit of its geopolitical and geo-economic objectives, Russia has several measures it can use to preserve and perhaps even boost its global position as a top supplier of grains.

First, Russia is working on ensuring that its ties with China – one of the world’s top importers of grains (United States Department of Agriculture 2024) – are on a qualitatively new level. It is important to note that despite its geographic proximity and its successful cooperation in importing and exporting other commodities, Russia is a bit player in China’s grains market. In 1976, China banned imports of Soviet grain. It wasn’t until February 2022 that China finally agreed to purchase Russian grain (without any restrictions) (TASS 2022).

“*Now that it has a foothold in China’s vast grain market, Russian exporters seek to challenge China’s traditional suppliers, including Canada.*”

Now that it has a foothold in China’s vast grain market, Russian exporters seek to challenge China’s traditional suppliers, including Canada (Pavlov 2023). However, despite its geographic proximity to China, Russia is not competitive with Western countries because its infrastructure in the Far East and Siberia remains chronically underdeveloped and it is unable to process all East-bound exports. This situation began to change in October 2023 when the Russian Food Export Trade LLC company and China Chengtong International Limited concluded the so-called “grain deal of the century” (Agrarnyy Sektor 2023) – the largest contract of this type ever signed between the two countries. According to this agreement, Russia pledges to deliver 70 million tons of various types of grain (produced in the Urals, Siberia, and the Far East) over the next 12 years for US\$26.5 billion. Russia began to live up to its end of the

bargain promptly: in the first quarter of 2024, Russia broke a historical record by supplying China with a large volume of oats (7 times more than it had supplied the previous year) and buckwheat (3.3 times more than the previous year) receiving US\$127 million in return (Alta Soft 2024).

However, mounting grain sales appear to be merely the tip of the trade and cooperation iceberg. The most critical development is likely to be China's gradual but ongoing overtaking of Russia's logistical infrastructure, which could pave the way for the PRC (People's Republic of China) to exert growing control over Eurasian logistics and trade routes. Specifically, in September 2023, officials from Russia and China met at the 8th Eastern Economic Summit in Vladivostok, where officials agreed to create a logistical hub – the “Grain Terminal Nizhneleninskoye–Tongjiang” in the Jewish Autonomous Oblast. The plan's goal is to create Russia's first “land-based grain fleet” (Reidy 2023). Consisting of 22,000 grain transport containers, the fleet will be capable of moving up to 600,000 tons of grain with a maximum storage capacity of up to 8 million tons per year. The strategic significance of this move is clear. On one hand, it allows Russia to “safeguard” itself against international sanctions, which will likely make Russia's behaviour in Europe (and elsewhere) even more aggressive and unpredictable than it now is. On the other hand, China – which will acquire de facto control over Russia's grain – will see Beijing become the world's largest grain hub, giving it enormous power to influence and set global food prices (Pavlov 2023).

Second, Russia aims to turn the BRICS countries (specifically, itself) into price makers in the global grain industry. Although other BRICS countries – China and India specifically – are the world's largest producers of grain, only Russia is a net exporter of this commodity. In pursuit of this strategy, Russia has suggested initiating a BRICS grain exchange. The idea was formally proposed by the Russian Union of Grain Exporters in 2023 (Interfax 2024a) and received the full support of Russian President Vladimir Putin, who ordered the establishment of an agricultural exchange mechanism amongst BRICS countries (Interfax 2024b) where grain would be the key commodity. Russia's official justification for setting up the grain exchange is premised on the fact that BRICS countries cumulatively account for more than 42 per cent of global grain production and 40 per cent of global grain consumption and it is “extremely unfair that other countries hold a monopoly, acting as price makers” in the global grains industry (Agrokomissiya 2024).

At this juncture, it is important to mention that international observers and subject experts have already warned that those averse to Russia and China exporting grain and agricultural products, such as the United States, Canada, and Australia, “might face challenges in maintaining their market share and negotiating for favourable trade terms, while facing competition from cheaper Russian grain.” In effect, this may have “significant implications for global agricultural dynamics, ranging from geopolitical and geoeconomic realignments to increased competition in agricultural trade. For traditional exporters such as Australia and the US, it is a call to reassess their national policies and strategies to navigate the evolving landscape of international trade to maintain competitiveness” (Donnellon-May 2024). That said, there are reasons to believe that the emergence of the BRICS grain exchange – which will undoubtedly increase Russia’s (and most likely China’s) geoeconomic role – is only a part of a much bigger strategic challenge. If the BRICS grain exchange is successful, it will have a spillover effect on another critical product – the fertilizers that both developed and developing nations require. Russia already has a competitive advantage in fertilizer production (as will be discussed in greater detail later in the paper) and since 2022, it has tried to use its fertilizers as a geopolitical tool to pressure international organizations (such as the United Nations) to lobby for the end of sanctions the international community imposed on it after its full-scale invasion of Ukraine (Broom 2023).

According to Russian analysts, if the Russia-China grain alliance proliferates and the BRICS alliance becomes a major player in the global flow of grains and other foodstuffs, it could prompt even greater changes to the established trade and economic architecture. In addition to acquiring a powerful geopolitical tool with which it will confront the West, Russia (and its anti-Western partners) could pursue the creation of an alternative to the “West-dominated” financial system, and ultimately, the transformation of global trade (Broom 2023). While the “hydrocarbons card” did not yield the desired effect, the Kremlin’s obsessive desire to change the so-called “rules-based order” has found a new form of expression. Using grain (and fertilizers), which plays to Russia’s comparative advantage, Moscow is seeking to realign the global financial system and international trade. Russian experts claim that the first step in this direction will be to empower the BRICS countries and compromise the West’s ability to make critical decisions, including about suppliers, in the global grain trade (Sukhankin 2024b).

Third, Russia aims to acquire dominant positions in the markets of the Global South, primarily the countries of Sub-Saharan Africa, the MENA region, and emerging economies. After the outbreak of Russia's large-scale invasion of Ukraine in 2022, the following countries from the above-mentioned regions have become the main importers of Russian grains (Finmarket 2023): Egypt (11.9 mt (metric tons)), Turkey (4.06 mt), Algeria (3.26 mt), Saudi Arabia (3.14 mt), Bangladesh (2.1 mt), Pakistan (1.2 mt), Indonesia (0.95 mt), and Vietnam (144,000 tons).



*Russia aims to  
acquire dominant positions  
in the markets  
of the Global South.*

Importantly, Russia is planning to use adverse trends in the Americas – a bad harvest in Argentina and high grain prices in the US and Canada – to increase grain exports to Brazil and Mexico (Belaya 2023). To increase its export of various types of grains to the Latin America and Caribbean (LAC) macro-region (RBC 2023a), Russia is planning to use the transportation capabilities and advantageous geographic location of its westernmost region, Kaliningrad Oblast, in the Baltic. In effect, Kaliningrad Oblast has already become one of the central points in the logistics outreach for Mexico-bound grain shipments (RBC 2023b). In 2023, Russia shipped grain from it to such Latin American countries as Brazil (253,000 tons of wheat), Mexico (124,000 tons), Venezuela (59,000 tons), and Peru (55,000 tons).

Russia admits that its main competitor in the macro-region is Argentina (Interfax 2023b), which is now ruled by pro-Western (and pointedly pro-Ukrainian) libertarian Javier Milei. Apart from Argentina, another large exporter of grain is the United States (Ledford 2023) and – despite Russia's continued attempts to strengthen economic and political ties with countries of the LAC macro-region (Sukhankin 2024c; Sukhankin 2024d) – it would be difficult for Russia to compete with these two players given all the above logistical challenges.

Despite declarations of diversification of “not just... the sales markets, but also the range of agricultural products” supplied, Russian sources admit that “the share of the Middle East and North Africa in [Russian] shipments decreased from 80 per cent to 65 per cent” (Interfax 2024c) due, among other factors, to local buyers’ economic problems. Notably, by 2024, Russia’s exports to Iran plummeted by 63 percent (Zuyeva 2024), mainly because of growing production by local farmers and the Iranian government’s more protectionist approach. Thus, among countries of the Global South, Russia’s best (and most realistic) options for increasing grain exports are to the countries of Sub-Saharan Africa, where “tens of millions of people are suffering [from] starvation and malnutrition” (Zotov 2024).

The African market, however, poses a serious challenge for Russia. Despite growing grain exports to the continent (in 2023, Russia exported 12 mt of grain to this destination), a considerable amount of this grain is exported either on credit (and given the Soviet experience with involvement in Africa, these debts are unlikely to ever be returned) or with a considerable (non-specified) discount, which Russian sources still refer to as de facto “humanitarian aid” (Kheyfets 2024). Thus, from an economic viewpoint, despite appearing very promising and potentially lucrative given the rapid growth of its middle class, it is unclear how (economically) sustainable Russia’s grain exports to Sub-Saharan Africa are.

Fourth, Russia wants to eliminate Ukraine as its direct competitor. Starting from the outbreak of its large-scale invasion of Ukraine, Russia has pursued two routes that aim to diminish Ukraine’s export potential. First, Russia promptly occupied parts of the most fertile arable lands in the Ukrainian south and southeast. It also continually terrorized (via constant shelling and air strikes) adjacent areas and stole agricultural machinery (Boyko 2022). Those actions made the task of working in agriculture extremely dangerous and life-threatening for local farmers. Second, the Russian navy blocked tens of millions of tons of cereal exports that were sitting in Ukrainian seaports waiting to be transported to foreign buyers (Sukhankin 2022). This strategy did not work as Russia had hoped. Despite the dissolution of the UN-supervised grain deal, Ukraine managed to find other ways to export its grain. Those other ways were partly thanks to Ukraine’s agreement with Turkey and, arguably more so, thanks to the damage that the Ukrainian armed forces inflicted on the Russian navy in the Black Sea and forcing the Russian navy to de-occupy Snake Island.

Despite some initial losses in grain exports, according to both Western (Berman, Ferragamo, and Baumgartner 2024) and Ukrainian (Ukraine, Ministry of Agriculture and Food 2024) sources, the country has managed to overcome the hardships imposed by Russia's aggression and Ukraine remains one of world's largest producers and exporters of grain. Having failed to eliminate Ukraine as a competitor using (para)military means, Russia has embarked on a different path: it has been attempting to block Ukraine's grain (and food) exports by stirring up conflict between Ukraine and Hungary, Poland, and Slovakia as EU members that also heavily rely on agriculture exports. In 2023, Russian sources were very direct and explicit when they stated their hopes for a potential trade dispute between Ukraine and those three EU countries (Zlochevskiy 2023). However, after a series of border incidents that prompted top officials from Ukraine and the EU to get involved, the dispute seems to have been resolved.

It would be premature to assume that Russia will cease its attempts to neutralize Ukraine as its number one direct competitor in grain exports. Given Russia's rejection of a negotiated end to the ongoing war and its current focus on offensive operations, Russia might try to extend its territorial gains in Ukraine. This would mean, as the Minister for Europe and Foreign Affairs of France, Stéphane Séjourné, rightfully pointed out, that Russia could wrest control of more than 30 per cent of global grain supplies (Vernet and Wesfreid 2024), which would pose additional, very serious challenges to other grain-producing nations, including Canada and its allies.

That said, despite Russia's formidable image as an agricultural superpower, Russia's grain-producing industry is currently experiencing a very serious problem that might undermine its strategic competitive advantage – the cost of production. As a result of the economic sanctions imposed on Russia – which is reflected in growing variable and operating costs, including the cost and availability of agricultural machinery and spare parts, and certain types of fertilizers and seeds – the cost of grain production in Russia in 2022–23 increased. This was further aggravated in 2024 by an early frost that significantly damaged crops (*Moscow Times* 2024a). Russian sources also argue that despite the growing scope of Russia's grain production, the average net profit margins have dropped from 63.4 per cent in 2021 to 28 per cent in 2023, which, while still high, demonstrate a steady downward trend. In addition, Russia's Ministry of Agriculture proudly declared that



the wages and salaries of country's grain producers had grown exponentially (Dmitriyeva 2023). While beneficial for this group, such high wage and salary increases further increase the cost of output of this commodity, which in turn contributes to the erosion of the strategic competitive advantage that Russia has been relying on to preserve its leading position on the global grains market.

“ *The Russian state is (...) trying to retain its profit margins from grain exports by attempting to keep prices artificially high.* ”

The Russian state is well aware of this trend and is trying to retain its profit margins from grain exports by attempting to keep prices artificially high. According to some Russian sources, in late 2023 this led to major problems for grain producers in some Russian regions (for instance, the Don region) (Zerno.ru 2023). While this information is very hard to verify, it was reported that in 2023 a deal between Russia and Egypt for 480,000 tons of grain fell through (though Russian and Arabic sources denied this (Regnum 2023)) because the Russian grain had a higher price than that supplied by France, Bulgaria, and Kazakhstan (Kislov 2023). Still, authoritative Russian sources claim that due to adverse weather conditions and the above-mentioned macro-economic factors, Russia's total grain yield could shrink anywhere from 10 per cent (the optimistic forecast) to 30 per cent (the pessimistic scenario) in 2024 (Kommersant 2024). On top of that, the growing price of Russian grain has already alarmed both traditional buyers of Russian foodstuffs and commodity traders, both of whom are now taking a more wait-and-see position, preferring not to commit to long-term trade deals (Martsalova 2024). It is also worth noting that from April 1–21, 2024, Russia's grain exports shrank by 36 per cent (3.1 mt) and the number of countries importing Russian grain decreased from 22 (in 2023) to only 10 in late April 2024 (Zuyeva 2024). Two main factors have led to this trend. First, the economic sanctions imposed on Russia have resulted in a drastic decrease

in Russia's grain exports to the EU (although Russia is still among the top-3 exporters to the EU). At the same time, as noted earlier, grain production in Russia is becoming less economically profitable than in the past, which, in turn, could have far-reaching consequences for the whole industry for years to come.

Canada – one of the world's leading producers of wheat and canola – has decreased exports of grains compared with 2023 levels (Statistics Canada 2024). According to Agriculture and Agri-Food Canada (AAFC) Canadian wheat supply for the 2024–25 marketing year (ending on July 31, 2025) could further tighten due to, among others, higher domestic use (Dunlop 2024). On top of that, Canada's exports of grains (and the agricultural sector in general) could suffer further if China introduces tougher restrictions on Canada-produced canola as a retaliatory measure (Boynton 2024). The problem is additionally complicated by the fact that potential Chinese restrictions would reduce Canada's export of this commodity to just four countries (the U.S., China, Mexico, and Japan) (Afsorgbor 2024). This said, Canada should exercise caution and calculate its diversification options well in advance before undertaking anti-Chinese economic measures. It seems quite clear that given the emerging Sino-Russian “commodities pact,” Canada's share in China's agricultural imports is likely to decrease irrespectively of Ottawa's decision to introduce anti-Chinese economic measures.

Realistically speaking, Canada can not compete with Russia in terms of supplying agricultural products to China. History tells us that Russia will be willing to sell its commodities well below market value to secure China's political support. This would of course be destructive to Russia's economy in the long run but could help secure Moscow's short- and medium-term geopolitical goals.

Canada would be wise to search for alternative (to China) markets for its agricultural goods. This said, it's important to remember that China's options (at least for now) in terms of imports of canola are limited: the only country that could substitute for a potential loss of the Canadian market is Australia (Hobson, Thukral, and Chu 2024), and much will depend on Canberra's political will.

## *Fertilizers*

A combination of a rapidly growing population (especially in non-Western countries) and the depletion of arable lands makes the use of fertilizers essential for maintaining an adequate level of food security worldwide, particularly in developing countries. According to one study, the global fertilizer market is expected to reach US\$543.20 billion by 2030 (Mordor Intelligence Undated). A World Economic Forum study has ranked a looming food supply crisis – where fertilizers will be a key variable – as one of the top four threats facing the world (World Economic Forum 2023).

Russia is a world leader in fertilizer production. Its leading position is secured by its three main competitive advantages: the cheapness, abundance, and accessibility of its natural gas; the vast quantity of its raw materials; and its relatively low wages and salaries (Budris 2024a).

In 2021, Russia produced 58.6 million tonnes (mt) and exported 37.5 mt of fertilizer. The post-2022 economic sanctions (which were not extended to this industry but adversely affected other related industries) resulted in the drop of Russian fertilizer production by more than 7 per cent and exports by 15 per cent. Between 2022 and 2023, Russia's exports of fertilizers decreased drastically (by a quarter in 2022) to so-called “unfriendly” nations, while increasing exponentially to “friendly” countries (Interfax 2023c). Meanwhile, the initial decline in fertilizer production was followed by a period when production was restored, and then increased. Table 1 shows the way the Federal State Statistics Service (Rosstat) presented the changing dynamic.

The strategic importance of Russia as the world's leading producer of certain types of fertilizers became particularly apparent in the immediate aftermath of Russia's large-scale invasion of Ukraine in 2022, when fertilizer prices skyrocketed (see Figure 1).

While undoubtedly painful, soaring prices were still manageable for the West, but they had a particularly dramatic effect on countries of the Global South, especially Africa (Wax and Brzezinski 2022). According to the African Development Bank, “many African countries have already seen price hikes in bread and other food items.” The bank warned that “if this deficit is not made up, food production in Africa will decline by at least 20% and the continent could lose over \$11 billion in food production value” (African Development Bank 2022). Because fertilizers produced in Russia are so critically important

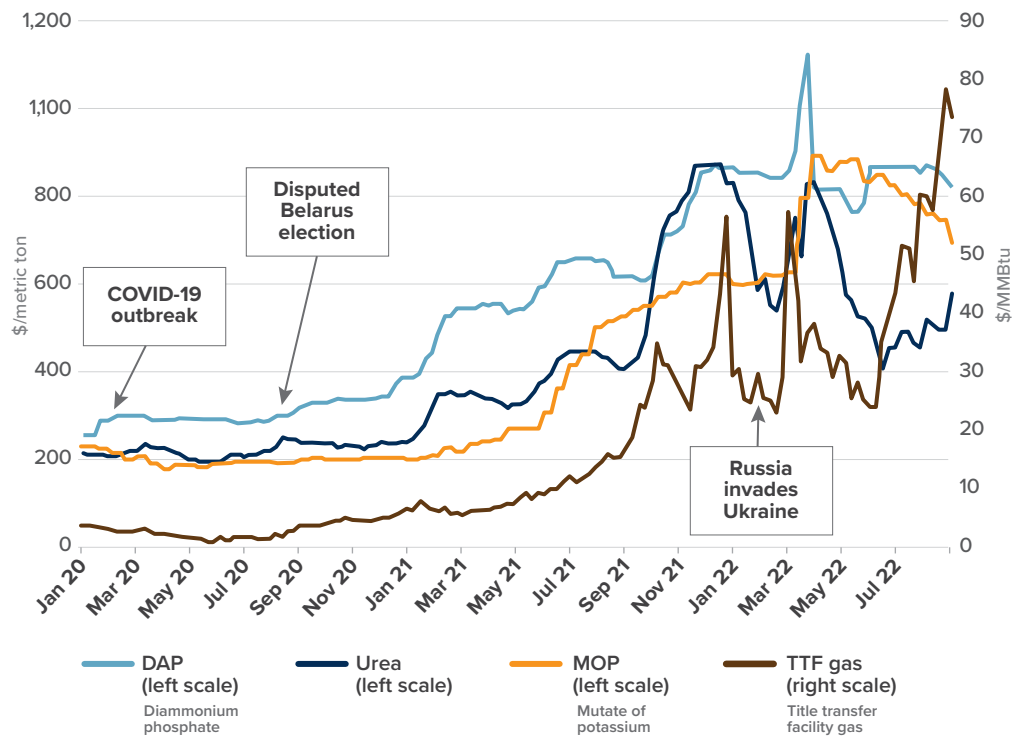
TABLE 1: Trends in Russia's fertilizer production

Fertilizer name	Growth percentage (2022–2023)	Size increase (mt)	Russia's global share (2023)
Nitrogen fertilizers	+2.5%	7.5	12%
Phosphate fertilizers	+14.7%	0.155	17%
Potash fertilizers	+74.8%	4.1	20%
Ammonia (essential for the production of various types of fertilizers). <sup>a</sup>	+5%	4.6	23% (in 2021)

<sup>a</sup> Russia exports a far larger portion of its ammonia supplies compared to other production leaders such as China, the US, Canada, and Morocco.

Sources: Federalnaya Sluzhba Gosudarstvennoy Statistiki 2024; Hebebrand and Glauber 2024; Neftegaz.ru 2023.

FIGURE 1: Fertilizer prices are near record highs



Source: Grabowiec and Jeanmaire 2022.

for both developed and developing nations, they were excluded from the list of EU and US anti-Russian economic sanctions and became one of the elements included in the UN-brokered agreement on the resumption of grain exports from Ukraine. For its part, Russia tried (albeit unsuccessfully) to use its advantage to ease the sanctions: Moscow demanded that certain sanctions be eased or scrapped altogether. It demanded that Russia’s access to the SWIFT payments system be restored, that Russia’s ability to use Western insuring companies be restored, and that it regains the ability to use EU trading routes – all under the pretext that the sanctions made it unable to effectively supply its fertilizers to global markets (Broom 2023).

That said, it is not only countries in the Global South and less developed economies that are dependent on Russian fertilizer. Table 2 shows the largest buyers of Russian fertilizers as of 2023 (based on Russian sources).

Overall, in 2023 Russian fertilizers were exported to 72 countries at a record price of US \$14 billion (Viktorov 2024). As mentioned earlier, fertilizers – as well as foods and grain – comprise an integral part of the Kremlin’s strategy to foster closer ties with non-Western countries and to diversifying its foreign ties in the aftermath of its 2022 invasion of Ukraine. This said, Russia is planning to use its leading position in the global fertilizer market in four main ways.

First, it is building ties with the least economically developed and most agriculture-dependent countries of Sub-Saharan Africa which, despite their

TABLE 2: Largest buyers of Russian fertilizers

Country	Physical amount (in mt per annum)	Monetary value (US\$ billion)
Brazil	More than 10 mt	1.9
India	5.4 mt	1.3
United States	Approximately 3.5 mt	0.9
China	3.5 mt	1.3
Mexico	0.4 mt (46 percent of total purchases)	0.8
Germany	0.426	0.25

Sources: Epolymer.ru 2024; Carbajal 2023; Milkin 2023.

economic weakness, are members of all major platforms and institutions such as the UN. Well aware of their vulnerabilities, Russia will seek to take advantage of its donations of fertilizers to these countries both through bi-lateral agreements and under the auspices of the UN. One such initiative is the World Food Programme (WFP) under whose patronage the first shipment of 20,000 tons of nitrogen, phosphorus, and potassium (NPK) fertilizer from Russia's Uralchem were transported to Malawi (Uralchem 2023). Russia will use this support to continue to blame the West (the EU and the US) for anti-Russian sanctions that Moscow will claim are leading to both actual and prospective food shortages in Africa. For instance, Russia's foreign minister Sergey Lavrov has already stated that "European sanctions are to blame for food price hikes and fertilizer shortages that are driving many to the brink of famine" (Savage 2023).

Second, Russia will emphasize its goal of expanding its fertilizer exports to India. In addition to being one of the world's top-10 largest economies, India is still experiencing a demographic boom (unlike China) and a rapid growth in middle-class consumers. Russia sees India as an integral part of its strategic effort to redirect the export of its commodities from the West to the Indo-Pacific region. In fact, in the first two months of 2024, the share of Russian fertilizers in India's imports grew from 23 per cent (in 2023) to 34 per cent, which made Russia the number one supplier of fertilizers to India (Savenkova 2024).

Third, Russia sees its fertilizers as one of the most effective means by which it can strengthen its ties with Latin America and Caribbean (LAC) countries. In addition to Brazil, which is the main regional importer of Russian fertilizers (Trading Economics 2024), Moscow is seeking to expand its presence and ties with other Central American countries such as Guatemala (which has a strategic geography and is the most densely populated country in Central America), which Russia hopes to make the region's top importer of Russian fertilizers (Sukhankin 2024d).

Fourth, Russia will use its strength in the critical fertilizer sector to continue applying pressure on the EU. Notably, while overall EU-Russia trade shrank after 2022 (the value of goods imported from Russia to the EU decreased from 63.6 billion euros to 9.6 billion euros), the trade in fertilizers grew. From 2022 to 2023, Russia exported the following amount of fertilizer to the following members of the EU (compared to the pre-2022 period) (Žugier 2024):

- Germany (a 920 per cent increase)
- Belgium (a 662 per cent increase)

- The Netherlands (an 85 per cent increase)
- Poland (an 84 per cent increase)

This breathtaking growth in exports was primarily due to the abrupt collapse of the Russian national currency (the ruble), which made Russian-produced fertilizers even cheaper than they already were. However, Europe's sharp increase in Russian fertilizer imports might have been partly due to its uncertainty about whether sanctions might be imposed on these products, which would have created shortages of supplies from Russia.

According to Svein Tore Holsether, chief executive of Yara International, one of the world's largest producers of nitrogen-based mineral fertilizers, Europe is "sleep walking" into becoming dependent on Russian fertilizer, just as it did with natural gas. According to Holsether, "Fertiliser is the new gas [...] It is a paradox that the aim is to reduce Europe's dependency on Russia, and then now we are sleepwalking into handing over critical food and fertilising power to Russia." Russia could use its increased dominance in the fertilizer market as political leverage – just as it has done with energy supplies (Savage 2024).

This said, Russia's fertilizer-producing industry faces two important (but not unresolvable) problems.

First, anti-Russian economic sanctions are taking a visible toll on the economic sustainability of fertilizer production. Despite growing its production and exports, in 2023 the gross profit of Uralkali, one of the world's largest potash fertilizer producers and exporters, plummeted by 23 per cent which, according to Russian sources, is a direct result of economic sanctions (Buzlayev 2024).

Second, Russia's fertilizer logistics are primarily managed through the Baltic Sea ports, which makes it difficult for Russia to quickly and easily redirect exports to the Indo-Pacific region, LAC, and Africa (Epolymer.ru 2024). Furthermore, Russia's attempts to create alternative transportation hubs in the Black Sea region, such as the "Taman" transportation knot (Delovoy Profil 2024), might be impeded by ongoing security challenges associated with the Ukraine war and other factors.

Canada, the world's third-largest producer of fertilizers (after Russia and China) has a huge potential in this industry. On the surface, Russia's advantages may seem unbeatable. Those include: the value of its national currency vis-a-vis the Canadian dollar; (still) lower price of production, and Russia's de-facto

control over the Belarusian fertilizer-producing industry, which is one of the world's most important. Yet, in the future some of these advantages may erode. As mentioned earlier in this paper, Russia's war-disfigured economy has already created a huge void in the labour market, resulting in growing salaries and wages. This, in turn, makes fertilizer production more expensive compared to the pre-2022 level. In addition, the lack of access to Western technologies and materials puts an additional strain in the technological side of the production cycle. These factors – coupled with economic sanctions – are bound to further weaken Russia's fertilizer-producing industry. This creates a range of opportunities for Canada, including the prospect of increasing supplies to Brazil, India, and the wider Indo-Pacific region.

## Strategic minerals

Canada is blessed with a wealth of strategic minerals that are of critical importance to the global economy (Canada 2024). This makes the country well positioned to meet the growing demand for critical minerals at home and abroad. Given Russia's and China's export quota on exports of strategic minerals and limited number of alternative suppliers (Sukhankin 2024h) Canada has a chance to drastically increase its role as the world's dominating power in production and exports of strategic minerals.

### *Aluminum*

Russia is one of the world's leading producers of aluminum. In 2023, Rusal (Russia's largest aluminum producer) exported 4.2 million tons worth US\$1.06 billion (9 per cent of the world's primary aluminum output), which made it the world's second-largest producer of aluminum (Al Circle 2023). In addition to an abundance of raw materials, one of Russia's competitive advantages in the production of aluminum is its access to hydropower produced by Siberian rivers, which makes it much more environmentally sustainable than when powered by conventional sources of energy (Polkanov 2024). After the outbreak of Russia's large-scale invasion of Ukraine, Russia's



Western partners first decreased imports of aluminum and later, in 2024, imposed a ban on metal imports. Their aim was to target US\$40 billion of Russian exports of aluminum (as well as copper and nickel) (UK 2024). This led to the London Metal Exchange (LME) and the Chicago Mercantile Exchange (CME) declaring that they would discontinue carrying any new Russian-produced aluminum (as well as copper and nickel) (Miller 2024a). Likely expecting this development, Russia's one-time European partners have dramatically increased purchases of aluminum from Germany (a five-fold increase), Spain (up 69 per cent), and Poland (up 21 per cent) (Prime 2024a). While the US is unlikely to be severely affected by the *de facto* ban on Russian aluminum (imports from Russia reportedly account for less than 1 per cent of US total imports (RBC 2024a)), for the EU the situation might become more challenging in the years ahead. According to various forecasts the EU might be facing a shortfall of approximately 500,000 tons of this commodity, which could result in an intensification of the competition between the EU and the US for Middle Eastern aluminum primarily supplied by the UAE and Bahrain (Budris 2024b).

Despite Russia's claims that the West is hurting itself by banning Russian metals (aluminum in particular), and despite its claims that it can easily overcome the bans, many experts doubt that the transition will be smooth for Russia. For instance, Carl Surran of the Seeking Alpha business portal has argued that Rusal is likely to face multiple challenges when it tries to export aluminum not only due to the direct sanctions, but also because of the fear of secondary sanctions. Those sanctions will strain Rusal's ability to trade with third parties and create problems for already-established supply chain mechanisms (Surran 2024). Russian experts have argued that to continue exporting the commodity, Rusal would have to agree to sell aluminum (primarily to China) at a considerable discount. Even that is not guaranteed, however, because China might not be interested in absorbing up to 1,000,000 tons of Russian aluminum.

According to other experts, Russia faces prospective problems keeping its aluminum industry at the pre-2022 level. Some of those problems come from its shrinking access to the key raw materials essential for aluminum production. Specifically, prior to 2022, up to 40 per cent of the aluminum oxide needed for aluminum production was imported from Australia and Ukraine (Bouckley 2022). After 2022 Rusal had to change suppliers, which has resulted in the restructuring (and partial disruption) of established supply chains and

increasing operating costs (Arsenyev 2024). Similarly, economic sanctions could significantly increase Rusal's logistical expenses related to the delivery of the product to end users and/or the need to find a third party willing to act as a middleman.

According to pessimistic assessments, in 2024–25 Russia could lose aluminum exports of up to 1.5 million tons because of economic sanctions and restrictions, and from end users being unwilling to cooperate with Russia given the high risks and uncertainties of doing so. Those 1.5 million tons are equivalent to approximately one-third of Russia's overall aluminum sales in 2023 (Zaynyllin 2024a). At the same time, Russia is unlikely to be able to use the surplus un-exported aluminum domestically (despite the ongoing war its resulting growth in industrial production) because Russia's internal annual demand for aluminum does not exceed 1,000,000 tons (Zaynyllin 2024b). According to Russia's official (overtly optimistic and likely exaggerated) forecast, Russia's domestic aluminum needs are likely to increase two-fold only by the end of the decade (Kommersant 2023).

“ *In 2024–25, Russia could lose aluminum exports of up to 1.5 million tons because of economic sanctions and restrictions.* ”

Considering the above-mentioned trends, Russia could take the following steps to respond to the looming crisis in its aluminum-producing industry.

First, it could increase import-export cooperation with China, thereby putting it on a qualitatively new level. Russia is already China's key partner in the aluminum trade: Russia's primary aluminum exports to China surged 58.8 per cent year over year in 2022 and accounted for 70 per cent of China's primary aluminum imports that year. That compares to 2023 when up to a quarter of Rusal's export revenue (as opposed to 8 per cent in 2022) came from exports to China (Batyrov 2024). However, many experts agree that because it is barred from trade through the LME, Russia would have to trade (at large

discounts) with China via its commodity trading platforms (Manthey 2024). Yet, according to Liu Xiaolei, chief aluminum analyst at Shanghai Metals Market, “Russia [is] to remain significant in China’s primary aluminum imports portfolio, but overall demand growth from China is limited due to a projected small surplus in domestic supplies in 2023” (Chen 2023). Further, to foster ties with China, Rusal is acquiring a 30 per cent stake (worth US\$261 million) in Hebei Wenfeng New Materials (HWNM), a company that specializes in the production of alumina (a raw material to make aluminium) (Liu et al. 2023). The deal is expected to further cement Rusal’s growing dependence on China for a key intermediate product in the aluminum production process (Home 2023).

Second, Russia could seek to increase exports of its aluminum to technologically developed but resource-hungry countries. Such prospective destinations include the rapidly developing countries of the Indo-Pacific region, South Korea in particular. South Korea’s aluminum market was valued at US \$10 billion in 2023, and is predicted to reach US \$15.56 billion by 2030, with a compound annual growth rate of 7.6 per cent from 2024 to 2030 (AI Circle Undated). In effect, starting early in 2023 South Korea significantly increased its imports of Russian aluminum. Russia has become its number one supplier of this commodity (for the first time since 2014), toppling Australia (formerly first place) and India (formerly second place) (Prime 2024b). However, Russia’s interim leading role as a supplier of aluminum coincided with two geopolitical crises – Russia’s invasion of Ukraine and the Israel-Hamas war – the normalization of the geopolitical situation or, conversely, the fear of secondary sanctions (Zaynyllin 2024a) could erode Russia’s temporary success in exporting aluminum to the country.

Third, Russia could increase the role of the state in aluminum production by acting as a compensator of losses and by strengthening protectionist policies. In fact, Rusal’s top management has already asked the Federal Agency for State Reserves to purchase up to half of the company’s total aluminum production. Reportedly, the company has warned that failure to fulfill its requests is likely to result in an aluminum output decrease of up to 25 per cent, which would have very serious repercussions both for the company and the ferrous metals industry in general (*Moscow Times* 2024b).

In 2022, Canada was the world’s fourth-largest primary aluminum producer following China, India, and Russia. However, compared to Russia, Canada has two main competitive advantages. First, its strong, market-oriented

economy, which, unlike Russia's, is not crippled by international sanctions and restrictions. Second, compliance with the highest norms and standards of ecological sustainability (Karim 2023).

### **Nickel**

The availability of nickel is critical for electric vehicle (EV) manufacturing; it is one of the key variables enabling a transition toward net zero economy. According to the World Bank's 2020 *Minerals for Climate Action* report, nearly 500 per cent more lithium, cobalt, and graphite, as well as 100 per cent more nickel and 7 per cent more copper is needed to build renewable energy technologies, which include carbon capture and storage, offshore wind, hydrogen infrastructure, and EV batteries (Hund et al. 2020). Other studies have claimed that by 2030 the global demand for nickel will rise ten-fold, meaning that geopolitical competition for this critical metal between the world's largest powers will increase exponentially. Some have argued that "the US fears that supply chain issues and reserves in the hands of rivals could see supplies of critical material[s] dry up strangling the young EV sector" (Linehan 2022).

Russia has a major share of both the reserves and the production of nickel in the global supply chain. Specifically, Russia is the world's fourth-largest producer (220,000 mt; 8 per cent) and holder of nickel reserves (Canada 2024). However, it perhaps holds an even more prominent place these numbers indicate. Russia, which rivals Canada, China, and Australia (ZEB Nickel Corp. Undated), supplies approximately 20 per cent of Class I nickel (primarily used for cathodes in batteries, plating, foundry, and super-alloys) to global markets, making it the world's largest producer of this class of nickel. Forecasts also indicate that in the coming 3 to 5 years, there will be a shortage of Class I nickel (Milewski 2023), which will put an additional strain on EV producers and further strengthen Russia's role.

However, despite its leading position and reported indispensability for global supply chains, Russia's nickel exports dropped by over 36 per cent in 2022 (over 2021). Despite that drop, exports are projected to increase at a compound annual growth rate of 4 per cent by 2026 (Mining Technology 2024a). Russia's share of nickel exports to the EU fell by 20 per cent between Q1 2022 and Q1 2023 (Eurostat 2024). Asian-based consumers were the ones playing a much more prominent role in purchasing Russia's exports; by March 2023 they accounted for 45 per cent of Norilsk Nickel's (Nornickel) total exports. In that

same time, the share of the company's revenue from the EU fell to 24 per cent, down from 53 per cent in 2021 (Bloomberg News 2023). To compensate for the loss of such a large share of lucrative European customers, Russia is likely to pursue one main course of action – strategically re-orientating exports to Asia, where China will play the key role. In fact, Nornickel has already announced that it will transfer part of its production cycle (the official explanation for which is problems with access to Western machinery and technologies) to China by as early as 2027.

In explaining this move, President and Chairman of the Management Board of MMC Norilsk Nickel Vladimir Potanin said that although the company had not been directly sanctioned, a combination of secondary sanctions, the need to use middlemen (who take between 5 and 7 per cent of the cost of the goods for their services), and voluntary rejection of any collaboration with Russia (especially in the EU), have resulted in a drastic plummeting of revenues (Interfax 2024d). According to Potanin, transferring production capacity to China will enable the company to overcome challenges associated with payments (a critical aspect of import-export ties with Western counterparts) and allow Nornickel to depart from an extremely burdensome policy of discounts and the need to work through middlemen, who consume a sizable share of the company's net profits. In the future the company is also planning to strengthen cooperation with Chinese counterparts in other metals, including cobalt, lithium, and copper (Nornikel 2024).

“ *Russia's plans to remain one of the world's key suppliers of nickel may also be challenged by Indonesia's ambitions.* ”

Russia's plans to remain one of the world's key suppliers of nickel may also be challenged by Indonesia's ambitions. Indonesia not only holds the world's largest nickel reserves – approximately 21 million tons, or 22 per cent of global reserves – but it has also revised its previous nickel export strategy (such exports were banned in 2014). As a result of its change in policy, foreign investors (mainly from China) began investing in the Indonesian nickel supply

chain, which in turn saw Indonesia's exports of processed nickel rise to \$30 billion in 2022 from \$1 billion in 2015. The country is expected to account for half the world's increase in nickel production by 2025 (Medina 2024).

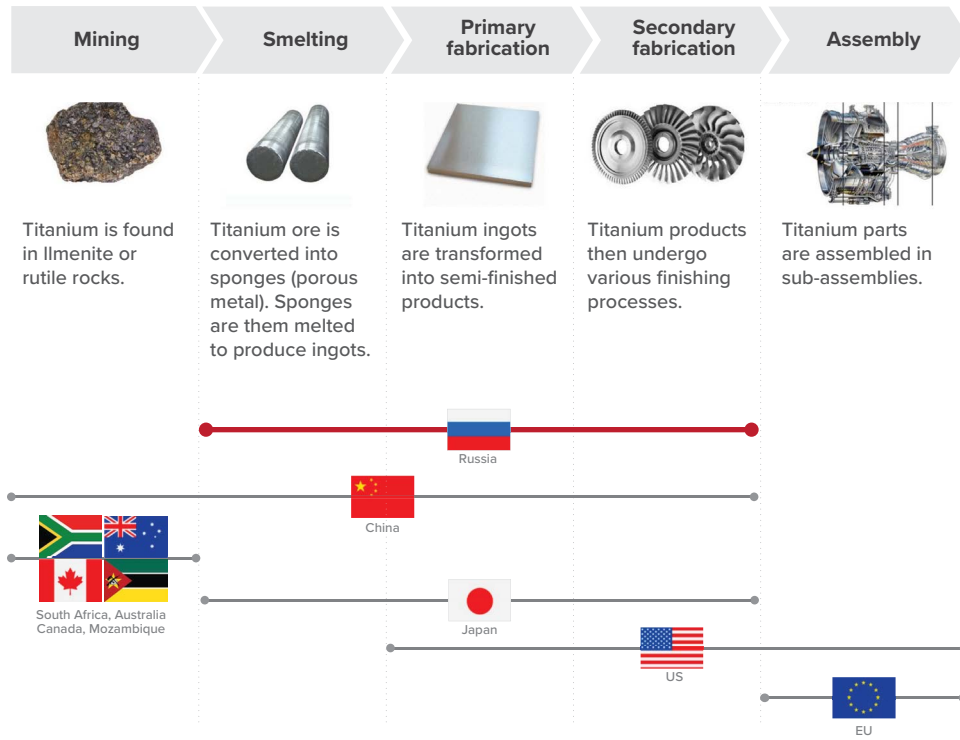
Canada is one of the world's leading producers of nickel, in 2022 it was ranked 6th in the world; its share (2 per cent of the global reserves) is also impressive. Akin to production of other critical metals, Canada's competitive advantage in production of nickel is premised on its world-class technologies and environmentally friendly production standards. Despite a decline in 2023 (by 7.62 per cent), production is expected to raise again by 2027 (Mining Technology 2024b) thanks for growing interest of European (primarily Finland) and other international partners and investors (Bennett 2023).

### **Titanium**

Titanium is a lightweight but very strong metal used extensively in advanced military applications (fighter jets, helicopters, naval ships, tanks, long-range missiles), civilian aviation, medicine, jewelry, and the nuclear industry, and is an increasingly important metal for a growing number of industries, particularly aircraft manufacturing. For example, the first version of the Boeing 747 developed in the 1960s included less than 3 per cent titanium; the first version of the Boeing 777 used almost 9 per cent; and the Boeing 787-9 uses closer to 15 per cent (Ros 2023). Russia is essential to the global titanium industry: up to 50 per cent of the titanium alloys used in global aircraft manufacturing come from Russia, which makes both North American (Boeing) and European (Airbus) manufacturers strategically dependent on Russian supplies (Rodionov 2024). The tricky part, however, is that unlike many other commodities discussed in this paper, Russia is not the primary source of titanium ore (the raw material). The ore is mined mainly in China, Australia, Kazakhstan, Mozambique, and, perhaps most crucially given the context, in Ukraine. Russia's strategic competitive advantage (specifically VSMPO-AVISMA, Russia's major producer of titanium sponge), lies in its unique competencies in producing titanium (namely, the final stages of the production process as indicated in Figure 2).

The (at least temporary) indispensability of Russia for global aircraft manufacturing is best illustrated by the story of Bombardier (and Airbus) continuing to purchase Russian-produced titanium even after Russia's invasion of Ukraine, although, according to Bombardier CEO Eric Martel, this is not

FIGURE 2: The role of titanium in the aerospace sector in selected jurisdictions



Source: Catala 2022.

done directly. “Some ... suppliers use it, so the company needed a sanctions waiver from the federal government,” greatly to the displeasure of both Ukraine (Brewster 2024) and Canadian critics of Russia’s ongoing disinformation war against the West (Kolga 2024). According to various sources, French President Emmanuel Macron personally made the case to Prime Minister Justin Trudeau to continue buying Russian titanium, notwithstanding economic sanctions (RBC 2024b).

Despite Russia’s critical role in titanium production, Russian sources acknowledge that there has been a sharp decrease in direct exports to the EU (down 20 per cent in 2022 over 2021). Until then, the EU had been one of the key purchasers of Russian titanium: some of Europe’s largest companies such as Airbus (65 per cent of its titanium was supplied from Russia), Rolls-Royce (20 per cent), and Safran (50 per cent) have been strategically dependent on Russia. In 2023 many EU countries sharply reduced their imports of Russian-produced titanium. Only France (up 72 per cent) and Estonia (up 5 per cent) deviated

from the general trend. Meanwhile, Germany's imports of the metal were down 37 per cent, the Netherlands down 57 per cent, and Belgium down 15 per cent) (Metallsnabzheniye i Sbyt 2024). That trend is continuing. In the first three months of 2024, the EU overall imported 26 per cent less titanium from Russia than in 2023 (Metallurgicheskiy Byulleten 2024). At this juncture, Russian experts differ in their perception and estimates of the depth of the looming crisis facing Russia's titanium producing industry. They also disagree in their views about the best ways to overcome the impending crisis. While some are saying that it would be wise for Russia to soften the impact of sanctions by both diverting exports to other destinations and stimulating domestic consumption (Bichashvili 2024), others argue that Russia's Western customers "are simply unable to replace Russian-produced titanium" because the EU does not have sufficient production capacity and its import options (i.e., Kazakhstan and Japan) are very limited (Petrov 2024).

To minimize the economic losses from declining revenues from the West, Russia is taking the tack it has with many other commodities discussed in this paper. It has decided to continue with its strategic reorientation towards Asia – with China in particular. In effect, China is not only increasing its role in Russia's titanium-producing industry but is getting privileged access to Russia's critical raw materials as well. Specifically, it has been announced that China Communications and Construction Company has agreed to cooperate in developing Russia's – and the world's – largest titanium deposit in the Pizhenskoye field (the Komi Republic). Apart from titanium, the deposit contains sizable quantities of zircon, iron ore, and gold. The project is also included in the strategy focusing on the development of the Arctic Zone (Vedomosti 2024) and contains 80 per cent of Russia's titanium ore reserves (Rossiyskiy Soyuz promyshlennikov i Predriniteley 2023).

Aside from gaining access to critical raw materials in Russia, China is also aiming to expand its footprint in Siberia's infrastructure and logistics. Specifically, at a meeting between Rustitan and the China Railway Construction Corporation, the parties discussed constructing the Sosnogorsk-Indiga railroad connection. This connection is part of the Northern Latitudinal Railway strategic project that primarily is to go through the resource-endowed but infrastructurally weak Komi Republic (Belova 2024). The project is to be completed in 2026 and will facilitate the transportation of natural resources and materials through the Urals and Siberia (Jones 2023).



Russia's position as a global titanium producer and, more specifically, Canada's decision to continue acquiring Russia's titanium engendered gloating remarks from the Kremlin and the Russian Parliament that reiterated Russia's narrative that anti-Russian economic sanctions were having a devastating effect on the issuing parties (RIA Novosti 2024). However, the situation is more complex than has been portrayed in Russia: the key factor in the EU's and North America's access to titanium is not Russia, but Ukraine, which for years has been one of the key variables in Russian titanium production. According to Ukraine's state-owned United Mining and Chemical Company, no less than 20 per cent of the world's total resources of raw material (concentrate) essential for producing titanium are in that country. Ukraine does not have enough expertise or capability to manufacture the finished product, however, which ensures that the country exports much of its titanium concentrate abroad, including to Russia via shady schemes and corrupt ties that had been established after 1991.

Regrettably, after the outbreak of Russia's large-scale invasion of Ukraine in 2022, companies in Poland, Hungary, the Czech Republic, Slovakia, Montenegro, Austria, and Lithuania helped Russia preserve its supplies of the raw material from Ukraine that it needs for titanium production (Kazanskyi and Dmytriieva 2023). As noted in a *Newsweek* article, "If Ukraine wins, the U.S. and its allies will be in pole position to cultivate a new conduit of titanium. But if Russia manages to seize the country's deposits and plants, Moscow will boost its global influence over [this] increasingly strategic resource.... Ukraine is one of only seven nations producing titanium sponge, the basis for titanium metal. China and Russia – America's most prominent strategic rivals– are among this select group" (Brennan 2023). The article quotes an unnamed source with knowledge of the US defence industry who said, when referring to titanium's meaning for the US, that "We're talking about our ability to produce more planes, we're talking about our ability to produce munitions. They all rely on titanium, and we've allowed ourselves to grow reliant on foreign suppliers for these things. Russia has previously been one of those primary suppliers." As well, an unnamed congressional staffer also pointed out that "Ukraine has really significant deposits of rare earth minerals, and if we play our cards right could actually be a really attractive alternative to Russian and Chinese sources, which is where a lot of dependency currently is.... [T]here are increasing debates throughout the West about why it's in our interest to keep supporting Ukraine" (Brennan 2023).

### *(Enriched) Uranium*

Russia also plays a key role in the global nuclear industry. This is partly due to Soviet-era achievements in the nuclear industry and partly thanks to the United States-Russia Highly Enriched Uranium Purchase Agreement (the so-called “great uranium deal”) of 1993 (United States and the Russian Federation 1993). Russia’s Rosatom state corporation has developed a unique role in the global nuclear industry. By 2022, Rosatom was the supplier of about 50 per cent of the world’s enriched uranium and 25 per cent of the nuclear fuel used in the United States. According to UN Comtrade and Russian sources, in 2023 Russia was the world’s biggest exporter (ahead of France and the UK) of this commodity (worth US\$2.7 billion) (Arestova 2024a). Russia’s exports of this commodity increased by 31 per cent compared with 2022 (Arestova 2024a). In 2023 Russia exported enriched uranium to seven countries; the US (up 19 per cent), China (down 32 per cent), and South Korea were Russia’s top customers that year (Smirnova 2024). Furthermore, as it holds 480,900 mt (8 per cent) of the world’s uranium resources, Russia has the world’s fourth-largest uranium deposits (less than Canada but more than Namibia) (Pistilli 2024a). Nevertheless, out of world’s 10 largest uranium mines, none are located in Russia (Pistilli 2024b).

Russia’s place in the global uranium industry – and its core and unique competencies in nuclear technologies and nuclear energy as well as its ingenuity in “hooking” the US on Russian uranium (the 1993 agreement) – have long been a source of pride and feeling of superiority among Russia’s political and business elites. Russian sources frequently refer to this sector of the Russian economy as one of very few where the West is strategically dependent on Russia and they have felt that the West could do very little about it (Dvinskiy 2024). Russia’s confidence in its indispensability to the West (and the US in particular) for uranium supplies was so strong that in late 2023 prominent Russian politicians were dismissing the prospect of Western economic sanctions being extended to uranium (Sadovskiy 2023). However, in May 2024 the US Senate passed a bipartisan bill banning Russian uranium imports (with exceptions for some US operators who preserved the right to import from Russia until 2028) (Miller 2024b).

Reaction among Russian business experts and policy-makers to the ban was mixed. On the one hand, some rightly argued that the potential loss of some US\$2 billion in annual revenue would not have a serious impact on the

Russian economy. The significance of this ban lies on a different plane: the introduction of uranium sanctions demonstrated that the West (the US in this case) is ready extend sanctions even to those areas where its dependency on Russia has been visible and purportedly very hard to escape.

That said, mainstream Russian experts claim that Russia can overcome these challenges (Petrova and Sviridova 2024). Other Russian experts, however, have a very different view. According to Andrey Ozharovskii, an expert in the “Security of Radioactive Waste” program, from a financial point of view the US ban on Russian uranium is a “disaster” for Russia’s state corporation Rosatom, which will need to reduce its operations and, likely, become a financial burden on the Russian budget and taxpayers (Insider 2024).

“ *Uranium is one of the very few sectors where Russia can legitimately compete with the West.* ”

There is no doubt that Russia will try to counter US sanctions because uranium (and its nuclear industry) is one of the very few sectors where Russia can legitimately compete with the West (Sukhankin 2024e). For instance, akin to its strategy for foodstuffs, it could try to increase sales to the so-called “friendly nations” in the Global South (TASS 2024). For Russia one of the most interesting markets is Asia, where the use of nuclear power is growing quickly (Yegorova 2024). Specifically, Türkiye and Bangladesh could become Moscow’s initial target markets, with other non-Western countries following later (RIA Novosti 2023a). In fact, Rosatom is already building Bangladesh’s first nuclear power plant (at an approximate cost of \$12 billion). The country has a population of 170 million (and growing), but it is plagued by constant power shortages and blackouts that are crippling Bangladesh’s fast-growing economy. The nuclear power plant may become a factor in building strategic ties between Russia and Bangladesh for decades to come and it could be an example for other countries (with similar economies and needs) to follow (*Financial Times* 2024).

Yet the power of competitors (China, France, Japan, South Korea, and the US) and the Global South's unwillingness to sacrifice relations with the Western world over Russia (McCartney 2024) may hinder those plans. Russia might try to acquire stakes in Namibia and Tanzania, as announced by Rosatom (RIA Novosti 2023b; Atomnaya Energiya 2023) but, given Africa's rapidly changing geopolitical landscape, these plans might not materialize. One should also expect Russia to play spoiler and try to impede uranium acquisition by "unfriendly countries." A primary target would be France, which gets approximately 75 per cent of its energy consumption from nuclear-generated power. To interrupt France's uranium supply chain, Russia has targeted Niger (the world's seventh-largest uranium producer and the second-largest producer in Africa), which is currently seeing a rise in anti-French sentiment (Shvartsman 2023) and is reportedly collaborating closely with the Wagner Group and African Corps mercenaries (McGregor 2024).

With its 588,500 metric tons (10 per cent of world uranium resources), Canada is the world's second-largest uranium producer behind Kazakhstan (Pistilli 2024c). In the realm of uranium production and exports Canada is not only better positioned than Russia but, arguably, any other producer of uranium. Unlike Kazakhstan – whose dependency on Russia and thus vulnerability is overwhelming – or African countries, Canada boasts huge natural reserves but is not threatened by geopolitical shocks or political unpredictability.

Generally speaking about critical metals, it should be noted that Russia and China have already clearly demonstrated their determination to use these commodities as geopolitical weapons. Most likely, further steps will ensue, which will put China- and Russia-dependent countries (and their largest businesses) into even greater risk. In the meantime, Canada – a "raw materials powerhouse" and the second-most competitive country in overall critical minerals production – could assist resource-hungry economies in getting access to strategic raw materials. Canada's main problems are administrative barriers and the overall length of developing projects in the mining industry. As noted by Conservative Leader Pierre Poilievre, "it simply takes too long to develop a mining project in Canada" (Paas-Lang 2023).

# Coal

Russia is a key actor in the global coal industry (see Table 3).

Prior to the outbreak of Russia’s large-scale invasion of Ukraine and the introduction of US and EU sanctions against Russia’s coal industry, Moscow had developed a very ambitious, long-term, three-stage strategy (that extended to 2035) aimed at strengthening and expanding Russia’s global position as a top coal exporter. Those plans included, among other things, the creation of new coal mining centres, such as in Khabarovsk Krai, Sakha-Yakutia, Buryatia, and Sakhalin. The strategy forecasted that by 2035 the global consumption of coal would increase primarily because China, South Korea, India, Pakistan, and Japan were predicted to increase their consumption of coal during this time (Sukhankin 2020). Before 2022, Russia exported about 33 mt of coal by rail, mainly to Ukraine, Poland, Germany, and China; after Russia’s attack on Ukraine and the EU’s sanctions, Russia’s exports by rail contracted by 75 per cent. China remained as the top destination for land-based exports (International Energy Agency 2023). Figure 3 illustrates the export structure of Russia’s coal as of early 2024.

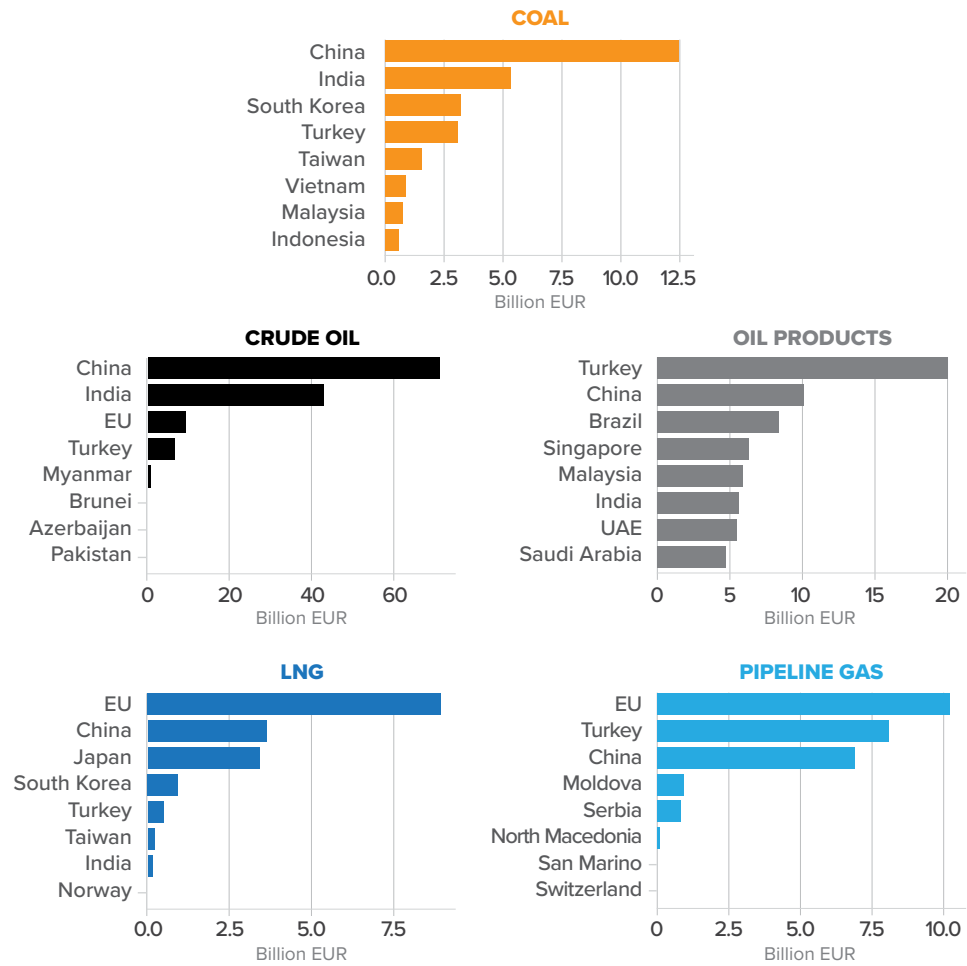
It is also worth noting that in 2023, because of the drastic decrease in global coal prices (primarily related to decreasing prices for oil and natural gas) it became economically unsustainable to export coal from Russia (Plakitkina, Plakitkin, and Dyachenko 2024). Needless to say, Russia hopes that this trend –

TABLE 3: Coal production and consumption, by country, 2024

Coal production by country	Coal consumption by country (2024)	Proven coal reserves by country (2024)	Export of coal by country (2023)
1. China	1. China	1. US	1. Indonesia
2. India	2. India	2. Russia	2. Australia
3. Indonesia	3. US	3. Australia	3. Russia
4. Australia	4. Russia	4. China	4. South Africa
5. US	5. Japan	5. India	5. Colombia

Sources: Global Firepower 2024a; 2024b; 2024c; Maguire 2024; Workman 2024.

FIGURE 3: Purchasers of Russia's fossil fuels after the EU bans



Source: Raghunandan 2024

caused by, among other things, economically developed Western nations decreasing their coal consumption – is reversible thanks to ongoing interest in coal from energy-hungry developing economies, especially India (where coal consumption is expected to grow by 8 per cent) and China (where consumption is predicted to rise by 5 per cent), as well as Vietnam and the Philippines (Borovikova 2023). Indeed, the IEA (though it has forecasted a declining trend in worldwide coal demand starting in 2024) stated that in 2023 the appetite for coal was strongest in Asia, where consumption in China alone grew by 4.9 per cent and in India and in Indonesia by 11 per cent (France 24 2023). Asia is likely to remain the main consumer of coal in the forthcoming decades, but Russia's prospects in this macro-region may be confined by several issues.

The first issue is related to decisions made by China, India, and Turkey. To protect domestic coal producers, China has introduced an import quota of 3 to 6 per cent, depending on the type of coal. That quota has already led to a 21.6 per cent drop in imports from Russia in March 2024 (Smirnov 2024). Meanwhile, India and Turkey decreased their coal imports by 50 per cent in May. According to Russian sources, the plummeting exports to Russia's most significant customers is due to the low profitability of exports (due to the low price of coal), very expensive transportation costs, and generally lower interest in Russian coal among Russia's partners (*Moscow Times* 2024c.).

Second, the international sanctions against Russia are having an effect. Russia's foreign partners are only willing to buy Russian coal at a considerable discount, which makes it unprofitable for Russia to sell it (Tikhonov 2024a). Furthermore, Russia's coal industry is said to be highly dependent on imported machinery and technologies (mainly from the US, Germany, Japan, and Poland); the industry's average dependency rate is between 80 and 100 per cent (EurAsia Daily 2023). A combination of these factors has prompted the authorities in Kemerovo Oblast (Kuzbass) to state that Russia's coal producing industry "is on the brink of collapse" (Arestova 2024b). This statement is most likely an exaggeration (designed to attract more subsidies from the federal centre), but it nevertheless points to the multiple snowballing problems that Russia's coal-producing industry is facing. At one time, the industry generated \$17 billion a year for the state budget and was Russia's fifth-largest source of income (Rosbalt 2020). In 2023, the profits of Russian coal companies dropped 2.1-fold to US \$3.9 billion (down US \$4.6 billion year over year) due to falling prices on the global market and a substantial increase in costs (Coal Hub 2024). That trend is expected to continue with profits anticipated to fall even further.

Third, while Russia has always had problems with its logistics, those problems were exacerbated following the imposition of Western economic sanctions and Russia's need to rapidly redirect the flow of transportation and cargo from the West to the East. As Yury Trutnev, presidential envoy to the Far Eastern Federal District, noted in April 2024, Russia is only capable of sending a maximum of 170 million tons of cargo to the Far East, whereas the cumulative number of requests sent by Russian companies is reportedly at least twice that number. As a result, Russia's eastern transportation flank is on the brink of collapse and might be unable to transport goods and products within Russia, especially to Siberia and the Arctic region (Energyland.info 2024). At

the same time, Russia cannot drastically increase the transportation capacities of the Black and Azov Sea ports because of its strategic orientation toward African and MENA markets (Arestova 2024c). That said, Russia believes the solution lies in implementing the following measures (Tikhonov 2024b):

- Increase the use of, and the cargo flow, through the Northern Sea Route (NSR).
- Increase the transportation capacities of the so-called Eastern polygon (the Baykal-Amur and the Trans-Siberian Railway)
- Construct new and increase transportation capacity from already existing railroads to the Baltic, Azov, and the Black Sea ports.
- Increase the transportation capacity of the International North-South Transport Corridor (INSTC), which Russia sees as both a bridge to the Global South (primarily the MENA and Southeast Asian countries) and a tool for strengthening intra-Caspian ties among the “Caspian Five” – Russia, Azerbaijan, Iran, Kazakhstan, and Turkmenistan (Sukhankin 2024f).

The Russian coal industry also faces a fourth issue: corruption and gray schemes. Russia exports two main types of coal: sub-bituminous coal (a lower grade of coal used as a fuel for steam-electric power generation) and anthracite (the purest coal, which commands a far higher price and is used for production of steel and other metals. Russian sources argue that Russia’s coal industry is filled with corruption and malpractice, including corrupt certification procedures (Butyrina 2024). For instance, those in the industry sometimes export one sort of coal instead of the other. Russia’s endemic corruption and its track record of employing so-called gray schemes involving the transportation or quality of its commodities should be a stern warning to anyone still considering buying Russian coal. Furthermore, the quality of Russian-produced coal could be compromised by Russia’s proven practice of selling illegally obtained coal from temporarily occupied areas of Ukraine’s Donbas, which could end up staining the consumer’s reputation should such allegations be proven.

Canada is one of the world’s leading exporters of coal. In 2023, Canada accounted for 3.4 per cent of global seaborne coal shipments. Nearly half of the coal produced in Canada is thermal and half is metallurgical. Canada’s exports are primarily metallurgical coal with Japan remaining Canada’s top customer. Notably, between January and December 2023, coal exports to Japan from Canada increased by +17.6 per cent y-o-y to 16.8 mln tonnes. The second-



largest destination for Canadian coal is South Korea, accounting for 22.8 per cent of Canada's exports in 2023 (The Coal Hub 2024b). Despite coal losing its popularity among Western customers and Canada's plans to "phase out coal exports" by late 2024 (Rabson 2024), the importance of coal will likely remain high – especially among Indo-Pacific countries, where consumption of coal is increasing (Tradelmex 2024). As claimed by *The Economist*, despite recent changes, coal remains "a disturbingly safe investment" (*The Economist* 2024). With Russia's coal industry disintegrating and collapsing due to the above-mentioned reasons, Canada could capitalize on this and expand its production and exports of coal to players in the Indo-Pacific region.

## Conclusions

Russia's choice to engage in a large-scale war against Ukraine in 2022 and the Kremlin's ensuing "commodities blackmail" has had a sobering effect on most democratic countries. It is now abundantly clear that under the Putin regime in Moscow cannot be trusted. The democratic community of nations will likely be compelled to restructure (or re-modify) currently existing supply chains as it seeks to obtain various critical resources and commodities. The democratic community will have to radically decrease its overarching (in some categories) and extremely dangerous dependency on Russia. The need for the community to do this is further highlighted by such global trends as the rapid growth of the green economy (with mining playing a key role) and population growth (which makes access to food and fertilizers essential).

It is very important for countries to study, analyze, and avoid a repeat of the EU's decades-long overreliance on Russia for hydrocarbons and commodities. That overreliance has resulted in an economic slowdown and has posed challenges to the bloc's industrial potential. Thus, it is important for both the Euro-Atlantic nations and their regional partners to depart from their dangerous policies of over-relying on Russia for foods, metals, and sources of conventional energy (coal, oil, and natural gas) (Sukhankin 2024g). For most of the products discussed in this article, such a transition is not only possible, but

could and should be facilitated by reliable, politically stable, environmentally and socially sustainable, democratic and resource-endowed countries such as the US, Australia, New Zealand, Argentina, and (prospectively) Ukraine, which is currently facing an existential struggle for its survival and security. Canada combines all the above-mentioned qualities and is perfectly positioned to replace (or substitute for) Russia in many resource-related sectors. While its foreign partners are clearly interested in Canada's abundant natural resources and are attracted by its proven credibility as a trade partner, Canada's ruling elite must acknowledge the fact that Russia's exclusion from the global economy is likely temporary. It will not last forever and Canada should not miss this opportunity.

Despite its immense natural resource wealth and its importance to the global economy and trade, Russia's political opportunism, unsatiated geopolitical ambitions, and sense of cultural supremacism blended with a disregard for the sovereignty of other countries have led to its increasing isolation and disconnection from the global economy. Further, the country is suffering from a host of domestic issues, such as recent terrorist attacks in Moscow, and protests in North Caucasus (Bashkiria) that have a visible ethnic undertone. This all makes Russia a highly unstable destination for investments or long-term financial commitments. **MLI**

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## Endnotes

- 1 The Global South generally refers to Africa, Latin America and the Caribbean, Asia (excluding Israel, Japan, and South Korea), and Oceania (excluding Australia and New Zealand).

constructive *important* forward-thinking  
excellent *high-quality* insightful  
timely *active*

# GOOD POLICY

is worth fighting for.

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