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ENERGY REALISM AND THE RETURN OF CLASSICAL GEOPOLITICS IN THE 21ST CENTURY

Abstract:

The Year 2022 could be considered epochal in the annals of energy geopolitics. The energy prices have been a signifier of conflict in Europe over Ukraine. There has never been such intense geopolitical sparring among countries on energy supplies. And, also Heartland geopolitics seems to have come up in a new avatar in this era. The present paper examines the possible directions of energy geopolitics and the adjustments among big powers. Energy geopolitics shapes the Heartland geopolitics and vice versa. This paper argues that Heartland geopolitics has acquired a fundamental transition reinforced by energy geopolitics in the post-Cold War period. The Heartland geopolitics currently pivoting on carbon energy has all the resources to shift towards nuclear energy geopolitics. The Russia-Ukraine war exposed the weakness of international institutions and the absence of shared interest in a rule-based international order. Mackinder's observation of democracy and geopolitical realities provide sufficient leads to wading through the current quagmire.

Key words:

Energy, geopolitics, sovereignty, natural gas, Russia, Heartland

INTRODUCTION

This paper raises fundamental questions about the energy trade being a signifier of power relations among states. It pivots around the pattern of conflict that ostensibly does not reflect energy wars but hovers around the energy trade that, in the long run, poses geopolitical questions about the competitive

nature of energy resources and questions of weaponisation of energy trade towards achieving strategic objectives. There is inherent ambiguity in the internal and external balancing if one looks at the realist argument of the distribution of power that underpins the international order. At best, the distribution of power in the international system can reach a point of inflexion where a balance of power rests, and the equipotent chances of peace and war coexist. The economic and military power does not supply uniform measures as the wars and embargos have not yielded the desired political objectives for the great powers. The US commanded an extraordinary military and economic power concentration but faced monumental failure in Afghanistan. It is only desirous that the world strives for a structural response to balance its power(Levy 2004). The opportunity lies in the geographical biases of wars that limit any absolutism practised by a superpower over the entire space. The power, in absolutist terms, does not mandate an external balance only where weak and strong states arrange them in numerous possible alliances. The domestic structuring of the political economy in response to the global balancing of power is a visible continuum. The power that sustains the social and political life of the nation-state looks at geographical and temporal instances of a balance of power with other states. The asymmetric relation between a sole superpower and regional power can lead to unintended domestic consequences, possibly leading to a superpower losing its status.

This paper proposes that energy realism can be a reliable yardstick to measure the geopolitics of the balance of power in the international system. Energy realism focuses on the geographical location of fossil fuels owned by nations, and their ownership defines their strategic interest in the international order. It is the energy balance a nation maintains through various sources of energy. Energy has domestic and external linkages to a nation's capabilities manifesting its superior status in the power distribution hierarchy. The volume of energy trade, energy consumption, and regional dominance makes a fair statement about a nation's capability to bargain in power arrangements in the international system. Out of these three variables, the first two reflect the significance of energy fuels and their geographic location contributing to the

international geopolitical environment (Li 2013). Two major groupings outline the polarity of the world energy business narratives: oil-consuming and oil-producing countries. The International Energy Agency (IEA), with the OECD countries and allied as its primary members, represent the interest of the energy consumer nations buying fossil fuels. The Oil Producing and Exporting Countries (OPEC) are the energy-producing countries of Asia, Africa and Latin America. Russia remains an autochthonous entity in both cases, although it communicates better with the OPEC countries. The polarity between the buyers and sellers is conditioned by the gradient of those states refining and selling oil between the two ends. India exported \$25.3 billion of refined petroleum products in 2020, making it the fifth largest exporter and also the most exported product from India (OEC 2020). The leading nations importing India's petroleum products were the UAE and Saudi Arabia, both oil-producing countries. The environmental laws add to the energy realism a new set of market conditions, which crude producers and refiners see as hostile. The emphasis of the OECD countries is to reduce carbon fuel dependency and reduce the consumption of fossil fuels. The narratives of OECD-IEA and OPEC are striking in comparison, on the one hand the IEA 2021 World Energy Outlook Report stresses the need for behavioural changes in fossil fuel consumption with a significant push to convert transport vehicles to electric vehicles (International Energy Agency 2021). At the same time, OPEC termed it a positive sign for the global economy, as the post-Covid19 demand for petroleum in non-OECD countries, particularly China and India, picked up. The report stated the rise of OPEC's oil production to the 2019 stage, i.e., the pre-pandemic levels and similarly, the rise in oil prices led to increased production (OPEC 2022).

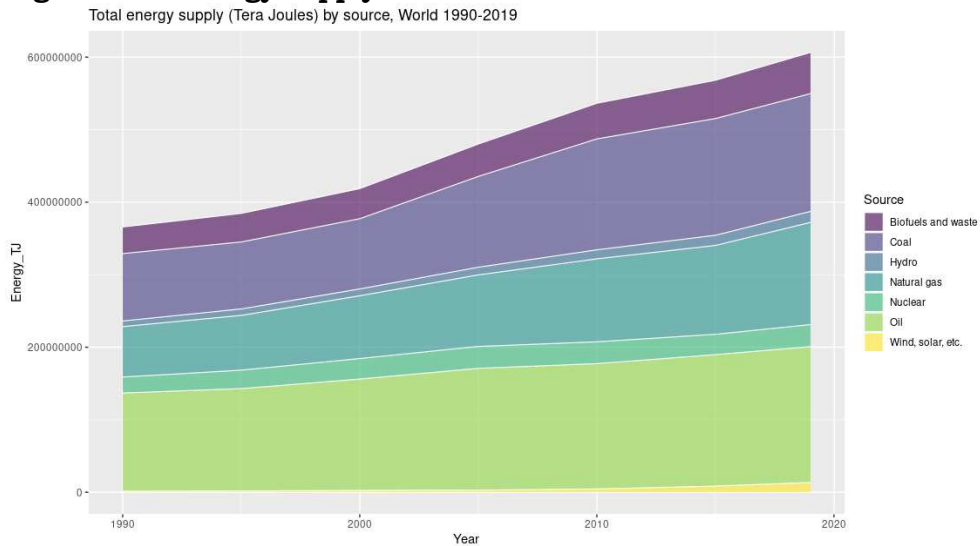
The post-pandemic recovery has revealed the energy realism that informs that fossil fuels remain the geopolitical pivot of international order. Even though the consumption of renewables and electricity has increased, it has not cut down the demand for coal and crude oil, which has increased by 5 percent for G20 countries in 2020. The switch from coal to gas-fired electricity generation is advised because of the lower carbon emissions. China's demand for gas has remained

positive even during the 2020 Covid period, while most nations saw a drop in demand. China is also the only country whose share of electricity in total final consumption reaches 25%, while the EU and the US are just above 20%. China is also the biggest contributor to annual wind and solar power capacity, adding more than 130 gigawatts in 2020. There is increasing pressure to limit carbon fuel consumption to reduce the earth's annual temperature increase by 2 degrees centigrade (Enerdata 2021). The world energy production in 2019 amounted to 617 EJ (Exa Joule, 2018), wherein natural gas and coal contributed to maximum growth. The relative increase of non-conventional energy sources, like solar and wind, experienced double-digit growth, but the absolute increase has been relatively small due to their tiny share (IEA 2020a). Fossil fuels account for nearly 80 percent of total energy production. Oil remains a potent fossil fuel source even as natural gas catches up fast.

Consumption is equally important apart from the origin of energy resources. Coal contributed nearly 37 percent of electricity generation in 2019, followed by 24 percent from natural gas. Renewables have emerged as an important source of electricity generation accounting for 23 percent in 2019. Nuclear energy, initially presumed to be a clean source, has declined due to popular pressure from the public about safety issues associated. The concerns have grown ever since, especially after the Fukushima disaster. Figure 1 gives the global trends of total energy supply. Carbon energy remains a major, although the composition is moving in favour of natural gas. The possibility of reducing dependence on oil and gas for transport is remote until adequate infrastructure is available for the transport sector. However, natural gas is replacing fuel oil rapidly in the transport sector, which is critical for reducing carbon emissions. The US still has the world's one-fifth refining capacity as it is the world's largest producer of oil, followed by China at 15 per cent and Russia and India at around 6 per cent each. Saudi Arabia and Russia are the most significant petroleum exporters, while China and the US are the largest importers. The US has a relatively weaker share in the case of coal. China produces nearly half of the world's coal and is the world's largest coal importer. The US produces almost 24 percent of the world's natural gas, followed by Russia at 18.3

percent. China is the world's largest natural gas importer, followed by Japan and Germany (IEA 2020b).

Fig. 1: Total energy supply

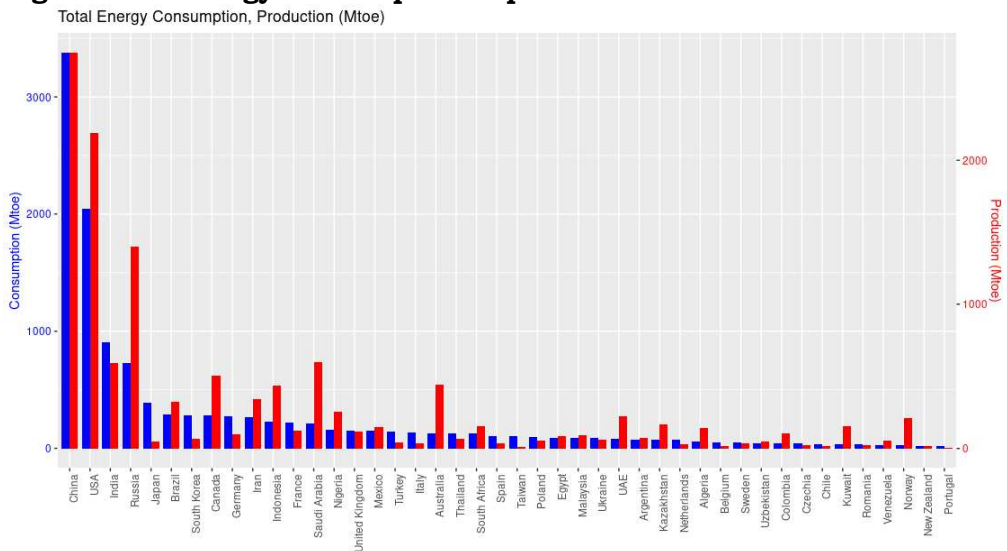


Carbon-based fuels such as petroleum, natural gas and coal remain the primary supplier of energy needs despite the advances in renewable energy sources. Even biofuels have a larger share than nuclear energy, which points to the differentiated accessibility of different energy sources. There are geopolitical challenges in meeting the 'Paris Agreement' goals of curbing greenhouse gas emissions. The pressure to reduce carbon emissions on large economies such as the US, India and China significantly impacts the global demand for fossil fuels. Looking at figure 2, we can surmise that energy geopolitics is between large consumers and producers, China, India, the US, the EU and Russia. Saudi Arabia and Australia are significant energy suppliers interested in staking claims over the global energy trade. However, not all fossil fuels claim a uniform trade opportunity. Coal has attraction due to its cheapness and locational advantages. Oil is vital for the transport sector, and its high calorific value has many industrial usages. Alternate energy sources such as renewables still have to cover ground on price competitiveness against carbon energy sources. However, solar energy prices have become highly competitive with thermal energy sources. There

is a replacement of coal with natural gas in electricity production. These have geographic consequences as renewables and non-renewables compete for a common market share. The developing world still depends on cheaper sources of energy. The most notable markets are South Asia, Africa, and Latin America. Nuclear power is an important clean, low-cost energy source, but it is a sophisticated scientific and technological achievement with dual-use potential. Most developing world countries are less inclined to devote the kind of resources nuclear energy demands. The investment in gas or coal-based power plants is relatively low, and their location is flexible, unlike hydropower, which is resource-dependent, while atomic power needs a strategic location.

Natural gas has gained importance in the 21st century on many accounts. The foremost is the relatively minor capability of geopolitical blackmail, as happened with oil in the 1970s. The pipelines are a grid network of suppliers and consumers. Transnational corporations such as Shell and BP have invested in the gas market in Russia and work together with state entities. It is more suitable for piped domestic consumption and has easy cost recovery. Russia, Qatar and Iran have over 70 percent of the world's gas reserves. As the single largest block, the Middle East holds the largest concentration of natural gas reserves, nearly 40 per cent. Europe has been the biggest consumer of natural gas, followed by North America. The wide-ranging domestic use of natural gas finds its demand in Europe as it is a densely populated region in colder latitudes. The demand for natural gas in Europe is much higher as the need for housewarming, industrial, and transport electricity is also very intense. According to Energy Information Administration (EIA) 2011 data, nearly 32% of natural gas consumption went to the industrial sector and 30% to electric power stations. The European Union heralds an uninterrupted, affordable, environment-friendly energy supply to which natural gas qualifies on all parameters (Kaynak, Arslan, and Ata 2012, 9–36).

Fig. 2: Total energy consumption & production 2020

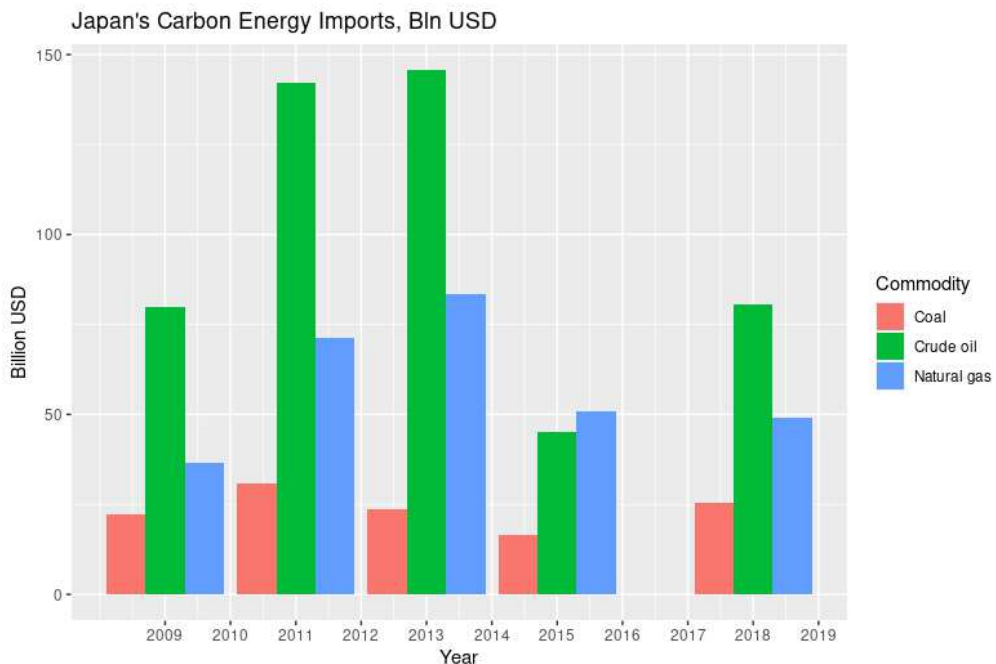


Natural gas has a vital bearing on reducing global carbon dependency. The world trade in natural gas was 876.9 billion cubic metres in 2009, estimated to increase to 1.1 trillion cubic metres by 2030. The share of gas shall rise as coal remains a carbon-intensive option, and solar, wind and renewables remain a marginal solution to the growing industrial demand for energy (Jiping 2010). The 2018 UN Comtrade data shows Qatar (51.8 bln USD), Norway (35.5 bln USD), the USA (28.2 bln USD), Malaysia (11.4 bln USD), and Germany (11.1 bln USD) were the leading exporters of natural gas. Germany has an interesting case in the natural gas trade. The 2018 figure shows that 99 percent of natural gas imports come from the partner country, with Comtrade country code as “special categories”. When browsing the metadata of these special categories of countries, one finds all the details are blank(World Integrated Trading Solution 2022).

The UN Comtrade data reveals that Australia and Indonesia are the world leaders in coal exports. They together exported nearly 70 billion USD worth of coal in 2018, and Japan, China, India and South Korea are their primary leading customers. Russia and the US exported 40 billion USD of coal, making them top exporters. Asia leads in coal consumption, whereas Europe has Germany, Ukraine and Poland as the

significant coal importers (UN Comtrade 2022). Japan's reliance on carbon fuel shows (see Fig. 3) how the Fukushima nuclear disaster in 2011 created a sudden spike in carbon fuel imports. Large economies have a heavier reliance on carbon fuels due to the inertia of industrial mass. Coal has been the target fuel for most of the global warming paradigms. It is also the fuel of the poor for cooking and heating needs. According to the UN Climate Action report, namely the Production Gap report 2020, coal production shows the widest gap among all the carbon fuels that would be consistent with limiting global warming to a 1.5 degrees rate. The 2030 production projections exceeding the above limitations for coal are 240%, oil at 57% and natural gas at 71% (UNEP 2021).

Fig. 3: Japan's carbon fuel imports impacted by Fukushima nuclear disaster in 2011



THE TRAP OF GEOPOLITICS

The scholars in the post-Cold war period gave several scenarios for international geopolitical order. There were contestations about the unipolar and multipolar worlds. The

idea of global governance based on the Europe-America-led economic hierarchy became prominent under the neoliberal framework. Nevertheless, the neorealist coupling arrived with 9/11 as it shook away the global systems approach to power. The proponents of global governance found the territorial trap in places like Afghanistan and North Africa, where it was difficult to implement the international order successfully. It brought geopolitics and geoculture into a single framework that revealed the severe limitations of globalisation.

The liberal democracy project of the US failed in Afghanistan and the Middle East partly due to the mounting opportunity costs of nation-building, given the geopolitical challenge of harnessing natural resources. The geopolitical goals achievable through regime change were tradeable in favour of achieving through regime destruction. The western democracies failed to reconstruct the Afghan economy despite finding a trillion dollars' worth of minerals with plenty of energy resources. Global governance and its relationship with the state's domestic politics have increasingly become a geopolitical question. Agnew missed the cardinal point while mentioning Waltz that realists considered anarchy only beyond state borders. The borders have not been responsible for the territorial trap. The powerful states have funded the domestic anarchy to support the regimes which are favourable to their geopolitical goals internationally. Those states who fail to submit to 'rule-based order' have found their institutional freedoms curtailed by powerful states, and their societies have been put into a trap-like situation (Agnew 1994). Palestine and the Gaza strip is a glaring example of how Israel has put Palestine's political and social organisation into a territorial trap.

The sub-Saharan African countries have a poverty headcount ratio exceeding 40 percent, and their governments spend nearly 15 percent of the budget on military expenditure. The conflict years show this expenditure going up to one-fourth of the total government expenditure in the case of South Sudan. Countries like Iran, Russia, Israel, Saudi Arabia, and Lebanon are not poor; but spend a high share of the government budget on military expenditure, almost 15 percent or even more. Security and its spatial dimensions affect the

rich and the developing nations based on the threat they face. The states are threatened by the cartographies of extremism, apartheid, and economic sanctions as they view them through the perspective of the oppressor and the oppressed state. The spatial sovereignty of societies against all forms of state oppression carried out by the hegemonic states or other state agencies represents the territorial trap's true nature (Agnew and Corbridge 1995, 82). The failure to read the textuality of trapped territories through norms and governance rules created by the oppressor states reveals a severe crisis of neo-liberal vanguardism of democracy that has damaged the sovereign foundations of democratic governance within the states.

The US's liberal democracy projects have taken the hardest hit where most energy resources lie. The conflict with Iraq, Yemen, Libya, Iran, Venezuela, and Russia amply demonstrated a negative correlation between the success rate of the US-sponsored liberal hegemony and petroleum resources. Do energy and power have the ontological dispensation towards the authoritarian socio-political structures? There is evidence that energy resources have been the source of resistance against the external ordering of the state. Still, places like Afghanistan and Yemen have been exceptions to this generalisation. The striking feature of the relationship between global energy resources and the international democracy project is the propagation of new world order under the legion of constructive capitalism. Energy resources are crucial for third-world economies on a rising income curve. The cartelisation and artificial raising of oil and gas prices significantly affect their access to energy resources and hurt their progress. There is a partial relationship between energy consumption and states' freedoms at a varying scale. The protagonists of the democracy and freedom project of global governance, such as Francis Fukuyama, contrive a capitalist society independent of the state's control of freedoms. They believe that the markets are umbilical to democracy and freedom. However, markets are increasingly taking the rear stage, and there is much reliance on the sanctions and bombings by the US-led NATO to achieve these goals. Another dimension is that the markets have allowed the monopolisation

of energy resources through the subversion of democracies, as has often been the case in Africa. Energy resources act as an alibi for western aid and development funding, and they are the source of concentration of the power at the centre. Therefore, they have been the source of incomplete democratic transition and caused the rise of illiberal democracies in third-world countries (Adetula 2011).

The classical heartland geopolitics remains the dominant argument for global geopolitical ordering. The idea that the Russian homosphere and its interactions with the periphery are central is frequently dismissed as an imperial mentality. Hooson believed that “Mackinder’s ‘Heartland’ theory has appeared to possess, perhaps with some justification, an aura of permanence” (Johnston 2009). It also reveals a relationship defined by the Sprouts, the man-milieu relationship. According to Sprout and Sprout, the phenomenology of the physical environment determines the nature of social conflict. Political perception of the physical environment elements in a particular power relationship determines the geopolitical environment (Singer 1960). Sprouts saw the natural (real) environment as a vital connection between countries' foreign policy and military strategy. The deterministic nature of the balance of power rests on the passivity of this relationship within a given environment. If the environment transforms, then the balance of power gives away. The idea of geopolitics lingers between Sprout’s conception of probabilism and cognitive behaviourism. This leads to alienation from the natural environment, and the perceptive environment becomes the source of knowledge to respond (Emerson 1958). The criticality links the two as ontological sources of knowledge owned by the agency. This relationship holds well in the realm of energy pipeline geopolitics. The locations and points of consumption remain susceptible to international price and technology before any pipeline materialises. This materialisation can later be subject to a new set of geopolitical relations with no economic and scientific rationale. The Nord Stream 2 became the sacrificial lamb for the US to punish Russia in the aftermath of the Ukrainian crisis of 2014. Russia held its ground as it saw the possibility of diverting most of these energy resources to China, Southeast Asia and South Asia.

As seen through 2022, the European crisis brought us back to the same question about classical geopolitics. The Heartland geopolitics is pivotal to the multipolar ordering of the states. The geography of the world order betrays the geography of the balance of power. The rise of China has been a significant transformation of post-cold war geopolitics. If one looks at the human security dimension of geopolitics, then massive poverty eradication in China has contributed to its geo-power. China has been one of the largest consumers of energy. Its energy needs have brought the Middle East, Central Asia, North Africa and Eurasia to China's doorstep. The access to carbon energy supplies increased the risks of confrontation between China and the proponents of the international order. China understood well that its economic development is dependent on its geopolitical reach. It has allowed a blend of energy geopolitics with markets and mutual economic development. For China to have credible maritime geopolitics, it must have successful Eurasian geopolitics (Grygiel, 2011, pp. 123-4). The famous Mackinderian racist phrase for China as the 'yellow peril' signifies the transformation in classical geopolitics that can alter the Western capitalist world order.

The man-milieu relationship and its geopolitics have their German counterpart as lebensraum and the French concept of 'pays', a total socio-political biome with its ergonomics contesting the peripheries. The regional perspective may bring some exchange of energies on the boundaries of these homospheres. The absorption and fragmentation of this lebensraum manifest in nation-states' life and death-struggles. Thus, geopolitics is an ontological exploration of the state's action in the international arena and its justification. The Russian gas pipeline network emerged with the rise in global energy demand and as a response to the constant hostilities from the British, Turkish, and later the American hegemonies. The Middle East gas industry provided a further boost to the expansion of the gas market. The Russian state control over Gazprom has securitised gas supplies against the NATO expansion. The conflict in Ukraine points to the inter-connected relations between gas supplies and Russia's need to define its living space (Hess 2008). The 21st-century energy geopolitics remains pivoted on Russia and the Middle East.

Moreover, it is no coincidence that these regions have been the primary sufferers of the US-led NATO aggression. The energy provided them with a possible resource to survive against neo-colonialism. The African (Libya) and Latin American (Venezuela) countries became hotspots of the US-led wars, where these resources were present. The energy resource-rich countries also have a history of regime change wars initiated by the Western countries. Geopolitics is dangerous in energy-rich countries as the propaganda of the US-led NATO countries justifies these wars as humanitarian intervention. The sanction regime installed against the target country invariably an energy supplier affects the consumer country's economy. The US-led NATO sees itself as a valve operator for all energy transits. Geopolitically, this role remains at the core of Mackinder's heartland. The danger increased when energy geopolitics embedded in the national security discourse was lacerated with the regime change. The regime change helps weaken the national security of the energy-rich country and thereby control its resources and state under the rationale of increasing the self (the US's) national security. It is a myth that regime change geopolitics aims to spread liberal democracy. According to (O'Rourke 2020), in a study conducted on the US-led covert operations for regime change, it came out that "Washington supported authoritarian forces in 44 out of its 64 covert interventions, and only 8 cases (12.5 percent) aimed to promote a democratic revolution within an authoritarian state". Therefore, it is evident that the energy geopolitics pursued by the Euro-Atlantic powers has further damaged the cause of democracy in energy-rich countries.

The primary question remains unanswered about the possible directions for energy geopolitics to move ahead. The great powers have their man-milieu relationship as a national ecosystem and a global system, constructing unintended consequences. Sir Halford Mackinder, in his critical writing, *The Democratic Ideals and Reality*, pointed out that for democracy to survive within nations, it is crucial to maintain the democratic character of the relations between the nations. A disequilibrium caused by the undemocratic behaviour of a country is bound to generate conflict. He gave an example of how the Austrian annexation of Bosnia and Herzegovina

created conditions for European disorder. He also underscored that a fair global economic system was necessary for a nation's happiness with a proper sense of freedom and control (Mackinder 1942, chap. 3,4). He remarked on the need for international law towards this cause,

“Some degree of control by the League is admittedly necessary to secure the equality of nations before the law, and I believe that in the ideal of the balanced development of each nation we have the self-control which is implied in fraternity. Without balanced development nations are sure to acquire special hungers, whether neglectfully or criminally, which can only be satisfied at the expense of other nations” (Mackinder 1942, 130).

The 2022 conflict between Ukraine and Russia signified the crisis of democracy in the Euro-Atlantic region. The US-led democracies have preferred to use the term ‘rule-based’ order, which automatically does not translate to the UN-approved order or a democratic one. The rules can be the basis of the functioning of a system, and they appear as laws, but sometimes, they can be a crazy thing. Edward Evans noted that in the Middle Ages, countless cows, sheep, horses, dogs, and rats were put to death on charges of felony. In Switzerland, the last such act happened when a dog got the death penalty for a murder committed by two men in 1906 (Fettweis 2010, 217–18). The UN 2005 World Summit Outcome document on the issue of humanitarian intervention finally had to settle with the principle of sovereignty on the crimes against humanity (UNGA 2005, 30). The neoliberals have found a way out of this caveat by replacing jurisprudence with the justification of violence by media and information clearinghouses on humanitarian intervention. The institutional contest between democracy and jurisprudence is age-old. The 2022 conflict in Europe testified that a world democratic order rests on a non-partisan approach to the rule of law within and across nations. In the wake of the 2022 conflict, the German economy minister says Germans should reduce energy requirements by lowering the room temperature, working from home, and using bicycles. It would curb the natural gas imports from Russia and much more than that, and it would “annoy Putin” (RT.Com 2022). On the cusp of an increased risk of a nuclear confrontation in

2022, Europe need not need such insane advice. Diversifying the dependence on Russian gas is possible, but this cannot be achieved by denying it. The cost of cleaner technologies and switching to greener technologies needs to be borne out by nations, and natural gas is a cheaper source to bear that burden.

TRANSFORMATION OF ENERGY GEOPOLITICS

The present-day energy geopolitics has followed in the footsteps of the Heartland geopolitics. Central Asia and the Caucasus are the second most significant region after West Asia for energy supplies. Azerbaijan and Georgia have been in a tug-of-war situation between the big players, the supplier and the consumer. Much of the oil and gas energy geopolitics pivots around the pipelines. The centrality of the supplier to the peripheral consumers provides an optimal solution for trading these resources. The gradient of energy geopolitics varies from very high in the case of natural gas to relatively low intensity in the case of coal. The pipeline networks bind suppliers and consumers in an unwavering commitment that sometimes comes under the extreme pressure of geopolitics. Consumers try to strike a balance by a collective bargain, but geography determines the degree of success. The Russian pipelines send gas via the Black Sea to Turkey, Ukraine to Eastern Europe, and the Baltic Sea to Germany and Nordic countries. Gazprom, the state-owned gas supplier, has become the target of NATO policy as it is Russia's primary foreign exchange earner. Russia formed the Eurasian Union, essentially connecting the energy strategy of Belarus and Kazakhstan with its energy security. Russia has maintained energy resources under state control and is a source of its overall security architecture in the post-Soviet period. The Customs Union and its subsequent formation as Eurasian Economic Community have allowed the transnational integration of energy supplies with Russia as the central coordinator. Russia supplies natural gas to its friendly states at cheaper rates to maintain the strategic balance with NATO and European Union (Sevim 2014).

Natural gas geopolitics owes a lot to the non-transparent source of transit to those nations acting as a gas trade middleman. In his book, *The Bridge: Natural Gas in a Redivided Europe*, Thane Gustafson, a Slavic scholar, argues that the end of the cold war and the integration of Russia into European space marked the revival of energy trade that flourished, especially in the sector of natural gas (Gustafson 2020). The oil shocks ensured the Soviets invested heavily in developing gas fields and transportation. The natural gas pipelines suited the Soviet-style command economy that relied on a networked and centralised system of economic function. The cold war Soviet bloc saw natural gas supplies from West Siberia as a shared resource privilege under the socialist banner. However, the Soviets grew impatient with the constant demands to appease and had to bear the potential loss of market in the western capitalist world. Post-cold war, Russia shrugged off any such baggage and treated all the former Soviet bloc members at par with the rest of Europe. Russia's capitalist face created new geopolitical conditions on its western periphery that invited all kinds of balancing pressures. Post-Soviet Russia and Ukraine had inherited a unified gas transit infrastructure that became the basis for persistent discord over European natural gas supplies. Ukrainian industrialisation relied heavily on natural gas-fired plants that needed cheaper supplies from Russia. There has been a gradual severing of the energy relationship between Ukraine and Russia as the latter diversifies its transit routes. Ukraine unsuccessfully replaces Russian gas by buying the same from Germany and Poland. The confrontation acquired a more significant dimension as the European Union passed a directive that sellers of natural gas comply not with the buyer's country-specific laws but with the regulations promulgated by the European Union, a significant detour from the free-market principles. The situation escalated with Ukraine preparing a military assault on its breakaway regions. Russia recognised them as independent and received a quick response from Germany, halting the Nord Stream 2 project (Reuters 2022). The energy war between Russia and the West became a fratricidal war for ethnic Slavs belonging to Ukrainian and Russian nationality. Even as the battle rages in Ukraine, Europe continues to comply with Russia's demands

for an unimpeded natural gas supply. Russia has demanded all payments for gas supplies in Russian currency, the rouble, instead of the euro or the dollar. And the 2022 conflict in Eastern Europe only confirmed the inability of the West European countries to turn away from the Russian gas supplies at will. The conflict in Ukraine highlights the geopolitical significance of the pipelines and the transit countries.

The European Union acts as a single market through the Gas Transit Directive, last amended in April 2019. It has used the Energy Charter Treaty as a collective bargain or coercive mechanism against Russian gas supplies. The EU has been hawkish on the Russian diversification of gas supplies alternative to Ukrainian transit (Sauvageot 2020). Energy geopolitics is a game of asymmetric interdependence. The possibility of a supplier using pipelines as a weapon is equally calibrated by a single or a group of buyers by limiting purchases. There is also a difference between oil and gas geopolitics, where the former has much flexibility. The Russian gas supplies to Europe have proved a deterrent to the deterioration of relations between the two (Kropatcheva 2011). Russia wanted to invest in the Ukrainian gas transit system but was arbitrarily kept at bay by the EU and Ukraine. The 2022 Ukraine war essentially created a geopolitical challenge to this relationship. Energy geopolitics also has non-state actors who manage geopolitical pressures between buyers and sellers. The situation went out of control between Ukraine and Russia after the colour revolution, as a more politically hostile climate emerged. It resulted in the EU and Russia looking for alternate arrangements. The NATO expansion to eastern Europe has affected the energy relationship between Russia and its customers. NATO has lured the former Soviet republics with membership, alarming Russia's security interests.

The expanding gas pipeline infrastructure has positioned Russian natural gas as a strategic energy balance between China and Europe. China and Russia have teamed up to look for oil and gas resources in Eastern Siberia. Rosneft and CNPC (China National Petroleum Corporation) agreed to a joint exploration agreement of the Srednebotuobinsk fields. The Sakhalin-Vladivosktok pipeline has been vital for Russia's gas

supplies to China and other East Asian countries. Russia's geopolitical conditions have impacted its ability to negotiate gas pricing with China. However, the overall prices have an upward trend, which has allowed both parties to conclude agreements successfully (Kuchins 2014). Most Russian gas emerging from Western Siberia has been flowing to the European Union via land route, but the Ukrainian conflict has shifted the direction towards the East. China has benefited from two significant supply routes: the "Power of Siberia" 1 & 2, delivering Russian gas to China. The American Security Project produced a report titled "Global Natural Gas Pivot to Asia", focussing on geopolitical implications for the United States in an increasingly competitive environment (Azuma 2015). The report published in 2015 negated any further cooperation between Russia and China on gas pipeline projects citing the exorbitant costs. The 'power of Siberia 1' opened in 2019 despite these challenges. The "Power of Siberia 2" is the game-changer in supplying gas from Bovanenkovo and Kharasavey gas fields in Yamal to China and the East Asian markets. Gazprom shall have the monopoly to swing the gas supply direction between Europe and China based on competitive pricing. Russia securitising gas pipelines is an important part of its national security framework, and it aligns with the Heartland geopolitics (Iden 2022).

The gas reserves of Russia and Iran constitute a geopolitical bind for them. Iran holds nearly 30 trillion cubic metres of gas, second only to Russia. The largest gas field is the South Pars, a geological extension of Qatar's North Field. The earliest cooperation in gas exports dates back to the 1970s when Iran and the Soviet Union had a swap agreement for exporting gas to Europe. The Iranian revolution, the war with Iraq and the Soviet presence in Afghanistan spoiled the relationship. The Iranian Gas Trunkline (IGAT) has more than seven phases of the gas supply network running south to north in western Iran (Kuhn 2014, 225–47). These gas distribution networks with Turkmen gas can contribute to a Eurasian network for recreating the gas supplies to Europe and China. Russia's location allows it to design a heartland network of suppliers and consumers across Europe, Asia and North Africa that would be, in a true sense, a globalised consumption of the

gas network. Alternatively, Turkey and Central Asia facilitate oil transport to China and Europe. The cost of transportation from these locations is cheap for Europe and China, which constitute significant energy resource consumers. The oil and gas pipelines have also carried the narrative of the post-USSR world order. The US persuaded Azerbaijan to disconnect from the oil routes of the Former Soviet Union and build a new pipeline via Georgia and Turkey. The relationship between energy resources and the elite ruling class has been quite umbilical. Their control over big corporations in laying pipelines and explorations combines personal and national interests (Heinrich and Pleines 2015).

Walker & Johnson look into an innovative term, ‘mineral sovereignty’, which considers the state as an estate and the ownership of wealth is essentially a geopolitical question. According to them, “the development of global commodity chains of carbon-based mineral energy brought with it sites of struggle, contestation, class-compromise and violence, both within the territorial space of established industrial powers and in the colonial frontiers of imperial expansion” (Walker and Johnson 2018). The carbon energy wage workers, especially the coal miners, have been at the forefront of preserving life and labour against the draconian industrial practices of the 19th and 20th centuries. The carbon energy technology allowed greater scope for urbanisation and profits of agglomeration. Some of the most critical decisions on post-world war reconstruction pivoted around the energy industry. An example is the European Coal and Steel Community set up in 1951. There is a remarkable deficit in Europe to build a more significant Eurasian order with the participation of Russia for shared prosperity. The Energy Charter Treaty of the European Union is a coercive tool against the principle of sovereignty over natural resources (Austvik 2017). The energy wars in Europe and the great power politics have brought nuclear energy under a renewed focus. It has unified the goals of energy sovereignty with political sovereignty.

There is greater convergence of energy security and national security in the post-Covid world. The impasse between the west and Iran over the latter’s nuclear programme indicated the complex mix of fossil and nuclear fuels towards

attaining sovereign energy security. The UNGA resolution 1803 speaks of the permanent sovereignty of the states over their national resources in the wake of their role in national development (Anastassov 2014). Iran has been restricted in its conventional and non-conventional rights to energy sovereignty. Iran finds its position quite similar to Russia in the energy market, though the latter is a nuclear weapons state. The hostile environment against Russia and Iran in marketing their carbon energy fuels has prompted stronger cooperation in defending nuclear sovereignty. Iran's nuclear programme has faced air attacks from Israel and the US, which only signified the west's despicable attitude towards the Iranian regime and seek to obliterate it via undemocratic means. Russia-Iran relations have grown more vigorous in the energy and military sphere. It shows that energy sovereignty and national sovereignty are integral to achieving collective geopolitical goals in the region. The guarantees Iran gave under Paris agreement in 2004 failed to deter the west from securing a righteous deal on Iran's peaceful nuclear programme (Tarock 2006). Israel forced the Trump administration to abandon the Joint Comprehensive Plan of Action (JCPOA) in 2018 (Khalfi 2020).

Russia has already emphasised the advancement of nuclear weapons and offers nuclear energy cooperation to the states facing US hostility. Rosatom opened its office in the South African capital Johannesburg in 2014 (Salakhedinov and Sidorov 2018). Due to their geopolitical location, nuclear power states like North Korea or Pakistan have deterred another nuclear weapons state from conducting a conventional military attack on a relatively weak nuclear-armed state. There is an asymmetric power relationship between states, and the balance of power tussle between nuclear weapons states can cause geopolitical earthquakes. It is also the source of alliances between the no-so-great powers who rally behind a single superpower, compensating for their asymmetry. The geopolitics of energy at this level is a crucial case for the survival of the international order. The threat to the man-milieu relationship from nuclear posture is enormous. The second world war culminated with a nuclear genocide of Japanese civilians. It marked a situation in the pedagogy of geopolitics that even geopolitical thought and its discussions received a negative

vote from academia. The Phoenician rise of geopolitics from the tussle for energy resources takes an essential stage of the man-milieu relationship spoken by the Sprouts (Klieman et al. 2015). The geopolitical and the natural milieu are in deep connection. The spatial aspect of balancing affects the interconnectedness between the two. The great powers covet energy locations for balancing and impacting the local and global milieu.

CONCLUSIONS

The energy realism of Russia confronting the western geopolitical alliances has paced up the cost of confrontation on the third-world economies, which are already grappling with the mounting cost of energy and food prices. The hybrid geopolitics of energy trade, sanctions, social media interpolations and call for regime change have led to the securitisation of energy geopolitics. The relationship between energy and sovereignty has been weaponised with the mutual threat to their existence. The Ukraine war triggered with the Nord Stream crisis reached pinnacle with nuclear weapons flashing by Russia against possible existential threat. The energy realism proves to be indivisible with the realist goals of national security. This has led to manifestation of energy security not only in terms of fossil fuels but equally in the sphere of nuclear fuels. The hybrid nature of geopolitics is evident from rapid merger of civilian technologies into military sphere and the rise of social media governance. The efforts to secure environmental goals has received serious jolt in the current energy-led geopolitical wars, which is leading the world collectively into the blind alleys of climate change. The world survival debates, hitherto held under the light of the environmental crisis, suddenly took a sharp turn towards the possibility of total annihilation amid the growing nuclear crisis. Therefore, setting the relationship between the geopolitical and environmental challenges and locating the sustainable global order amid these extrapolations is relevant. They both present a set of constraints in terms of Sprout's conception. Then what could be the enablers? The institutional world order based on

non-partisan laws that obstructs any desire to practice hegemony could be the starting point. Mackinder could not solve the European predicament of post-world war relationships. The Russian sphere of influence would remain a cause of permanent insecurity for the Euro-Atlantic world. The only answer he could see was the rise of India and China to such prosperity that the Euro-Atlantic world minimised their friction (Mackinder 1943).

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