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The Impact of the Russian-Ukrainian War on the Global Green Energy Drive

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Abstract

The Russian-Ukrainian war, which started on 24 February 2022, marked the first major global socio-economic disruption of the 21st century, significantly impacting the energy supply for European countries. The war triggered reactions from various countries, negatively impacting the global drive to reduce greenhouse gas emissions and curtail climate change. This article discusses the impact of the war on Sustainable Development Goals 7 and 13, which speak to preserving climate and clean energy. The article was based on a critical review of the literature and the observation of the conflict from various media platforms. It noted that Western powers prioritise global dominance, therefore, sidelining clean energy concerns, thus undermining achievements. This dearth of actual action on the green energy drive may see the world comatose for several years to come, with the scourge masked by media rhetoric.

Keywords: *Clean Energy, Climate Change, Russian-Ukrainian War, Sustainable Development Goals (SDGs)*

Introduction

On 24 February 2022, Russian Federation President Vladimir Putin announced that he had authorised a special military operation in neighbouring Ukraine (Simmons, 2022). This marked the beginning of a protracted war between Russia and Ukraine, triggered by geopolitical alignments in global politics (Simura, 2015), that sucked in European states, the United States of America (USA) and Canada, as well as the North Atlantic Treaty Organisation (NATO). In various attempts to ensure a Russian cessation of hostilities, the EU, European countries, NATO, and the USA adopted a hybrid warfare approach that included the sending of personnel to assist Ukraine, military aid, and a media war on Russia, as well as a raft of economic and financial sanctions that sought to bring the Russian economy to its knees and abandon the war.

Hybrid warfare refers to the employment of "a comprehensive toolset that ranges from cyber-attacks to propaganda and subversion, economic blackmail and sabotage, sponsorship of proxy forces and creeping military expansionism" (Monaghan, 2019, 84) to win new emerging conflicts and wars. The war, which had been triggered by Ukraine's desire to join the European Union (EU) and NATO, saw NATO member states fighting a proxy war that included the use of economic and financial sanctions against Russia in attempts to curtail its ability to finance the war (The White House, 2022). The EU, Britain, the USA, and other Western allies imposed a raft of complex sanctions against Russia, which were captured by the Russian President, Putin, as "akin to an act of war" (Helm et al., 2022). The sanctions regimes targeted individuals and institutions that were seen as central to oiling the Russian war machinery and included the freezing of Russian foreign reserves, sanctions against Russia's central bank, removing major Russian banks from the Society of Worldwide Interbank Financial Telecommunication (SWIFT) and a total ban on Russian oil and gas (in the case of the USA) (European Council, 2023; The White House, 2022). The idea was to strangle the Russian economic and financial lifeline and destroy its currency as anticipated by the US President, Joseph Biden, on his visit to Warsaw in March 2022 that "the Rouble almost is immediately reduced to rubble."

The financial and economic measures imposed by the West and NATO member states came at various costs to the sanctioning states, which were also exacerbated by Russian retaliatory measures. Russian measures included classifying some European countries, such as the

USA, Canada, Australia, Japan, and South Korea, as 'unfriendly' and subjecting them to financial measures. This included payment of debts exclusively in Roubles at the prevailing rates of the dates of payment, banning exports of strategic resources like telecoms and electrical equipment, and also banning some imports, mostly foodstuffs, from the listed countries (*Al Jazeera*, 2022b; *BBC*, 2022; Rankin, 2014).

Russian reaction was meant to put pressure on Europe to cease meddling in the war with Ukraine. Its cardinal advantage was the European winters, where the latter needed heating (Meredith, 2022). European leaders were aware of this and started working on alternative energy strategies. The plausible route would have been to go for renewable, clean energy, which would aid in meeting the targets of the Paris Agreement. Attempts to increase energy production from renewable clean energy were enhanced by the renewable energy programmes that were already underway. However, these transformations could not meet the demand created by the reduction in the Russian energy supply, hence the need to seek alternative supplies of petroleum, gas, and coal (Liptak et al., 2022; Bernstien, 2022).

Alternative energy would be found by increasing production from other sources, which, without an equal cut of the Russian output, would mean a considerable increase in the use of fossil fuels, which various world leaders agreed to reduce. This is reflected in the Paris Agreement and further bolstered by the Sharm-el-Sheikh (CoP 27) agreements and the Sustainable Development Goals (SDGs) 7 and 13. SDG 7 seeks to "ensure access to clean and affordable energy, which is key to the development of agriculture, business, communications, education, healthcare and transportation" (UN, online (a)), while SDG 13 seeks to promote "urgent action to combat climate change and its impacts" (UN, online (b)). This article, therefore, informs on the contradictions between the Paris Agreement and the SDGs 7 and 13 brought about by the Russian-Ukrainian war.

The article informs on the essence of the referred SDGs, whose realisations have been subjected to wars of dominance, a case that has not been given attention by writers on the subject. Most writers have centred on great power politics and the rise of regional powers to fill in various vacuums created by the war (Davis and Slobodchikoff, 2022; Brunk and Hakimi, 2022; Mearsheimer, 2014) and the impact of the war on global food security and food production (Abu Hatab, 2022). The

paper, therefore, sought to answer the question: What was the impact of the Russian-Ukrainian war on the global green energy drive? With a corollary question: how has the war impacted SDGs 7 and 13, which are related to equitability in combating climate change and development? The article was based on a critical review of the literature as well as observation of the events since 2014 by the researcher using various contending media platforms like CNN, Al-Jazeera, and Russia Today, as well as various electronic print media accessible on the internet from both the East and the West.

The threat of climate change and the essence of SDGs 7 and 13

The need for the global use of clean energy to avert climate change came into prominence in the 1980s going into the 1990s after a recommendation from the Intergovernmental Panel on Climate Change (IPCC), which was constituted by the United Nations (UN) (Asuelime and Simura, 2016). Over the years, world leaders and environmental scientists have grappled with the question of how to attain optimum industrialisation and development while using cleaner energy. Under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (CoPs), the international community has sought ways to curb environmental pollution without retarding development. The question that has faced the world, especially with the binary division of the developed and the developing world, has been how to curtail pollution through the reduction in the use of fossil fuels without retarding the course of development by those mainly in the global South. It is from this standpoint that the UN included SDGs 7 and 13 as complements to each other in the 2015 global Sustainable Development Goals.

The need for the lesser use of fossil fuels has been a rallying call of various climate scientists and clean/green energy activists. Climate scientists have advised policymakers worldwide to work on keeping global warming below 1.5° Celsius above the preindustrial levels. The calls have been much louder, especially after it was announced that the years 2016 and 2020 were tied as the hottest years in recorded history, with the years 2015 to 2022 being the warmest years (NASA, 2023; World Meteorological Organisation, 2022). The continued increase in global temperatures was overall driven by politics of global dominance, especially between the developed powers in North America and Europe and the rising powers, particularly China, Brazil, and India, as economic

and military development needs energy. In most cases, rapid growth came from fossil fuels.

The dominant developed Western world feared cutting down on the use of fossil fuels, which would translate into reduced industrial development levels relative to the emerging powers like China, India, and Brazil, whose classification as developing countries was seen as skewed as they had risen as major greenhouse gas emitters. Under the Kyoto Protocol (1998), countries were classified in line with their share of emissions, which gave those classified as historically high emitters the massive burden of cutting emissions and assisting the developing countries or the least developed countries with adaptation to climate change. There were also divided positions from the least developed countries of the global South where, as argued by Asuelime and Simura (2016), some African countries expended much of their efforts on adaptation financing while the small island nations, under threat of submersion due to rising sea levels, pressed for a reduction in the use of fossil fuels. It was these disharmonies that SDG 13 sought to clarify.

While there has been a need to reduce global warming through migration from fossil fuels to renewable energies, there was also a mismatch in the distribution of energy resources. The debate on migration from fossil fuels, which was central to Western development before there was full-scale industrial development in the global South and with more than 40 per cent having no access to electricity in Africa (International Energy Agency, 2022d), can be seen as grossly unfair. SDG 7 was an attempt to have equity in the access and use of clean energy sources, especially between the global North and South.

The Paris Agreement

The SDGs' success was hinged on country commitments to reductions in the use of fossil fuels and reducing greenhouse gases. This success was seen as possible if countries acted upon their commitments as agreed upon in the Paris Agreement. The Paris Agreement was the first major climate treaty signed and ratified by all major global polluters, including China, India, and the USA1. The agreement differs from its predecessor,

1The USA signed the Paris Agreement in April 2016 and it came into force in the country through President Barack Obama's Executive Order of September 2016. However, it was pulled out of the agreement by President Donald Trump officially on 4

the Kyoto Protocol, in that it does not only hold accountable the developed countries for their role in global warming but, under the "principle of equity and common but differentiated responsibility and respective capabilities," also makes developing countries to account for their current actions and to work towards sustainable mitigation and adaptation (United Nations, 2015). Under this notion, the parties agreed to "holding the increase in the global average temperature to well below 2° Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° Celsius above pre-industrial levels" (United Nations, 2015, Art. 2 (1) (a)). Country parties agreed to have Nationally Determined Contributions (NDCs), which refer to emissions-cutting climate action plans as well as adaptation plans to climate change impacts. These NDCs would be reviewed periodically and should be deposited with the UN secretariat.

EU member states submitted their plans as a bloc in line with articles 4(16)(17)(18) of the Paris Agreement, which gave room for parties to the agreement to formulate their NDCs as a regional bloc and work on achieving the targets as a bloc but with individual countries bearing their obligations and also being held accountable individually as well as a bloc in cases of failure to honour their pledges. This means that countries will be jointly responsible for the pledges together with the EU as a regional organisation. Under its submitted NDC, countries under the bloc pledged to reduce their anthropogenic emissions by at least 55 per cent compared to 1990 levels by 2030 and to be carbon neutral by 2050 (European Union Commission, 2020). Carbon neutral, also known as net zero on carbon emissions, refers to a case where a country's carbon emissions are equal to or less than the emissions it absorbs or removes from the atmosphere.

To achieve this ambition, EU countries planned to close their coal power plants before 2030 (Climate Action Network Europe, 2021). Several Western countries, dominated by the EU member countries, also pledged to stop financing fossil fuel projects and divert the funds to financing clean energy projects (Harvey and Greenfield, 2021). The Union also enacted a legislative framework that helped it to be bound by what had been agreed upon in line with the Paris Agreement on various socio-economic aspects, which targeted energy efficiency and sustainable reduction of carbon emissions to net zero by 2050 (European Union

November 2020 and was only brought back by President Joseph Biden's Executive Order signed on 20 January 2021 after he won the presidential election and succeeded Trump.

Commission, 2020). However, the targets made on the pledges are under serious threat of being derailed as Europe seeks to replace Russian energy supplies, while Russia is diversifying its market with a minimum reduction in its production. The hunt for alternative energy sources, especially coal, which is responsible for more than 40 per cent of the emissions, means that Europe and the USA encourage increased production of fossil fuels, creating challenges to SDGs 7 and 13.

The Russian-Ukrainian war as a hybrid war

Western hybrid warfare against Russia mostly targeted fossil fuel exports. On the eve of the war, Russia produced approximately 10.5 million barrels of crude oil daily, translating to 14 per cent of the global total supply (International Energy Agency, 2022a). The country is also a significant producer of natural gas and coal, which are mostly exported to Europe (Broom, 2022b). The Russian economy was very much reliant on its energy exports to the world, contributing approximately 18 per cent to its GDP (Statista, 2022c).

Europe and the USA targeted Russian earnings from its energy exports in two ways. Firstly, through shrinking markets open to Russian energy supply, total banning of some products, as in the prohibition on crude oil coming into Europe through tankers (i.e., seaborne) (Payne and Saul, 2022), or by encouraging other major markets like China, India, and Turkey to limit or stop the importation of Russian energy products (Blenkinsop and Tian, 2022; NPR, 2022; NDTV, 2022). Secondly, the West sought the reduction of Russian financial income from exports to Europe and other third-party importers by putting a price cap of US$ 60 per barrel on all Russian oil exported using Western tankers and insurance providers (European Council, 2022; Ivanova, 2022). The measures, on the whole, were meant to limit the Russian capabilities in continuing with its war efforts. However, the measures had a great impact on the United Nations' Sustainable Development Goals (SDGs) 7 and 13 related to clean energy use and the curtailing of climate change. The measures spurred increased fossil fuel production in regions with previously limited output, prolonging their reliance on polluting energy without a corresponding decrease in Russian production.

Among the major sectors of the Russian economy that were targeted was the energy sector, specifically the petroleum and gas industries. The USA instituted a total ban on Russian oil and gas in March 2022 (Mitrova, 2022). The EU took a much more cautious approach given that it was dependent on Russian fossil fuels, with such countries as Hungary, Slovakia, and the Czech Republic dependent on Russia for approximately between 50 and 90 per cent of their crude oil needs (Debiec, 2022; Liboreiro, Koutsokosta and Murray, 2022) and more than 60 per cent of their gas supplies (TRT World, 2022b). In the initial stages, the EU resolved not to impose stringent restrictions on Russia's energy industry as they needed more oil, gas, and coal for winter heating. Later, the block resolved to put a cap on the price of oil imported from Russia through a system that limited the price of Russian crude to Europe at US$ 60 per barrel (European Council, 2023). The regulations further prohibited "EU-flagged tankers from shipping Russian cargoes and ban the provision of maritime services, including insurance, to third-party vessels involved in the trade" unless such business is conducted within the price cap (Bloomberg News, 2022). The idea was meant to limit the financial flows to Russia from the sale of its energy resources, seen as the primary source of financing the war and a source of its global power.

It was expected that a loss of major markets due to sanctions would result in Russia cutting its production. On the eve of the war, Europe consumed approximately 67 per cent of Russian oil (Broom, 2022a), 40 per cent of Russian coal (International Energy Agency, 2022c), and 44 percent of Russian LNG (Bank of Finland Institute for Emerging Economies, 2022), as well as (combined with Turkey) 83 percent of Russian natural gas (Abay, 2022). It was also expected that Russia would lose the other (outside of Europe and the West) major markets like China and India due to two reasons. The first is that buyers would find it difficult to trade with Russia, which had been restricted from using SWIFT, and also some companies 'self-correcting' for fear of secondary sanctions. Secondly, the EU and USA embarked on a diplomatic offensive and diplomatic bullying to deter other countries from buying Russian oil and gas and assisting Moscow in busting the sanctions (Lau, 2022; The Times of India, 2022; TRT World, 2022a). For instance, the US President, Biden, and USA Secretary of State, Anthony Blinken, were reported to have 'warned' China of the consequences if it supported Russian war efforts in Ukraine (Al Jazeera, 2022a; Sanger and Wong, 2022).

The threat of the war on SDGs 7 and 13 and its impact on the green energy drive

On its part, Russia retaliated initially by decreeing that all energy supplies to Europe should be paid for in the Russian currency, the rouble (Nasr and Trevelyan, 2022). This was an escalation from the ban on some imports from countries that were designated as unfriendly after the EU and some Western-aligned countries imposed sanctions on Russia after it annexed Crimea (Rankin, 2014). The propaganda war from the West to deter other countries from buying Russian petroleum and gas was not as effective in reducing Russian production due to the Russian counter-propaganda against Western imperialism and global hegemony and also due to the 'cold war' between the USA and China (Bekkevold, 2022). Russia also negotiated energy trade agreements with other countries like China, India, and Turkey to trade in oil using their respective currencies and setting aside the 'Petro-dollar' (Jacques, 2022; Gadzo, 2022). The trade agreements also came with massive discounts of approximately more than 40 per cent as Russia sought to lure buyers and forestall the negative impact of the sanctions (The Times of India, 2022). These agreements were effective given that between February and March 2022, India bought 13 million barrels of oil from Russia, compared with a total of 16 million barrels it bought in the whole of 2021 (The Times of India, 2022), and the deal saw Pakistan also arguing that the USA could not stop it from accessing the deal which India was enjoying (Mallick, 2022).

Russian production of oil and natural gas stood above 10 million barrels per day (bpd) on the eve of the invasion of Ukraine and until the imposition of various sanctions regimes from the West from January to March 2022 (Statista, 2023). After the war, the Russian security authorities classified their production statistics on oil and gas, and this meant that statistics after the start of the war were approximations based on information acquired from some countries that purchased Russian energy (Mitrova, 2022). In April 2022, when the war in Ukraine had commenced, coupled with sanctions, the production tumbled to slightly above 9 million barrels per day (Statista, 2022a). However, production rose to 9.8 million barrels per day in November 2022 (International Energy Agency, 2022b; Statista, 2022a). Reuters (2023) reported that oil production in the first third of January 2023 could have jumped above 10 million barrels per day, representing production of the pre-war period.

This meant that against any financial consequences that Russia faced due to the Western sanctions, its production remained high, and its fossil fuels continued to contribute to global warming as they did before the invasion of Ukraine, while the EU and North America sought other sources of fossil fuels.

The cuts in fossil fuel supplies from Russia led to high gas prices in Europe, which demanded urgent correction by balancing energy demands with energy supply. It also meant that some supplies had to be sought from elsewhere. This was no small requirement. Russia supplied approximately 40 per cent and 25 per cent of EU member states' respective gas and oil requirements in 2021 (Jordans et al., 2022) and 45 per cent of coal requirements (Kaya, 2022), with Russian coal accounting for 70 per cent of the total thermal coal in the EU (Kaya, 2022; DW, 2022) before the war with Ukraine. The USA also imported millions of barrels per day of crude oil and gas from Russia, which in 2022 peaked at more than 17.8 million barrels per day in March (Statista, 2022b). The EU, Britain, and NATO member states had expected to offset the loss of Russian energy by acquiring more production from allies like Saudi Arabia and re-establishing oil-related relations with adversaries like Venezuela and Iran (Liptak et al., 2022; Blackmon, 2022). Based on the expectation, at least speaking from a climate change perspective, any increase would offset Russian cuts in production and hence be of not much consequence to SDG 13.

The loss of Russian gas required a quick solution, especially for the heating challenges. Some major European countries found themselves recommissioning their mothballed coal power plants, while others extended the operational lives of those that had been set for decommissioning (Frost, 2022; Reuters, 2022). There was also increased production of coal in Serbia, Poland, and North Macedonia (Reuters, 2022). These developments in Europe went against the pledges to the Paris Agreement and directly threatened the success of clean energy-related SDGs.

EU countries also planned to increase the production of renewable energy supplies at home through the use of solar and wind (Strasburg and Dvorak, 2022). There were some increases in the use of renewable energy among EU countries, as noted by Askew (2022), that renewables helped the region avert €11 billion in extra energy costs. According to Strasburg and Dvorak (2022), clean energy focuses on the extent of fossil fuel reduction, a process that requires time, not just savings or renewable investment. On the contrary, there have been missed opportunities in the

meeting of commitments by many European countries as they sought to offset the energy challenges brought about by the war. These missed opportunities had spillovers to other countries in other regions.

Given that advances in renewable energy sources could not offset the loss of Russian fossils, European countries turned to the USA and African countries for the supply of LNG and coal (Gold, 2022; Maguire, 2022) while also discussing increased production and supply of oil and LNG from the other countries (Liptak et al., 2022). Hellenic Shipping News (2022) reported that between January and September 2022, South Africa exported 9.6 million tonnes of coal to Europe, against 1.4 million tonnes during the same period in 2021. The statistics represented an increase of more than 680 per cent. The only consolation was that South Africa exported 32.1 per cent less coal to China in the same period as compared to 2021 (Hellenic Shipping News, 2022). Other African countries that increased coal production to supply the European demand included Tanzania, whose production increased sevenfold in 2023 (The East African, 2023). The Bank of Tanzania's April 2023 Monthly Economic Review, quoted in The East African (2023), informed that "Exports of coal edged up to (US)$223.8 million from $31.9 million, induced by rising demand for alternative energy, amid supply challenges caused by the war in Ukraine." Botswana's state-owned Morupule Coal Mine (MCM) opened a new mine in 2022 with a capacity to produce 1.4 million tonnes per annum. The total increase in the mine's output is 50 per cent, while the country targeted a production capacity of 7.6 million tonnes per annum by 2027 (Mining Technology, 2022).

The hunt for coal by Europe was not only limited to sub-Saharan Africa but spread afield to Indonesia and Australia, among other countries enticed to produce more for Europe. Various European countries also invested in other fossil fuel projects in Africa, mostly natural gas and oil. Natural gas was reclassified from being a fossil fuel to being termed a 'transitional energy' to allow for some major banks to be allowed to finance it (Lo, 2022). These projects were discussed in Nigeria, Namibia, Angola, and Algeria, among other countries. This means that apart from going against their pledges to cut down on the use of fossil fuels like coal, nuclear, oil, and LNG, European countries also went against their pledges made at the Glasgow CoP 26 to stop financing fossil fuel projects by 2022 (Kottasova et al., 2021; UN Climate Change Conference, 2021).

By increasing purchases of oil and coal from regions like Africa where they were already cutting down on production, the European countries have encouraged increased production of coal and other fossil fuels, which were on the decline, to benefit mostly their desire to strangle Russian financial supply lines at the expense of the Paris Agreement. This was against conservative reductions in production in Russia, which came up with measures to secure new markets and maintain its production levels. Similarly, the actions of European and other Western countries created a moral dilemma, preventing them from lecturing developing countries against using fossil fuels. The EU had taken a moral high ground by having the most ambitious targets on clean energy in line with the Paris Agreement. Such morality is now being seen as hypocrisy after the failure to shut down coal and nuclear-powered stations and increased purchases of coal, oil, and gas from Africa, Latin America, and the Gulf countries after a fallout with Russia in the aftermath of the Russian-Ukraine war. Kumar and Levitan (2022) noted that "Purely from a climate perspective, then, the Ukraine war is clearly bad news," while Moore and Moss (2022) stated that "The resurgence of carbon-intensive energy after Russia's invasion of Ukraine—and the resulting rise in emissions—shows that when economic growth and energy security are under threat, growth and security will beat out climate policies every time."

Conclusion

The Russian–Ukrainian war has shown the world how the politics of major powers' dominance still trumps emerging shared threats to the world. The war led all belligerent sides to use the global socio-economic integration, previously seen as a uniting force and deterrent against war, as weapons against the other side. Under the philosophy that they cannot fund an invader into allied territory, the EU and NATO member states slapped Russia with sanctions that mainly targeted the energy sector, seen as the Russian economy's lifeline. Russia also responded to the financial and economic sanctions with countermeasures that impacted global supplies of fossil fuels. The sanctions might have reduced Russian earnings from its energy exports as the country sought other markets using discounts. However, the sanctions did not heavily impact the physical production of these fossil fuels. Against a failure to have Russia drastically cut its production, European countries sought to offset the lost Russian energy by acquiring fossil fuels of gas, oil, and coal from

other countries in Africa, the Middle East, and North and South America. This means there was increased production of fossil fuels, mostly crude oil, LNG, and coal, and using this increased production was retardation from the agreement limits in the Paris Agreement. The war encouraged more consumption of fossil fuels and increased production from countries in Africa and Australia that were either scaling down or planning on doing so in the production of fossil fuels, mainly coal. Europe was projected to rely strongly on fossil fuels and increase its use of coal by 5 per cent for the next 10 years before being reliant on its investments in green energy (Edmond, 2022). All this is catastrophic to the Paris Agreement and has been used by those who are against the reduction in the use of fossil fuels as a justification to continue to use their fossil fuels in the name of national (energy) security. For now, one can say that the green energy drive is dead, killed by the Russian–Ukraine War, and we await its resurrection in not less than 5 to 10 years while being saved with the green energy rhetoric at various regional and global forums, and this is well captured in Cohen's (2022) allegory that the "German Green Party has morphed into a coal lobby."

Therefore, it is prudent that a global agreement should be reached where global economic systems should not be weaponised to allow for the smooth flow of energy and financial resources. Though sounding remote, one can argue that the international community reached agreements on other contentious issues previously, like the treatment of prisoners of war. Currently, various countries are working on creating independent interstate payment systems, a move that shows more fragmentation against more unity. Also important to note is that the failure to respect agreed targets on climate change will create more deniers and, hence, exacerbate climate change.

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