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Environmental Regionalism in Central Asia by Non-Democratic Regional Organizations

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Claire Franco

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Supervisors:

Dr. Jacob Reidhead, KIMEP University

Dr. Huseyn Aliyev, University of Glasgow

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Introduction

Outcome of interest: environmental policy and variations in democratic contexts

This paper analyzes how the leadership of two regional hegemonic actors— Russia and China— use their leadership across four multilateral platforms to impact the key environmental outcome of WEF access, particularly renewable and alternative energies. There is a heavy focus on their motivations and benefits for doing so, as well as the implications for the global world order as a result.

In the region of Central Asia, the conflict potential of environmental change is an increasingly relevant discussion. Environmental agendas can be broad and encompass topics such as biodiversity conservation, recycling and waste management, pollution and air quality, and reforestation, among many others. This paper will use the framework of the water-energy-food (WEF) nexus to guide the focus of policies and analysis. Climate factors and their impacts on a long-precarious water-energy-food (WEF) balance require strategic adaptive planning capacity.

The assessment of the interdependencies and interactions between systems, particularly natural resources and their use, is frequently referred to as "nexus" analysis. This concept's application has expanded over the past two decades. In the late 2000s, the nexus idea was applied in the context of resources, such as land, water, and energy (Kahrl and Roland-Holst 2008; Ngigi et al. 2007; Sovacool and Sovacool 2009; Twomlow et al. 2008; World Bank 2004).

Broader applications of the nexus approach include that between climate change, ecosystems, and human health (Chiabai et al. 2018); energy, minerals, and society (Schlör et al. 2018); water, gender, and health (Leo et al. 2018); or climate change, land use, and conflict (Froese and Schilling 2019). The nexus framework allows us to make the connections and examine related issues with an interdisciplinary lens. This will help explain why energy is inextricably tied to food and water politics, as well as economic and security politics.

Evaluating environmental regionalism through a WEF nexus approach in Central Asia with an institutional drive serves to close the gap between science and policy dimensions in its multiple

applications. It disseminates the importance of the type of integrated planning across sectors and national borders that multilateral platforms are particularly suited to address. The purpose of nexus studies spans across "policy assessment, technology deployment and transition, resource management and efficiency, international cooperation and collaboration, climate studies and other purposes, e.g. academic research, framework dissemination and the establishment of communities of practice" (Pereira Ramos et al. 2021).

The consequences of the changing climate have become increasingly difficult for governments to ignore. There is a significant range in governments' approaches to these issues. Some prominent literature suggests that democracies tend to perform better in their efforts to reduce human-induced environmental degradation (Li and Reuveny 2006) or improving air quality (Bernauer & Koubi 2009). Povitkina (2018) contributes additional research that democracies do a better job of curtailing air pollution, but only in political contexts with relatively low levels of corruption. Democratic modernization theory proposes that democratization is strongly associated with economic growth and urbanization (Przeworski et al. 2000; Przeworski and Limongi 1993; Rodrik and Wacziarg 2005), which along with population, are arguably the three most significant factors associated with an increase in CO2 (Jiang et al. 2016; Khondaker et al. 2015; Roth et al. 2019). Using an analysis of CO2 emissions over the span of 45 years, one study found that the "post-Communist democratization process decreases carbon emissions, after controlling for changes in income that capture economic decline alone with other controls. An increase in the level of democracy was still associated with a decrease in CO2 *despite* increasing urbanization indicative of a higher quality of life and despite increases in economic growth and population after the end of the economic decline in the 1980s–1990s" (Nazarov and Obydenkova 2021).

While democracy and pluralism can potentially promote environmental protection by enhancing scrutiny and accountability of state actors, asymmetrical political/financial/military leverage can effectively undermine the equity of the dynamic.

In its 2021 Democratic Playbook, The Brookings Institution addressed the relevance of climate policy as a tool against illiberal influence (Corke et al. 2021). According to the playbook, democracies should provide foreign government and institutional support to "manage the current and future ramifications of climate change— including increases in natural disaster recovery and infrastructure protection," as well as climate refugees (Corke et al. 2021). Another

Brookings report also emphasized how closer collaboration among democracies on providing aid and investments in developing countries could "effectively limit China's capacity (and other malign actors including Russia) to roll back democratic governance in developing countries and preserve democratic countries' economic interests in developing markets (Jones and Twardowski 2021). However, it is an increasingly common trend for Russia and China to promote environmental issues as a priority, despite environmental protection often being perceived as a "liberal value."

The independence of the five Central Asian republics around 1991 was followed by financial crises and stagnation until 2000, and then a gradual recovery that is most evident in the cases of Kazakhstan and Turkmenistan. The Kyrgyz Republic, Uzbekistan, and Tajikistan are comparatively poorer countries with lower GDP indicators. Hydrocarbon reserves are mostly in three countries: Kazakhstan, Turkmenistan, and Uzbekistan. While oil and natural gas supplies are high in Central Asia, their distribution is uneven and their refining capacity remains generally low and their. Additionally, despite these abundant known reserves and steadily increasing production capacity, consumption in Central Asian countries is also relatively low. Most production is exported. Before the collapse of the USSR in 1991, the oil supply capacity of Central Asia remained stable between 50-60 million tonnes. However, since 2000, the oil and natural gas industries have been boosted with the influx of money from multinational companies and international investments (Zhou et al. 2020).

National development gaps between the five Central Asian countries have widened in the decades since independence. Potential factors of conflict and turmoil are the imbalances in resource and wealth distribution, as well as the impact of uncertainty in neighboring Afghanistan. Additionally, "resource disputes and political contradictions within the Central Asian countries, the rise of resource nationalism, the persistence of extremist forces and separatism, energy cooperation legal defects, and imperfect institutions have all also increased levels of uncertainty about both internal instability and external cooperation" (Zhou et al. 2020). There is an institutional vacuum in Central Asia, and this is where external hegemonic neighbors find the opportunity to step in to design the regional infrastructure that benefits them.

A May 2022 study found that there is an alarming lack of climate change research in Central Asia regarding the relationship between a broad environmental perspective and regional security (Vakulchuk et al. 2022). In an analysis of journal articles in eight key journals for

Central Asia studies from 1991 and 2021, only 0.24% were on climate change or a related topic (Vakulchuk et al. 2022). The same study found that the events of 17 Central Asian area studies associations have also neglected the topic: not a single panel has focused on climate change, and only 0.02% of individual presentations had a climate change focus (Vakulchuk et al. 2022).

Temperatures in the five countries that make up Central Asia are rising faster than the global average, which is accelerating issues such as glacier melt, unreliable river flows, and increasing aridity, and impacts of agriculture and fisheries (IPCC 2021, IPCC 2019). In a region which is heavily dependent on agrarian and extractive economies, these environmental shifts can have significant social and economic consequences, disrupting agriculture, sparking destabilizing migration from rural to urban centers, and challenging inter-state competition for dwindling resources. Eco-migration is another concern, which may aggravate socio-economic inequalities domestically and regionally (Lioubimtseva and Henebry 2009; Peng et al. 2018, Seter 2016).

According to an Intergovernmental Panel on Climate Change report in 2014, there is less available research and data on observed and projected climate change impacts in Central Asia than any other region in Asia, including North Asia, Southeast Asia, and South Asia. The IPCC listed 54 thematic areas that are critical to understanding the major impacts of climate change relevant in Central Asia. Of these, only three of these areas had sufficient information available for Central Asia, while the remaining 51 areas had "critical knowledge gaps or no data at all" (IPCC 2014).

Pollution levels are high in the region due to aging and often poorly maintained infrastructure (especially in the electrical power sector). Obsolete power generation, transmission, and distribution infrastructure are a critical and not uncommon issue for Central Asian power grids. In Kyrgyzstan, 45% of the generating capacity is beyond its useful life. In Tajikistan, 80% of its hydropower plants will need renovation by 2030 (Radovanović et al. 2021). The countries' economic prospects are restrained by these losses in electricity transmission, frequent outages, and low-quality utility services. Faster development of RE could help relieve Central Asian economies' problems in the spheres of WEF security, quality of electric power supply, and access to electricity.

It might seem at first that the Central Asian economies' contribution to global climate change is negligible. The largest polluter Kazakhstan emitted less than 1% of global CO2 in 2017

(.72%, to be more precise). Only Kazakhstan and Turkmenistan increased their CO2 emissions compared to 1990, while others (Kyrgyzstan and Tajikistan) reduced their emissions by over a half and Uzbekistan, by nearly a quarter. In the same period, total greenhouse gas emissions rose only for Turkmenistan and Uzbekistan. That being said, it is still true that all Central Asian countries are pollution intensive. GDP CO2 emissions intensity in Kazakhstan and Turkmenistan are over half the global average. Moreover, considering the parameters of territory and population size, the highest (exceeding the world's respective averages nearly thrice) pollution density per land is in Uzbekistan, and per capita, in Kazakhstan (Crippa et. al 2021). So, while the Central Asian economies are not significant polluters in absolute figures, their relative contribution to global climate change is disproportionately high. And domestically, these countries experience a range of consequences associated with global climate change.

Despite Central Asia having considerable potential for renewable energy, it has been slow to develop. While hydropower is the dominant renewable energy source currently in Central Asia, it can stir cross-border tension and has been criticized for its environmental impact. Additionally, it can be vulnerable to climate change trends and increasingly frequent droughts, which are thought to become more disruptive in the upcoming decades. The region also has ample land, wind, and sunshine. WIth development, these appear to offer an attractive way to ease power outages, energy poverty, and emissions. Renewable targets in reality can be symbolic and prove to be hard to reach. Obstacles among the Central Asian states include weak governance, poor infrastructure, [and the] grand corruption that cripples economic development" (Foley 2021).

Governments in Central Asia may be slow in their actions regarding a sustainable energy transition because they fear destabilization, loss of control, and power due to socio-economic turbulence (Radovanović et al. 2021). Furthermore, green energy transitions are often hindered in countries with significant energy resources, a phenomenon known as the "double paradox of plenty" (Shadrina 2020). There might be an expectation of different trends between two groups: fossil fuel-poor, lower income economies and fossil fuel-rich, middle-income countries, and that the latter would be less motivated to deploy non-hydropower renewable energy (NHRE). However, the idea of the double paradox of plenty is that "hydrocarbon-rich economies are gradually adopting NHRE, while energy resource-poor countries retain their concentration on hydropower" (Shadrina 2020). One characteristic of this paradox is the

general sluggish development of the abundant NHRE resources in Central Asia. The second element is the fossil fuel-rich nations' comparatively more enthusiastic attitude toward deploying RE in general.

The little development of NHRE can be attributed to "a peculiar institutional environment prevalent in Central Asian countries…[P]ervasiveness of the state…makes their economic systems less dynamic and hence, adverse to energy transitions, as energy transitions necessitate liberalization of the energy market and decentralization of the energy system" (Shadrina 2020). Accounting for the relatively faster diffusion of NHRE in fossil fuel-rich countries, at play are differing degrees of economic openness and learning competencies that enable innovation and investment. As would be necessary in a non-democratic state, any green progress is due primarily to deliberate government policies targeted at initiating and promoting RE.

Central Asian economies face profound vulnerability in the WEF nexus. Since the Soviet coordination of intra-regional energy-water cooperation stopped, even large hydropower producers Kyrgyzstan and Tajikistan often encounter an energy deficit in, reaching about 25% in winter (Shadrina 2020). Uzbekistan has electricity shortages throughout the year. The downstream states, whose dependence on transboundary water ranges from critical in Turkmenistan (94%) and Uzbekistan (77%0 to high in Kazakhstan (42%) encounter water scarcity in the summer "Gidroenergeticheskie problemy …" 2016). In this way, the energy markets are monopolistic, energy prices are heavily subsidized by the state, and any adjustment or increase in energy prices for domestic consumers is met with deterrence by decision-makers.

Considering energy narratives and transitions through an institutional theory enables comprehensive analysis of historical, social, economic, political, and technological contexts.
One of the obstacles to a sustainable energy transition is the lack of adequate regulatory framework in these countries, particularly at the regional level. Much of the existing conversation and energy policy structure is oriented to the goal of providing enough energy, without regard to sustainability. Usually, developing economies' interest in RE deployment is meant as an augmentation of the capacity of their still-forming energy systems, rather than an intentional improvement of their sustainability (Radovanović et al. 2021).

Political headwinds may also challenge green energy reforms, as elite groups and oligarchs benefit from oil and gas revenue. Such groups will also resist the loss of leverage that they

currently have due to this income. The global development of green energy "may have a significant effect on domestic political dynamics in Kazakhstan and Turkmenistan [...] when it gets to the point that it undermines demand for their oil and gas exports" (Overland 2019).

Rentier states are commonly "tax states" with poor governance, clientelist institutions, and suppressed democracy (Shadrina 2020). Fossil fuel-rich economies face other certain factors: the declining fossil fuel rents (resulting from declining commodity prices) and the externally incentivized energy transition (as reflected in the globally changing attitudes toward sustainability). The political elites of such tax states with resource-rent-dependent, non-democratic economies rely on the taxation of resources to secure their steady hold on the patronal, authoritarian, or even dictatorial traditions.

For many countries, domestic access to energy resources remains a challenge due to large expanses, remote areas, as well as the interruption of supply from the central power grid that occurred after the collapse of the Soviet Union (Radovanović et al. 2021). In order to address this, large infrastructure projects, frequently with the financing of China, are an easy sell to Central Asian governments. Several strategic documents of Central Asian countries show that enabling the energy supply to consumers in rural areas, stabilizing the network, and preventing supply interruptions are high on the list of long-term development principles.

Geographical context with country specific priorities

Kazakhstan:

As the largest oil producer in Central Asia, Kazakhstan has successfully attracted major international investors to its oil and gas sectors. The oil and gas industries and related sectors in Kazakhstan accounted for 17% of GDP in 2020 (IEA 2022). Oil serves as the main source of government revenue and provides most of the country's export earnings (IEA 2022).

Though Kazakhstan has made ambitious commitments to reduce its greenhouse gas emissions and increase the role of renewables, achieving these goals will require "overcoming its dependence on cheap domestic coal and addressing its lack of flexible generating capacity" (IEA 2022). A 2022 policy review by the International Energy Agency noted that the Kazakh government revenues face a long-term risk from the projected decline in global demand for fossil fuels, as well as short-term risks posed by a lack of alternatives to oil export routes that

pass through Russia. Kazakhstan currently sources more than 70 per cent of its electricity from its rich coal resources but aims to supply half of its power from other sources by 2050 (IEA 2022). In the medium term, this will be one step toward meeting its other goals of reducing the country's greenhouse gas emissions to 15 per cent below their 1990 levels by 2030 and of reaching carbon neutrality by 2060 (IEA 2022).

Keeping domestic energy prices low is a significant social priority for the government, although this has made it difficult to promote energy efficiency and stimulate commercial production of gas for the domestic market. In January 2022, the (mis)management of energy resources demonstrated how proximately entwined the water-energy-food nexus is with national stability and security. A spike in the price of liquified petroleum gas (LPG) for automobiles triggered peaceful protests in western Kazakhstan that quickly expanded across the country and escalated into deadly violence. Rising costs of energy made the government take the unpopular decision to limit public subsidies of fossil fuels, which accounted for 2.7% of the country's GDP in 2020 (IEA 2021). Such subsidies in emerging economies impede efforts to reduce budget deficits and "compete with other needs, such as public spending on roads, schools, healthcare, while adding inequality as richer households benefit disproportionately because they consume more" (Mukhamedzhanov 2022). The low prices of gas made possible by government subsidies have made it difficult to diversify the energy sources used for the domestic market and promote energy efficiency (IEA 2022). In order to reduce or eliminate price distortions while balancing social order, the IEA recommends looking to the experiences of other countries in similar situations. Solutions might include "phasing in increases over time and using end-user subsidies and compensation payments to shield the most vulnerable" (IEA 2022). Analyses agree that the driving sentiments of the protesters came to represent a range of underlying issues more deeper-rooted and diverse than only fuel costs (Mukhamedzhanov 2022). These issues include discontent with the lingering influence of the former authoritarian president Nursultan Nazarbayev.

Renewable energy sources currently contribute less than 1 percent, and this is mostly from small- and large-scale hydropower. However, new electricity generation is expected to come primarily from solar and wind, for which Kazakhstan is particularly suited. Considering its role as one of the world's largest sources of uranium, Kazakhstan is considering constructing its first commercial nuclear power plant (IEA 2022). As Kazakhstan continues to expand its renewables sector, it will need more investment in flexible capacity such as gas-fired or

hydropower plants to compensate for the variability of solar and wind generation. Currently, the Kazakh system relies significantly on Russian electricity imports to accommodate imbalances and maintain frequency stability (IEA 2022).

Approximately 80 percent of Kazakhstan's oil is exported, and almost all of it channeled through Russia via pipeline. However, the Russian invasion of Ukraine in February 2022 has underscored the risks of relying on one transit country for nearly all crude exports, especially considering the increasingly tight sanctions on Russian fossil fuels (IEA 2022). Because of this, Kazakhstan must consider diversifying export routes in order to sustain the crude export levels that are vital to the country's finances (IEA 2022).

Kyrgyzstan:

Among Kyrgyzstan's energy goals is to explore "new industrial deposits of hydrocarbons, uranium raw materials, developing the export of fuel and energy products, harmonizing the EAEU standards and technical conditions for electricity, coal, oil and gas raw materials and high value-added products" (Saiymova et al. 2020)

The country's long term plan for increasing energy production relies on large, medium, and small hydroelectric power stations and thermal power plants (TPPs) (Saiymova et al. 2020). Kyrgyzstan's rich natural resources include minerals, forest, arable land, and pastures, and shows a significant potential for the expansion of its agricultural sector and stronger WEF security (IFAD 2022).

The government has laid out a National Development Strategy for the Kyrgyz Republic (NDSKR) for the period of 2018-2040. This document identified clean water as an area of improvement. Specifically, more consistent and affordable access to clean drinking water, a more advanced water management system were highlighted, which largely impacts its energy sector. The use of modern autonomous water treatment systems together with combined small hydro power plants (HPP), solar power plants (SPP), and wind power plants (WPP) will provide settlements and territories across the country with "'clean energy – clean water' [complex] regardless of the availability of main power transmission lines and water mains" (NDSKR 2018). The document acknowledges the challenges of balancing economic growth with minimizing negative environmental impacts, improving efficiency of requirements and incentives for environmental protection, and using reliable data to make environmentally

significant decisions (NDSKR 2018). It cites an intended “close collaboration with the Global Climate Fund" (NDSRK 2018).

Ecological issues identified in the National Development Strategy include:

- Expanding green space to reduce the risks of climate change, land degradation, air pollution, and endangered species included in the Red Book of the Kyrgyz Republic
- Greening urban areas
- Preserving mountain forest ecosystems and increasing the area of perennial artificial plantations
- Supporting forest planting programs
- Expansion of the network of specially protected natural territories of various categories to 10% of the total area of the country
- Reducing the risks of radioactive contamination and land degradation in adjacent areas
- Rehabilitating tailing sites of the former uranium production facilities and attracting international assistance
- Sustainable waste management, including the complete elimination of uncontrolled landfills, preventing the expansion of new landfills, and reducing the area of existing landfills.

Uzbekistan:

More than 49.5 percent of Uzbekistan’s 32.9 million people live in rural areas, while 75 percent of the population are lower income. Of the latter figure, two-thirds make their living through agriculture and heavily rely on water access for their livelihoods (IFAD 2018). Rural poverty remains above the regional average at 13.7 per cent in 2015, but this number is gradually decreasing (IFAD 2018). These smallholder families face challenges from a lack of access to irrigation water, adequate infrastructure, energy supply, modern technology, and knowledge for coping with natural disasters and climate change. Agriculture produces about 17.5 percent of the country’s GDP and provides employment for approximately 15 million people, though many of them are under-employed (IFAD 2018).

The “relatively low socio-economic development, inadequate infrastructure, and high dependency on climate-sensitive sectors make the country extremely vulnerable to climate-

induced events. The projected changes in climate have the potential to overturn development gains achieved in the past and also push more people into extreme poverty by lowering agricultural yields, raising food prices, and increasing the spread of waterborne and foodborne diseases" (IFAD 2021).

In 2011, Uzbekistan joined the International Fund for Agricultural Development, a financial institution and specialized agency of the United Nations. Their first joint project began in 2013. The strategy of the IFAD is to "enable sustainable income growth for rural people through viable small-scale agricultural production and rural enterprise systems" (Skinner et al. 2017). Development bodies use climate change innovative interventions in Uzbekistan, such as "the introduction of climate-resilient agronomic practices, promotion of a water-saving culture, and landscape restoration techniques" as part of their strategy (Skinner et al. 2017). According to IFAD, the key development partners in Uzbekistan working in rural/agricultural development are the World Bank, the Asian Development Bank (ABD), the United States Agency for International Development (USAID), the European Commission (EC), Agence Française de Développement, and the German Agency for International Cooperation (GIZ) (Skinnner et al. 2017). Nevertheless, Chinese investment is increasing in the country, particularly for infrastructure projects. And cooperation with its neighbors in Central Asia will necessitate a functional relationship with organizations such as the EAEU for trade benefits, especially in WEF areas.

Boosting the growth of rural productivity and incomes can be achieved by investing in agricultural modernization, more efficient use of irrigation water, adoption of climate-resilient agronomic systems, and knowledge-sharing of best practices (Skinner et al. 2017).

Despite Uzbekistan's hydropower capacity and potential for expansion is high, it faces critical risks. Freshwater resource depletion and deterioration of water quality, desertification, soil erosion and salinization are all key issues for the water supply, which directly affects the WEF nexus. From the total irrigated land in the Ferghana Valley region, about 28 percent experiences moderate to high salinity levels. As a consequence, the area suffers from a 20-30 percent drop in crop yields. Due to expected changes in climate patterns and higher temperatures, there are likely to be yield reductions of 20-50 percent by 2050 for almost all crops, and a severe water shortage of 12-51 percent in the Ferghana Valley by 2040 (IFAD 2021). Thus, the responsible

management of transboundary water resources in particular is critical to assuage the looming environmental crises, which pose economic and security risks.

Tajikistan:

The production of aluminum and cotton, Tajikistan's main export commodities, dominate the country's economic base, supplemented by remittances from Tajik nationals working abroad (Kauttu and Sissoko 2022). Tajik agriculture consists generally of two broad farming systems: upland areas with wheat, potatoes, and horticulture along with rainfed pasture; and lowlands of wheat and cotton (Kauttu and Sissoko 2022).

Tajikistan is the most food insecure country in the region, with one-third of its population suffering from undernourishment (Kauttu and Sissoko 2022). The agricultural sector faces the challenges of limited arable land and a lack of investment in infrastructure, farm machinery, and agricultural equipment. Additionally, livestock farmers are constrained in their ability to optimize the use of pastures due to "a lack of technical knowledge among small livestock holders, poor governance arrangements on pasture management, inefficient management of community livestock, shortage of feed during winter months, environmental degradation, and lack of access to good-quality fodder seed" (Kauttu and Sissoko 2022).

The IEA in 2022 ranks Tajikistan as eighth in the world for hydropower potential with an estimated 527 terawatt-hours (TWh). However, only about 4 percent of the hydro potential is currently exploited. The water is supplied by the country's abundant rivers, natural lakes, and glaciers throughout its mountainous landscape.

In 2016, the government released a *National Development Strategy of the Republic of Tajikistan for the Period up to 2030*. The document addresses how it aims to reduce the vulnerability of the national economy to threats by "exploring and developing…sustainable access to energy resources." Among the four strategic development goals listed on page 8 of the document, the first is to "Ensure energy security and sufficient use of electricity." Elaborating on this point, it highlights the need to diversity energy generation sources and foresees more intensive "development of hydropower resources of small and large rivers, development of existing capacities of oil and gas and coal industries, development of new deposits of fossil fuels, building technical capabilities for the use for alternative (renewable)

energy sources (solar, wind, biological, geothermal), modernization of existing and construction of new power plants and thermal power plants." It also mentions vital "integrated water resources management," which is related to the nexus approach of balancing different WEF sectors so that each achieves its goals.

Turkmenistan:

In Turkmenistan, renewable energy sources are practically nonexistent. Researchers at the State Energy Institute of Turkmenistan have suggested three directions for the development of renewable energy: export, own consumption, and power supply to isolated households and livestock farms located far from the main power grids. For example, these scientists have calculated that solar panels for isolated consumption in remote areas of the foothills of mountainous areas or in the Karakum Desert are the most cost-effective solution for energy supply. This means no special expenses for laying power lines or extra effort to expand the main grid connectivity to remote shepard camps (Turkmenportal 2021). Thus, the basis for renewable energy here is not regard for the environment, but a practical financial calculation.

Aside from its abundant oil and natural gas resource base, Turkmenistan's exporting capabilities are limited by a lack of infrastructure. China is particularly eager to assist in developing this infrastructure, from which it will benefit. China's continued investments in fossil fuels in Turkmenistan and other Central Asian countries have cast doubt on China's commitment to sustainable development (Holzmann and Grünberg 2021). Though Turkmenistan is keen to diversify export markets for its natural gas, China looks to be the only major customer for the foreseeable future due to the "scale of the quasi-monopolistic reality that Ashgabat faces" in its relationship with the China National Petroleum Corporation, or CNPC (Eurasianet 2022).

Scope condition: Environmental regionalism in authoritarian contexts

The paper will include areas of traction and momentum of WEF environmental regionalism across the five CA countries initiated by four multilateral structures: their incentives, leverage, and engagement patterns. It will briefly cover the view from CA states as well, which are also led by non-democratic regimes. However, the main focus will be on the non-democratic leadership of Russia and China in regional bodies.

Before continuing, it is beneficial to have a functional definition of various regime types. Firstly, the term *regime* has become commonly accepted in political science to differentiate its significance from that of a *state* or *government*. A regime "may be thought of as the formal and informal organization of the center of political power, and of its relations with the broader society… Regimes are more permanent forms of political organization than specific governments, but they are typically less permanent than the state" (Fishman 1990). The sphere of comparative politics is flooded with various terms and concepts to define state organization, some referring to regimes, some to political systems, and other to its leadership.

The term democracy has received a significant amount of attention and collected many definitions. Its opposite has proven more difficult to label. Indulging the instinct to find a clear dichotomy, democracy's alternative "has often been carelessly conceptualized under different labels as autocracy, dictatorship, despotism, authoritarianism, patrimonial regime, personalist regime, fascism, totalitarianism, etc. Moreover, with the fall of the Berlin wall, democracy became (normatively) the only game in town as there was no longer a communist alternative to challenge it. This led to a proliferation of new regimes, which quickly disappointed and were classified as anocracies or hybrid regimes, or as democracies with adjectives: unfinished, stalled, halted, transitional, frozen, weak and fragile 'democracies,' all lacking a clear definition and division" (Van den Bosch 2013). It is not accurate to label all authoritarian regimes or autocracies as personalist or despotic. While in some regimes, the leadership may possess a disproportionate amount of power vis-à-vis other state organs and interests, not all autocracies are like this. The nature of one-party or multiparty regimes demands differentiation due to their diversity in stability, behavior, robustness, etc. (Van den Bosch 2013).

The common juxtaposition of labeling autocracies in opposition to democracy in the field of democracy studies has led to the trend to call some of them incomplete democracies or hybrid regimes. Towards the end of the Cold War throughout the late 1980s and 1990s, communist one-party regimes were in succession discredited and collapsed throughout Eurasia, including Central Asia. This reinforced the optimistic idea that democracy was no longer normatively challenged, and would therefore be the eventual destination of states in political transition. "A certain intellectual stubbornness ingrained this teleology in scientific literature," which led to a proliferation of terms to classify these new non-democratic regimes as incomplete democratic transitions, and not as autocracies, which they were and often still are (Van der Bosch 2013; Levitsky and Way 2010.) These labels can be misleading, as there is no empirical foundation

to assume that all these transitions will result in democratic regimes, or even move in that direction at all. Despite the fact that many of these regimes acquired architecture which characterizes democracy - particularly multiparty elections - that does not necessarily turn them into post-authoritarian and certainly not into incomplete democratic regimes. (Levitsky and Way 2010). Elections do not instantly make a democracy.

In competitive authoritarian regimes, civilian regimes rule and administer formal democratic institutions, which are widely viewed as the primary means of gaining power. However, the incumbents' abuse of power is widely acknowledged and acts as a way to maintain a significant advantage over opponents (Levitsky and Way 2010). Such a dynamic represents an example of a hybrid regime, which is characterized by important characteristics of both authoritarianism and democracy. Dahl (2005) offers a "procedural minimum" definition of democracy, which other scholars have converged around. The four key attributes of democracy include "(1) free, fair, and competitive elections; (2) full adult suffrage; (3) broad protection of civil liberties, including freedom of speech, press, and association; and (4) the absence of non-elected 'tutelary' authorities (e.g., militaries, monarchies, or religious bodies) that limit elected officials' power to govern." This paper will refer as well to the Democracy Index scores, which are calculated by the Economist Intelligence Unit on the basis of 60 indicators grouped in five categories, measuring pluralism, civil liberties, and political culture. The EIU is the research division of the UK-based Economist Group.

Levitsky and Way (2010) define full authoritarianism as "a regime in which no viable channels exist for opposition to contest legally for executive power." They include in this category closed regimes in which national-level democratic institutions do not exist (for example, in China) and hegemonic regimes in which formal democratic institutions exist on paper but are reduced to façade status in practice (Levitsky and Way 2010; Schelder 2002). In hegemonic regimes, elections are so affected by repression, candidate restrictions, and/or fraud that there is no uncertainty about their outcome. Opposition is basically forced underground and leading critics are often imprisoned or exiled. Citing the examples of Kazakhstan and Uzbekistan, they explain that in hegemonic regimes, elections serve functions (for example, a means of enhancing regime legitimacy, generating information, or distributing patronage) rather than determining who governs. In such systems, opponents do not view elections as a viable means to gain power.

Competitive authoritarian regimes are different from full authoritarianism because constitutional channels still exist through which opposition groups are able to compete in a meaningful way for executive power. To put it more simply: authoritarian regimes are characterized by the absence of competition; democracy is characterized by fair competition; and competitive authoritarianism is characterized by competition that is real but outstandingly not fair (Levitsky and Way 2010).

Competitive authoritarianism propagated rapidly after the collapse of the Soviet Union. Though a few competitive authoritarian regimes did exist during the interwar and Cold War periods, it has been marked as more of a post-Cold War phenomenon (Levitsky and Way 2010). This is because, beginning from the late 1980s, significant changes in the international environment threatened and undermined the stability and legitimacy of many closed regimes. This also encouraged the rise of electoral ones. The wrapping up of the Cold War led to a withdrawal of external support for many superpower-supported dictatorships. Both USSR-backed Leninist regimes and US-backed anti-communist regimes found themselves in an abrupt decline of external economic and military assistance. In many countries, the cessation of Cold War subsidies was exacerbated by accumulating economic crises. The result undermined many autocracies and threatened them with bankruptcy. Patronage networks in such states disappeared, and, for many countries, "coercive apparatuses began to disintegrate, leaving autocrats with little choice but to liberalize or abandon power" (Levitsky and Way 2010).

The following diffusion of a Western democratic model was "rooted in an instrumental logic: The primary sources of external assistance were now located almost exclusively in the West. Effectively 'reading the handwriting on the [Berlin] wall,' many autocrats adopted formal democratic institutions in an effort to 'position their countries favorably in the international contest for scarce development resources" (Bratton and van de Walle 1997; Levitsky and Way 2010). There was another major shift in international attitudes in the form of Western foreign policy. In the new absence of a Soviet threat, the United States and other Western powers increased efforts and attention to encourage and defend democracy. They did this through a mix of foreign assistance, military and diplomatic pressure, and, crucially, political conditionality (Burnell 2000). For example, US funding for democracy-assistance programs proliferated throughout the 1990s, increasing from practically zero in the early 1980s to about $700 million around 2000 (Carothers 1999; Burnell 2000).

In 1990, the United Kingdom, France, and the United States announced that they would make future economic assistance dependent on conditions of democratization and human rights. Although this trend was never applied consistently, Western governments and multilateral institutions began to link loans and assistance on the conducting of elections and attempted indicators of respect for human rights (Nelson and Eglington 1992; Stokke 1995). This new political conditionality incentivized many autocrats to hold multiparty elections.

In addition to political conditionality, there were efforts to establish and enforce "permanent international legal frameworks for the collective defense of democracy…an international architecture of collective institutions and formal agreements enshrining both the principles of democracy and human rights" (Diamond 1995). One more distinct trend in the post-Cold War era was the emergence of transnational infrastructure of organizations committed to the promotion of human rights and democracy. These included a range of international organizations (IOs) and non-governmental organizations (INGOs), international party foundations, election-monitoring agencies, and other new bodies.

New information technologies such as the internet strengthened transnational human rights and democracy networks. They helped coalesce attention for human rights abuses, lobby Western governments to take action against abusive governments, and assisted to protect and support domestic opposition groups. As a result of these cross-border networks, abuses and maltreatment often triggered a "boomerang effect," where international observation and wide reporting by external media often led Western powers to punish the wrongful states (Keck and Sikkink 1998). Also contributing to this were the growing quantity and capacity of international election-observer missions, which impeded states from attempting fraud.

These shifts in the international climate "raised the external cost of authoritarianism and created incentives for elites in developing and post-communist countries to adopt the formal architecture of Western-style democracies, which— at a minimum— entailed multiparty elections. The change was particularly striking in… post-communist Eurasia, where only one *de jure* one-party regime (Turkmenistan) endured throughout the 1990s" (Levitsky and Way 2010).

However, the newly applied pressure from Western powers focused heavily on elections as the primary indicator of democracy. Though the international pressure at the end of and after the Cold War did undermine autocracies and boost multiparty elections, this narrow focus of the effort actually limited the external democratization pressure. Two factors affected this. The first consideration is that the pressure was applied selectively and inconsistently, with significant countries and regions (for example, China and the Middle East) mostly escaping the pressure that other regions faced (Carothers 1999, Nelson and Eglinton 1992). The second consideration was that the external pressure coming from Western liberal democracies was often superficial. For much of the globe, this democracy promotion was "electorialist" and organized almost exclusively around the idea of multiparty elections. This often neglected dimensions such as civil liberties and a level playing field (Carothers 1999, Diamond 1999). Zakaria (1997) analyzed:

"In the end…elections trump everything. If a country holds elections, Washington and the world will tolerate a great deal from the resulting government… In an age of images and symbols, elections are easy to capture on film. (How do you televise the rule of law?)."

The global system's narrow attention to elections allowed many old and new autocrats to still have considerable room to operate (Stokke 1995; Levitsky and Way 2010). As a result, only partial liberalization – often in the form of holding passable elections– was often the sufficient minimum to deflect international system pressures for more complete political aperture. This is all significant in explaining the political evolution of the Central Asian regimes over the first 30 years of their independence. Also, in addition to multi-party elections being a benchmark of the liberal order, participation in multilateral organizations is another trait encouraged by a democratic world agenda. However, in both cases, the result in practice is influenced by the authoritarian actors and the non-equitable power dynamics at play.

Current research on how states and governments transition to green technologies largely overlooks the consideration that regime types tend to vary quite significantly between states with and without major fossil fuel revenue. Thus, there remain unexplored questions about the motivations and efficiency of the transition to green energy for countries where fossil fuels are the primary resource and where less-democratic forms of government exist. Considering the intersection of government type and renewable energy sources, most currently existing research focuses on the green energy promotion methods in democratic, western states. This leads to the crucial knowledge gap about the reality that autocratic states, particularly those

dependent on oil, are likely to use remarkably different deployment strategies. Even on the scale of *regional* environmentalism, many studies identify the European Union as the prime example of regional promotion of sustainability as a value and priority.

By contrast, non-democratic regional organization (NDRO) leadership is an emerging concept which benefits from further examination. This paper contextualizes the idea, taking into account academic literature across the disciplines of geography, political science, environmentalism, conflict studies, and nexus frameworks.

Outside of (or interestingly, sometimes cooperating with) Russian and Chinese influence on a regional scale are some examples of environmentally-focused programs operating in Central Asia. The International Energy Agency, European Union, along with the Energy Community Secretariat and Energy Charter Secretariat, have implemented a program called EU4Energy, which involves all five CA states, as well as Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine. This program is designed to encourage and support the target countries in their implementation of "sustainable energy policies and [fostering of] regional cooperation on energy-sector development."

The Vice President of the European Union Josep Borrell has highlighted the need for climate diplomacy through "high ambition coalitions," especially involving high emitters like China (Borrell 2020). He noted that getting China on board with global climate initiatives will exert strong pressure on other high emitters, and especially in Asia, a continent which accounts for more than half of global emissions (Borrell 2020). Borrell identified the fight against climate change as the "single clearest example" of a domain where EU-China cooperation needed to tackle global challenges and deliver global public goods (Borrell 2020).

The European External Action has identified areas of its cooperation with Central Asia as "primarily climate change, environmental protection and gender equality", notably on environmental issues, education, trade, and the rule of law (EEAS 2022). Thus, environmental issues can lend themselves to China's "selective multilateralism," both as a leader within organizations (e.g., Shanghai Cooperation Organization) and those organizations' relationships with other bodies (e.g., SCO-EU relations).

Sprinz and Vaahtoranta (1994) offered an interest-based explanation for how international environmental policies impact state preferences for international environmental regulation. Using case studies of efforts to protect the stratospheric ozone layer and the regulation of transboundary acidification, they identified two unit-level factors that are of major importance: "a country's ecological vulnerability toward [issue] and the economic costs of [issue] abatement." This gives us insight into the motivation for and likelihood of Russia and China to respectively push green policies, as well as why Central Asian states would be ready to accept them.

There is a tendency among authoritarian states to prefer trade and economic interaction with states ruled by similar government structures. In general, they prefer to engage in greater trade integration with and politically support other authoritarians (Yakouchyk 2019). Libman and Obydenkova (2018) call this behavior "authoritarian regionalism" and explain that it also means that "powers in authoritarian states frequently pursue different goals than do their democratic counterparts." Another implication of this is that intra-authoritarian trade may remove or lessen the incentive for green upgrading due to the prioritization of political imperatives instead of market signals. In an authoritarian state, firms might feel a reduced incentive to become cleaner or greener, as political interventions are more common in such regimes. Here, the success of companies might be more dependent on the regime's favor and less on pleasing eco-conscious consumers, as in a more free market economy (Obydenkova and Salahodjaev 2017). Additionally supporting this pattern is that autocracies tend to have larger, state-owned firms, which have little incentive to become greener even as they internationalize (Clegg, Voss, and Tardios 2018). Authoritarian regimes are the ones to please, rather than consumers.

While it will be inherently difficult for any state to transition away from fossil fuels because of the economic and infrastructure ramifications, some states will find it more difficult than others. Non-democracies may find this especially challenging, due to the fact that the transition threatens to alter the status quo and undermine the existing government institutions and structures that have developed around oil resource extraction.

Considering that over half of the world's population currently lives in authoritarian regimes, it is critical to understand how such states secure environmental protection. Much of the understanding of the intersection of authoritarian powers and environmental initiatives comes

from research on China as a case study, and its strategy of employing environmental protection as a means of constructing and maintaining regime legitimacy (Carlitz & Povitkina 2020). Comparatively less has been studied in other states as far as how and how much environmental protection differs across authoritarian settings. These differences are critical, because environmental issues tend to be inherently localized. Identifying how and when governments engage in environmental initiatives requires understanding the incentives and motivations facing countries. Furthermore, this paper will focus on how authoritarian regimes use the specific modality of leadership in multilateral organizations to promote green initiatives and their benefits. In this case, the authoritarian characteristics in question are not those reinforcing domestic legitimacy, but rather those disseminated abroad through diplomacy, financing, and leadership in multilateral platforms.

Research question

This paper contributes to the literature on the nexus between regime types, regional organizations (ROs), and environmental protection. The purpose of the study is to contribute to the multidisciplinary field of research on how non-democratic powers operate in leadership roles on multilateral platforms. It explores when and where Russia and China choose to engage in environmental regionalism and what motivates them, specifically by looking at their tools of multilateral projects.

Since the fall of the Soviet Union, Russia and China have been approaching each other increasingly as pragmatic partners challenging the Western-dominated international system (Stronsky & Ng 2018). Among the most prominent Eurasian regional initiatives are the Moscow-led Eurasian Economic Union (EAEU) and the Collective Security Treaty Organization (CSTO), as well as the Beijing-led Belt and Road Initiative (BRI) and Shanghai Cooperation Organization (SCO). In what ways are Russia and China successful in promoting regional environmentally-conscious norms in Central Asia through these multilateral and their respective bilateral relations? Where are the areas of cooperation and where will Russia and China have to reconcile more conflicting agendas? What will traction of these norms in Central Asia mean for the balance of global power? In what ways does promoting Central Asia's clean energy transition assist Russia and China in green-washing their global image and engaging in selective multilateralism?

Main argument

China and Russia engage in "selective multilateralism," establishing prestige by the channels of the international liberal order on some issues when convenient for them but challenging or even brazenly rejecting international norms in other areas. China and Russia have been carefully but consistently increasing their capacity to wield influence in multilateral platforms that uphold and shape the norms of globalization. Across four platforms which were initially conceived for the strategic priorities of security and economics, China and Russia are increasingly using their leadership to introduce and support environmental measures, particularly in the field of green energy. The overlapping economic and security initiatives, as well as environmental interest from liberal organizations in the West, allow the Central Asian states to exert their agency in maintaining multi-vector diplomacy. However, authoritarian states do generally prefer partnership with similar regime types, so the region's hegemonic neighbors of Russia and China have primacy in their access to Central Asian leaders and their markets.

Predictor #1 – Type of authoritarian leadership

Analytical literature review

In the 1990s, when the five newly independent Central Asian republics urgently needed loans and investments to jumpstart their economies, they faced a lack of financial resources and organizational bodies. Securing financing from the World Bank and International Monetary Fund was difficult because they fell short of the conditions and requirements, particularly in the area of human rights (Dollar 2017). The tricky issue of assistance-with-conditionality is one of the factors which makes Russian and Chinese financing more attractive and accessible.

The five Central Asian countries together with Russia share a common post-Soviet legacy, including that of its prioritization of rapid development over environmental concerns. The communist system over the 20th century was "not suited nor was it geared toward protecting the environment, leaving its successor states with a series of environmental catastrophes that have, for the most part, not been addressed, either at the policy or the institutional level" (Hartwell 2021, Newell and Henry 2016).

Despite sustainability often carrying the connotation of being a liberal value, non-democracies have some advantages in pushing environmental policies. Often, authoritarian states are able to use their unilateral control to issue top-down directives for green energy policy and investment to a greater extent than that present in democracies. The tighter grip on power can facilitate a more streamlined process for making decisions considering green energy projects due to fewer veto players and opposition voices. As they are able to reduce barriers to entry, they can increase the implementation speed of projects (Harman 2020).

The fossil fuel industry still dominates the international system as it exists today, holding a tight grip on economies, national governments, and diplomatic decision-making. However, there is a growing global shift away from oil and increasing momentum to loosen its grip on society, mostly backed by environmental and sustainability concerns. The heavily evidenced threat of climate change has become increasingly apparent and also a more powerful force on global economies and livelihoods. The clear scientific consensus about anthropomorphic climate change driven by carbon emissions and the linked increasingly frequent natural disasters are making environmental issues more difficult to ignore. In order to address this, many countries are beginning to take initiatives to reduce their dependency on carbon emitting industries, of which fossil fuels are the largest contributor.

One contributing solution to this concern can lie with renewable energy. Countries weaning off of a fossil fuel dependence, especially those dependent on fossil fuels for daily energy production and commercial needs, face the risk of weakening their existing economic and social infrastructure that rely on oil revenues, as well as wiping out the institutions and jobs in place to sustain it. This is especially true in non-democracies, such as those in Central Asia.

China became the world's largest emitter of greenhouse gasses in 2016, overtaking the US at the time (Holzmann and Grünberg 2021). It currently produces over a quarter of global carbon dioxide (CO2) emissions. Domestic sustainability goals have been incorporated in China's Five-Year Plans (FYPs) for social and economic development since 2001 (Holzmann and Grünberg 2021).

Since then, it has set targets for the environment, energy transition, and resource efficiency, among other areas. The government promotes sustainability concepts, which have now become "intrinsic parts of national policy-making" (Holzmann and Grünberg 2021). One key concept

for China's green drive for more than a decade is that of *circular economy*, wherein production cycles aim to achieve the three "R"s of *reducing* input and waste while *reusing* and *recycling* resources as much as possible. A second key concept is that of an *ecological civilization*, which the Politburo made a national priority in 2015. The phrase was formalized by its addition to the constitution in 2018, by which it is meant to encapsulate and legitimize sustainability policies (Holzmann and Grünberg 2021). A third key concept promoting sustainability is that of *Beautiful China*, which was introduced in 2017 to describe the CCP's efforts to "meet people's ever-growing demands for a better life" and is part of the leadership's long-term vision of a "clean, prosperous, and fully developed China by 2049" (Holzmann and Grünberg 2021).

Holzmann and Grünberg (2021) posit that the CCP's three strategic concerns which motivate sustainability ambitions are regime stability, resilience against external shocks, and the opportunity for tech leadership. Firstly, regime stability and its capacity to deliver both a livable environment and continuous growth are the main drivers of the Party's leadership and notion of legitimacy. The public is also growing more aware of and prioritizing a healthy environment. A 2018 study from the Chinese University of Hong Kong found that air pollution in China is responsible for approximately 1.1 million premature deaths and costs the Chinese economy 267 billion yuan (38 billion USD) annually (Gu et al. 2018). This figure amounted to about 0.7 percent of China's annual GDP, so the news is of strategic concern. The economic consequences were calculated by accounting for pollutants' impact on public health and their destruction of 20 million tonnes of rice, wheat, maize, and soybean crops (Gu et al. 2018).

China prefers engaging bilaterally, as bilateral deals and projects are more expedient (Lo 2019). Since the 1970s in China saw the era of reform and opening up, the main priority of the country's foreign policy has been maintaining a stable external environment to support domestic socio-economic development— "the mainstay of legitimacy and regime stability for the [Communist Party of China]" (Ghiasy and Zhou 2017). The period of the 1990s into the mid-2000s has been characterized as reactive, rather than proactively in addressing international security issues. (Ghiasy and Zhou 2017). Since then, there has been an evolution of China's security posture, including more willingness to shoulder the responsibility of a global public goods provider. (Ghiasy and Zhou 2017).

From Russia's perspective, Moscow has a dynamic relationship with all of the post-Soviet states over which it used to govern. Preserving influence without compromising or over-

stretching its own economic capability is important. Russia benefits from stable and Russian-friendly leaders in power in the Central Asian countries. Aside from its neighbor Belarus, the leaders of Central Asia have been those most consistently friendly with the post-independence Russian politicians in power, and Vladimir Putin is no exception.

How authoritarianism affects the outcome

Though multilateral platforms and public goods provision are a key characteristics of the liberal world order, Chinese and Russian leadership in these areas will be marked by an authoritarian asymmetry. They operate as hegemons inside and outside of the organizations, and create structures which benefit their economic and security interests.

Owen Worth (2015) argues that the concept of hegemony is used in abundance, including at the global, regional, and ideological levels. Mearsheimer (2001) writes that it is the ideal situation for an actor to be the only regional hegemon. If there are other regional hegemons within the system, "it is likely that the hegemons would go to considerable lengths to challenge or eliminate the competition." Thus, it is valuable to look at the overlapping economic and security bodies operating in Central Asia.

Neo-liberals consider that the dominance of one great power may contribute to order in a political community, and that this can be connected in complex ways to cooperation and institutions, such as international regimes (Dirzauskaite & Ilinca, 2017). Keohane (1984) writes that a successful hegemonic leadership depends on a certain form of asymmetrical cooperation, "playing a distinctive role in offering leadership in return for submission." He further explains that it differs from imperialism in the fact that "it cannot create and enforce rules without some sort of consent from other sovereign states." A hegemon instead invests resources in institutions in order to ensure that its own rules will guide the behavior of other states. It offers a sense of stability by reducing transaction costs and uses its resources to establish/maintain these institutions. Lastly, Keohane reminds us that cooperation must not be considered as the absence of conflict, but rather "as a process that involves the usage of discord in order to stimulate mutual adjustment." By focusing on the external forces of neighboring Russia and China, this thesis will aim to explain the impact of externally-controlled regional organizations on the greening of the Central Asian energy landscape.

Trenin (2019) writes that "the key and absolutely indispensable element of Russia's status has been independence" which implies a sovereign foreign policy and resents the imposition of any international system which puts Russia at a perceived disadvantage. Daly & Rojansky (2018) write that, "Both Russia and China regularly trumpet the primacy of sovereignty in international relations, yet neither shows much deference to the sovereignty of smaller neighbors." In 2017, Russian President Vladimir Putin expressed plans for a "greater Eurasian partnership," also dubbed the "integration of integrations," which will connect the EAEU with China's BRI (Xinhua Net 2017). In reality, the rhetoric surrounding the alignment of these two initiatives is so far more political than practical (Putz 2018).

Lo (2019) believes that cooperation between the BRI and the EAEU will "lead to deeper ties in economics, trade, investment, infrastructure, financial, and currency between the two states but will minimally affect military and political ties." However, certain scholars such as Lu (2019) express more optimism for the potential of the cooperation between the SCO and BRI. He writes that the SCO has adopted the "'Shanghai Spirit' of mutual trust, mutual benefit, equality, consultation, respect for cultural diversity, and pursuit of common development, while the BRI upholds the 'Silk Road Spirit' of peace and cooperation, openness and inclusiveness, mutual learning and mutual benefit."

Sullivan (2019) writes that the US and Western Europe lack the linkages to support democratizing norms and the liberal order in the Central Asian region, thus allowing Russia and China to exert pressure as hegemons. Russia and China share the desire to shift the gravity of norm-setting global power from the Euro-Atlantic space to its relative East. The traction of these alternative norms should be a concern for the otherwise generally democracy-led global order. The China-Russia relationship and its power in Central Asia also has implications for the potential of regional neighbors like Iran, who would be eager to support a non-Western-led global order (Goodenough 2020).

Despite the economic boost China gives to the region's economies, there have been growing concerns from inside and outside Central Asia. In Kazakhstan, for example, anti-Chinese sentiment and distrust is rising as the population becomes more alarmed at the persecution of Muslim Uighurs across the border in Western China (Xuanli Liao 2019; Umarov 2019). In October 2019, civil society groups and political activists in Kazakhstan protested

announcements of Panopticon technology and Chinese facial recognition software being introduced in the country (Rickleton 2019).

A more unified CA regional identity would likely build upon Turkic, Muslim heritage, which is shared by peoples across Central Asia and minorities in Western China. From China's perspective, there is a risk of populations in Central Asia sympathizing with and acting in protection of Uighurs in its western Xinjiang Province. Ambrosio explores the implication of a Sino-Russian strategic partnership at an early stage in a 2008 paper exploring how the SCO was promoting authoritarian norms and undermining democracy in Central Asia. On one hand, China seeks regionally integrated infrastructure for making sure the Central Asian states do not interfere in its western provinces. On the other hand, this regional infrastructure should have its priorities and attention carefully authored and controlled by like-minded authoritarian leaders. Russia is also concerned about instability, separatism, and Islamic radicalism rising in Central Asia, as it has had its own conflicts with minority populations in Chechnya and Dagestan.

Predictor #2 –Platform and Sector (Economic and Security)

Analytical literature review

This paper focuses on regional agendas as a tool of influence and norm diffusion, especially in the promotion of environmental goals. When considering the scale of environmental engagement, a particularly salient point in the context of Central Asia has been the transition from the governance of the heavily centralized Soviet Union to that of five independent republics. Thus, the management of resources shifted abruptly from a centrally controlled, regional perspective to a responsibility of newly independent states. However, various platforms such as those in this paper, are attempting to build up that transboundary connectivity again.

Regional environmental cooperation initially found its momentum as a result of the evolution of global environmental politics around the 1990s, when multilevel and partially overlapping institutions emerged (Andonova and Mitchell 2010). World **regions** are "multicountry agglomerations, defined not by their supposed physical separation from one another (as are

continents), but rather (in theory) on the basis of important historical and cultural bonds" (Lewis & Wigen, 1997). World regional categories are widely used in the popular press and are usually the key to organizing area studies across academic institutions. Lewis & Wigen (1997) grant these regional groupings credit on two counts: "(1) they ignore the dictates of landmass shape, and (2) they demote Europe to its proper place (Europe being usually represented as one or two world regions, while Asia is partitioned into as many as six)." However, they continue to identify the imprecision that comes with the presumption of the state as the primary unit. They specifically point to the example of China's Islamic, Turkic-speaking northwest quadrant as having more in common with Central Asia, despite all of China as a country routinely classified as East Asia. They ultimately conclude that regions should be used as "approximate intellectual constructs" which help us understand the planet but are by no means "natural or supra-historical entities."

Thomas (2016) argues that a regional community is determined neither by geographic proximity nor social-psychological identity, but rather that the "limits of regions are defined within regional organizations by member states' governments plus supranational actors deliberating over a common definition of the characteristics that members and potential members are expected to share." He gives more attention to the role of supranational communities, their gatekeeping, and their membership norms. Finnemore and Sikkink (1998) explain the constructivist opinion that these international norms are not arbitrary but are rather "built by actors having strong notions about appropriate or desirable behavior in their community." I hypothesize that the norm-setting agents in the most powerful Eurasian regional organizations are currently regional hegemons external to the five Central Asian republics, and that this has significantly affected the development of the region's WEF infrastructure, particularly in the area of energy.

The scale of the region has its particular advantages when dealing with environmental concerns. Considering the difficulty of negotiating global environment agreements and holding members invested and accountable, regions have proven more effective at identifying the most pertinent environmental priorities. Within the broader debate on global environmental governance, scholars have identified the need to emphasize the analysis of environmental regionalism (Balsiger and Prys 2016; Balsiger and VanDeveer 2012; Elliott and Breslin 2011).

In addition to environmental politics scaling up and gaining more recognition at the global level over the past half-century, they have become "increasingly complex and interconnected with respect to the level (between local and global) at which they take place, the range of actors engaged in them, and the linkages between them and nominally non-environmental issues (Andonova and Mitchell 2010). Expanding on the last point, this paper will investigate the relationship between political regime type and momentum for environmental initiatives, especially in the alternative energy field. Environmental issues previously conceived as independent from each other are increasingly understood by scholars and practitioners as having multiple interdependent causes and demanding integrated forms of organizations for effective management (Andonova and Mitchell 2010). The result is that regional environmental initiatives are managed within "local and global scales with nested systems of environmental governance institutions that must address the vertical and horizontal interplay across scales and processes of governance" (Andonova and Mitchell 2010).

Environmental issues are a concern for security organizations because the mismanagement of natural resources has demonstrated itself as a contentious point, both domestically for Central Asian countries and between them. Studies have warned that climate mitigation strategies and adaptation policies can contribute to conflict when applied uncritically (Buhung et al. 2012, Witmer et al. 2017). Another study showed that political factors overshadow the effect of temperature anomalies in generating conflict (Witmer et al. 2017). The article also warns that insensitive environmental adaptation measures might compromise political rights and further increase the likelihood of conflict.

Climate-related factors can in several ways incentivize or even force people to migrate (Seter 2016). This can cause conflict in at least four complementary ways: "struggles between hosts and newcomers over scarce resources, when newcomers are perceived as a threat, when the demographic size of newcomers alters local power-relations, and when pre-migration tensions between the groups exist" (Reuveny 2007). This also concerns the two economic bodies in the thesis, as more integrated economies usually lower the barriers to labor migration.

Theisen (2017) summarized that several, if not all, of the following four contextual natural resource factors are necessary to have the potential to result in conflict. The first factor is related to "high levels of poverty and livelihoods with a high reliance on renewable resources…[which] are increasing the likelihood of weather shocks to produce detrimental

economic conditions for large sections of the population…[Secondly,] institutions at multiple levels affect both the ability to address acute resource shortages and the ability of resolving these in a non-violent manner" (Homer-Dixon 1999, von Uexkull et al. 2016, Goldstone 2016, Kahl 2006, Linke et al. 2017). Thirdly, politically salient cleavages are facilitating factors in the face of a resource shock (Homer-Dixon 1999, Buhaug et al. 2010, Kahl 2006).

Low state capacity is highlighted as a fourth factor which can increase the likelihood of resource shocks translating into violence. Relatedly, state capacity may itself be weakened by resource shocks: weak institutions may facilitate resource grabs by elites as increasing scarcity raises the value of certain goods (Homer-Dixon 1999, Kahl 2006). Moreover, "falling state revenues can reduce the rent-pie causing distributional conflicts among rent-seeking elites" (Theisen 2017). Lower state income further restricts a state's ability to deliver public goods in times of acute need, including maintaining law and order and protecting the environment. Falling economic performance threatens regime legitimacy, which can lead to civil unrest (Kahl 2006). As explained by these factors, both the security and economic spheres in Central Asia are heavily tied to the environment, and in particular, to the energy balance and natural resource management.

How sectors affect the outcome

Over the 20th and 21st centuries, Central Asia has seen how environmental mismanagement can threaten political and economic security. Some of the most pertinent security challenges in Central Asia include water security and transboundary river management, energy security, terrorism, narco-trafficking, migration and human trafficking, nuclear security, and border management. These issues naturally transcend political state boundaries and lend themselves to multilateral and often interdisciplinary approaches (Lopour 2015, Seter 2016). To date, however, regional cooperation "has been piecemeal and stymied by the fact that many issues are inherently tangled with others" (Lopour 2015).

Russia launched its regional leadership with momentum from its Soviet legacy to continue as a broad security guarantor. Since its expansion of foreign policy throughout the 2000s, China has gradually developed as a strategic partner of the Central Asian states. For some states, like Kazakhstan, the relationship with China remains relatively siphoned into the economic realm, while Russia is a closer military and security partner. Nevertheless, China's command over a

security organization (SCO) which includes both Russia and the Central Asian states effectively becomes a tool that encourages the region's concept of security in its favor. However, for states like Tajikistan with looser historical and cultural ties to Russia, China is able to control more of the military space.

One of the main areas of cooperation now between Russia, China, and the Central Asian republics is in combating the threat of international terrorism and jihadist extremism. While Russia fears that instability in Central Asia could undermine the EAEU, China is weary about the security threats spreading over its western border into the Xinjiang Autonomous Region (Indeo 2018). The main regional security forum involving both Russia and China is the Shanghai Cooperation Organization. While China has more financial leverage in their relationship, Russia has more military might. Marcel de Haas (2017) has written about the extent of control that organizations like the SCO and CSTO exert on Central Asia. Yilmaz & Changming (2019) argue that the China-Russia strategic partnership "stands at the center of the BRI's expansion into Eurasia."

Case selection and methodology

Central Asia as a region lacks institutional infrastructure. In its neighborhood, the readiest actors and financiers happen to be external states and multilateral platforms which have strategic interests in Central Asia's development and connectivity. The powers best positioned historically, geographically, and financially to develop its nascent institutions and norms are Russia and China, who have relevant critical interests in maintaining regional spheres of influence. In order to represent how Russia and China are flexing their interest and leverage in the region, I have selected two economic and two security organizations. These categories intersect with the range of two Russian led and two Chinese led platforms.

	Security-oriented	Economic-oriented
China	Shanghai Cooperation Organization (SCO)	Belt and Road Initiative (BRI)

Russia	Collective Security Treaty Organization (CSTO)	Eurasian Economic Union (EAEU)

The purpose of this study is to examine how NDROs tie their domains (in this case, security- and economic-based platforms) to environmental regionalism through the WEF nexus in Central Asia. To narrow this down further, most of the weight of attention will center on the financing of green energy transitions and alternative energy sources.

Of the four case studies, the BRI does not fit the other examples, which are more structured multilateral organizations with formal membership. Instead, the BRI describes a constellation of projects without a definitive list. It is a catch-all term for a "vaguely visible hand guiding all the interlocking developments in infrastructure, energy and trade where China plays any kind of role" (Mauk 2019). Nevertheless, it represents a major region-building initiative of China. It should be noted as well that the section of the BRI relevant to Central Asia specifically is called the New Silk Road. However, for the sake of simplicity and name recognition, this paper uses "BRI" to include only the activities within the five Central Asian Countries.

The four platforms in focus add cumulative layers on top of each other and are well aware of the overlapping space they occupy. As they all came into the region of Central Asia at different times, there was a need to define their parameters and establish cooperation with the already existing platforms.

The longest running platform is the Shanghai Cooperation Organization, which was established in 2001. It formed in the wake of its predecessor, the Shanghai Five, which was founded in 1996. Collective Security Treaty Organization in its current form was formalized in 2002, but it has its roots in the Collective Security Treaty, signed in 1992.

The two economic integration projects are more recent. The Belt and Road Initiative was announced in 2013 by Xi Jinping on an official state visit to Almaty, Kazakhstan. The Eurasian Economic Union Treaty was signed in 2014 and formally established in 2015. Its concept was long in the making, however, as its formation was originally proposed in 1994.

Methodology and Data

This paper covers the complexity of energy geopolitics in Central Asia as demonstrated from the perspectives of both the main countries of energy development (game actors) and the whole-industry-chain of energy development (game themes). The data used in this study include a review of official state and multilateral platform documents, supplemented by observations from additional scientific literature and news.

Early literature on international environmental regimes focused on intergovernmental politics and the role of states' structural and bargaining leverage in forming collaborative outcomes, as well as the influence of ideas and knowledge in regime formation (Young 1989, 1994). Neoliberal institutionalist scholars have examined the relationship between environmental leader and "laggard" states, as well as the function of institutionalized commitments and issue linkages between environmental challenges and "high politics" issues, such as the US-Soviet détente, or the nexus of environment, democratization, and development (Haas et al. 1993, Mitchell 1994, Sprinz and Vaahtoranta 1994, Levy 1993).

Constructivist lenses have analyzed the roles of knowledge diffusion, discourse, and consensus building in influencing how people and institutions frame, understand, and respond to environmental problems (Haas 1990, Litfin 1994).

This factor-driven study will analyze the agenda of integration through four organizations: the Eurasian Economic Union, the Collective Security Treaty Organization, the Belt & Road Initiative, and the Shanghai Cooperation Organization. This thesis will look at what factors into the asymmetry of power, resources, and influence within the four organizations in order to trace the process of their generation and adherence. Klotz and Prakash (2008) propose that the most effective technique to interpret evidence of the norms within a regional community is a "genealogical approach combining discourse analysis and process tracing to uncover subjective understanding and intersubjective expectations as they emerge and evolve through social interaction." This analysis of how political actors conceive of eligibility for membership in a supranational regional community will focus not only on the norm-setting hegemons, but on the leverage of the respective Central Asian states in negotiating that membership. For example, Uzbekistan first joined the CSTO in 1992, suspended its membership from 1999 until

2006, when it rejoined the organization only to withdraw again in 2012. This suggests an Uzbek agency to contest the community's Russian-dominated policies.

This paper first examines environmental policy as an outcome of interest and how it varies across democratic and non-democratic regime types. Next, I will examine the region's WEF (and particularly the alternative energy) agenda as a transboundary regional security issue, establishing a foundation for a power-based approach. National governments', multilateral platforms', and secondary sources will be used for this. Then it will summarize each of the five CA countries' respective domestic perspectives and interests for engaging in environmental regionalism. The sources here are mostly government documents from relevant ministries, but they are supplemented by reports and analyses from other external/international organizations, such as specialized agencies of the United Nations and the International Energy Agency.

In explaining how authoritarian leadership and choice of platform sector affect this outcome, I will examine the various stakes and interests that Russia and China have in green energy security in the region. After a brief introduction to the case selections, each one will be highlighted in turn. Here, the Russian and Chinese environmental goals in Central Asia through the respective platforms are articulated, analyzing their intersection with economic and security goals. This paper describes their modes and methods for distributing institutional norms in the region, and examines the extent to which those norms are non-democratic and focused on the green energy transition.

This review of primary documents and secondary literature is sourced from English- and Russian-language sources. The fact that this author does not read Chinese or any Central Asian official language is a limitation of this study. However, English has been the main language for international knowledge production on climate change since the 1990s (Valkulchuk et al. 2022), and Russian is a widely used regional language. Russian language operates as a *lingua franca* across these organizations, and many official materials, including documents and platform speeches, are in Russian. The Shanghai Cooperation Organization's official languages are Russian and Chinese (SCO 2002). Article 28 of the Collective Security Treaty Organization reads that the official and working language of the Organization shall be Russian (CSTO 1992). Article 10 of the Eurasian Economic Union Treaty states that Russian will be the working language of the organization (EAEU 2014). While the Belt & Road Initiative does not have an official language, documents and news about it can be found in English and Russian.

The collected data is from multilateral speeches and agreements across the four featured platforms, respectively. In the case of the BRI, the data will be more bilateral between China and the Central Asian states individually. This reflects the hub-and-spoke model of China's agenda, which nonetheless claims to be intended to promote regional cooperation and coherency.

The empirical sources will be publicly available state records which are relatively reliable. Most of these agreements are treated ceremoniously, so they are in public records. One of the challenges will be the sheer volume of this data with a possibility of redundancy. It is also common for agreements to have precursory talks, multiple drafts, and subsequent amendments, etc. Therefore, only a few examples from each platform have been highlighted and supplemented with secondary analysis to demonstrate the overall point of Russia's and China's engagement with green agendas.

In addition to the official documents of the platforms, another helpful tool is the Integration Barometer published annually by the Eurasian Development Bank (EDB). Though this is not an EAEU institution, it finances many development projects in the EAEU countries and Tajikistan, including in energy and transport industries. This can give a quantitative indication of support for integration with Russia specified by state and year. Over time, this data can reflect the satisfaction of the individual countries with the region-building efforts of its northern neighbor.

Collecting data on the BRI will be more difficult because China does not release an official map or list of BRI projects. The BRI risks becoming a catch-all term for "vaguely visible hand guiding all the interlocking developments in infrastructure, energy and trade where China plays any kind of role" (Mauk 2019). That being said, I will use Chinese government documents about BRI planning with selected news highlights of BRI projects.

Cases

Case 1: Eurasian Economic Union

State	Date of membership	Democracy index (EIU 2021	Regime type (EIU 2021)	GDP, current US$ billion (World Bank 2021) & share within the org	GDP per capita (World Bank 2021)	Population, Million (World Bank 2021)
Armenia	2 Jan 2015	5.49	Hybrid regime	13.9 (0.67%)	4,670.2	3
Belarus	1 Jan 2015	2.41	Authoritarian	68.22 (3.3%)	7,303.7	9.34
Kazakhstan	1 Jan 2015	3.08	Authoritarian	190.8 (9.2%)	10,041.5	19
Kyrgyzstan	12 Aug 2015	3.62	Authoritarian	8.54 (0.41 %)	1,276.2	6.69
Russia	1 Jan 2015	3.24	Authoritarian	1,775.8 (86.14%)	12,172.8	143.45
TOTAL or average (not including states below)		3.57 (average)		2061.46 (total)		181.48 (total #; about 2.3% of global)
Observer member, prospective member, Free Trade Zone agreement currently under negotiation						
Uzbekistan	11 Dec 2020 (observer status)	2.12	Authoritarian	69.24	1 983.1	34.9
Prospective members						

Tajikistan		1.94	Authoritarian	8.75	897.1	9.75

The EAEU has been characterized as a partial or fragmented customs union in which Russia has acted unilaterally on critical economic points without consulting the other countries (Wolczuk et al. 2022). In 2021, the Russian economy represented 86% of combined EAEU GDP (World Bank). EAEU members constitute about 2.3% of the global population and its member states have an average Democracy Index of 3.57.

The organs of the EAEU are modeled on the European Union, with similar formal objectives to create a common market by coordinating economic policy, eliminating non-tariff trade barriers, harmonizing regulations, modernizing the economies of its five member states, and creating a single energy market (Wolczuk et al. 2022). These organs include the Eurasian Economic Commission in Moscow as its regulatory body and a Court of the Eurasian Economic Union based in Minsk. However, the Commission's power is limited, there are few consequences for non-compliance, and disputes are often resolved bilaterally rather than via EAEU institutions (Wolczuk et al. 2022). The effect of Russian domination within the union is that the trade dynamic is a "hub and spoke" model with the most trade taking place bilaterally between Russia and each of the four other nations instead of between all five equally. This allows Russia to act unilaterally within the platform (Wolczuk et al. 2022).

Article 29 of the foundational treaty of the EAEU makes an exception to the international free trade zone if the restrictions are necessary for environmental protection (EAEU 2014). Article 52 on the Union's technical regulations and standards specify that the purpose of the regulations shall be to "protect human life and (or) health, property, environment, life and (or) health of animals and plants, to prevent actions that mislead consumers, as well as in order to ensure energy efficiency and resource saving within the Union" (EAEU 2014). Article 68 identified a threat to the environment as a cause for any member state to report an economic actor (service providers, investors, etc. within the Union's territory) to the other member states. The founding document's first page also mentions an affirmation of commitment to "the purposes and principles of the Charter of the United Nations, as well as to other universally recognized principles and norms of international law" (EAEU 2014). This demonstrates present but limited engagement with other large, multilateral platforms in the liberal world order.

A 2018 Declaration on further development of integration processes within the Eurasian Economic Union identified shaping a "territory of innovations" as a main priority of the union, particularly "in the sphere of green technologies, energy conservation, energy efficiency, renewable energy sources, bioengineering and nanotechnology, applying the best available technologies in the field of environmental protection" (EAEU 2018).

Hartwell (2021), however, has found that intra-EAEU trade has so far led to worse environmental outcomes in the region after the institution of both the Customs Union and the EAEU. This is partially the result of trade within the EAEU being heavily dependent on primary commodities (such as mineral fuels) and petroleum and petroleum products. These are among the most polluting industries in each of the member countries and which have been blamed for a range of ecological disasters across the EAEU space since the end of the Cold War (Coumel and Elie 2013). The result is a combination of autocracy and resource dependence in the EAEU, with the additional push of trade integration, which increases trade in simultaneously polluting and inefficient primary commodities.

The EAEU uses a variety of incentives to encourage its member states to manage energy security, including programs to increase domestic renewable energy production, promote energy efficiency, and reduce CO2 emissions from fossil fuels (Saiymova et al. 2020). Tools for the implementation of these goals include renewable energy subsidies in electricity generation, taxation on the use of primary energy to improve energy efficiency, and pollution taxes to reduce CO2 emissions (Saiymova et al. 2020).

In 2025, Kazakhstan and Kyrgyzstan will be integrated into the Eurasian Common Electric Power Market. The future of energy security in the EAEU will need to pay particular attention to the need to include environmental costs and pollution losses in economic analysis. Doing so will improve the competitiveness of alternative energy sources. Research has shown that the acceleration of the development of alternative energy sources within the EAEU is necessary to increase the energy supply, energy saving, and energy and environmental efficiency (Saiymova et al. 2020).

In general in the EAEU countries, the history of environmental issues has occurred at the level of individual member states, reflecting "a mainly top-down, legislative approach rather than

one that recognizes the diversity of environmental issues in each country and engages local actors" (Hartwell 2021).

Consensus is a self-proclaimed founding principle of the EAEU. However, power imbalances clearly determine how decisions are made. Despite formal power-sharing mechanisms within the organization, Russia essentially relies on the bargains struck within its infrastructure to exploit member states' existing dependencies on Russia for energy, labor migration, finance and security. Examples of this include using energy prices or security as negotiation points (Wolczuk and Dragneva 2017).

Kazakhstan's stake in a successful regional integration project of the EAEU is second only to Russia's. From Astana's view, the body is a way to "contain Russia in a rules-based organization, in a similar way that the US was required to work within the constraints of the North American Free Trade Agreement…[however,] Kazakhstan is keener on free trade and economic cooperation — best embodied in the [Single Economic Space] project of 2012 — rather than a deep, open-ended union" (Wolczuk and Dragneva 2017). In order to protect its extra-EAEU trade relationships (mainly with the EU and China), Kazakhstan has tried to ensure that integration is restricted to the economic sphere, rather than a generally encompassing political union. In November 2015, eleven months after its EAEU membership came into effect, Kazakhstan also joined the World Trade Organization (WTO). It managed to negotiate a tariff lower than the common EAEU tariff, which means that around 40 per cent of customs duties in the EAEU are not harmonized (Wolczuk et al. 2022).

Kyrgyzstan was eager to join the EAEU in 2015 due to its heavy reliance on trade with Russia and Kazakhstan, which accounted for respectively 26% and 16% in 2015. Beyond the advantage of free trade, the key motivating factor in its participation was the crucial remittances from labor migration and Russian financial assistance. Kyrgyzstan has one of the highest rates of proportional reliance on labor migration remittances in the world. Thus its membership offers it more favorable conditions for its laborers abroad in Russia than from non-member states like Tajikistan and Uzbekistan. Labor migration from Central Asia to Russia and the associated remittances is an important part of the region's economics, but labor migrants working in Russia have long suffered discrimination and prosecution. The EAEU provided legalized forms of labor migration from its member states, easing the opportunities to find work in Russia and send remittances to family at home (Wolczuk et al. 2022). Though labor

migration has been a "relative success story" (Wolczuk et al. 2022) of the union, increased eco-migration domestically, from CA state to CA state, and/or from CA to Russia may change the dynamics or reception of the eased migration flows (Seter 2016). Domestically for Kyrgyzstan, the political survival of the ruling elites also depends on relations with Russia.

Though Kyrgyzstan joined the EAEU customs union in 2015, IFAD assessment in 2021 judged that the country had yet to reap the benefits of membership. The IFAD cited "harmonized tariff schedules" leaving Kyrgyz producers and suppliers struggling to compete with cheaper import goods produced by other EAEU member states, in addition to non-member states that have signed Free Trade Agreements with the EAEU. The Kyrgyz government and businesses have also struggled to adapt to non-tariff measures, which creates barriers for Kyrgyz producers and affects the economy and food security. Additionally, the slow development of "technical infrastructure to ensure compliance with EAEU sanitary and phytosanitary standards and quality control have precluded Kyrgyz goods from target markets within the customs union" (IFAD 2021). As a member of the EAEU, the country is obliged to implement new regulation but lacks the physical and institutional infrastructure to enforce the food quality and safety standard and hazard analysis and critical control points (HACCP) protocols (IFAD 2021). Most food businesses lack sufficient awareness, capacity, skills, challenges [that] underlie low rural productivity" (IFAD 2018). Economic growth of the country in recent years is driven primarily by state-led investments and exports of natural gas, gold, and cotton (IFAD 2018).

Overall, decision making and "individual grand bargains" bilaterally between the EAEU member states have been relatively quick to materialize. This is due to the nature of the political regimes in the participating states being all non-democratic with significant power concentrated in the presidential role. This can considerably simplify negotiations, owing to the fact that they often only depend on the will of the leader in office without pushback from a democratic forum (Wolczuk et al. 2022).

The recruitment of supporters through grand bargaining has affected the structure of the union and the likelihood of its members being equal in status and leverage. Effectively, the EAEU has emerged as a classic "hub and spoke" model centered around Russia. The spokes typically occupy roles in relative dependence toward the hub. Kazakhstan might be a partial exception to this rule, however. In 2015, Kazakhstan's GDP per capita actually exceeded that of Russia's.

Despite the trajectory of their GDPs per capita not being far off from each other, Kazakhstan is burdened by a lack of diversity in its economy, which is heavily dependent on energy exports.

The EAEU was initially conceived to counter China's economic influence in the region almost as much as it was to rival the European Union (Wolczuk et al. 2022). However, since the Russian annexation of Crimea in 2014 and the resulting hostility between it and the EU/United States, the EAEU sought an economic pivot to Asia as opposed to the West (Wolczuk et al. 2022). There was even initially some optimism among western European states like Germany for the EAEU as a project to be open to cooperation with the EU through channels of trade and institutional connectivity. But other EU governments were concerned from the outset that the EAEU was foremost a Russian geopolitical construct, with which it could gatekeep the interests of smaller member states (Wolczuk et al. 2022).

The 2014 Astana Treaty, which formalized the creation of the EAEU, established a framework for integration related to the Customs Union and the Single Economic Space. Part of its agenda was the establishment of common markets in energy (electricity, gas and oil), as well as harmonization of various policies. In August 2022, representatives of the energy authorities and leading energy providers of the Eurasian Five met at the 18th meeting of the Eurasian Economic Community Advisory Committee for Electrical Energy in Cholpon-Ata in Kyrgyzstan (EEC 2022). There, they established a regulatory framework for the EAEU common electric power market (CEPM).

To facilitate a centralized electric power trade on the common market, the EEC Council would need to specify its trade operators. Of the EAEU countries, Russia, Kazakhstan, and Belarus have already offered their trading platforms to operate on the EAEU common electric power market: they are respectively the Saint Petersburg International Mercantile Exchange and the Russian Administrator of the Trading System, the Kazakhstan Electricity and Power Market Provider.

While Russia is an important party along the Belt and Road and responds positively toward it, Russia undoubtedly puts greater emphasis and priority to the EAEU (Lu 2019). For the sake of protecting its internal market, the EAEU is reluctant to build a free trade zone with China, which serves as the main obstacle to deepening coordination between the EAEU and BRI (Lu 2019). China and Russia signed a *Joint Statement on Cooperation on the Construction of Joint*

Eurasian Economic Union and the Silk Road Projects on coordinating the BRI (specifically the Silk Road Economic Belt) with the EAEU in May 2015. As a result, China and the EAEU signed an economic and trade cooperation agreement, which "marked the first important institutional agreement in the cooperation in the economic and trade area between China and the EAEU, and was a clear indication that economic and trade negotiation had moved from a project-driven pattern to an institution-led mode (Lu 2019).

Case 2: Belt and Road Initiative

The Belt and Road Initiative was initially introduced internationally as the "Silk Road Economic Belt" in 2013 on an official visit of Xi Jinping In Kazakhstan. The BRI is positioned to be one of the major factors in realizing Eurasian economic integration, which is expected to be one of the most significant global economic trends in the twenty-first century (Linn & Zucker 2019).

Developed countries of the West have been "reticent to endorse the program…[and concerned that] China's efforts will undermine global norms, especially in the areas of debt sustainability and environmental and social safeguards" (Dollar 2017). Nevertheless, scholars have identified that the European Union has a significant opportunity to engage the BRI in Central Asia by tailoring developmental programming in relevant states in response to changing economic landscapes as shaped by China. In the short to medium term, collaboration with Chinese stakeholders and local civil society through the use of "use of existing environmental protection programmes to monitor and minimize the ecological footprint of Chinese large-scale investments…[and] complementary projects in social infrastructure" could counter any socioeconomically disruptive aspects of BRI projects (Ghiasy and Zhou 2017).

The main funding mechanisms and sponsoring intuitions of the BRI include the Asian Infrastructure Investment Bank (AIIB), the New Silk Road Fund (NSRF), the China Development Bank (CDB), the New Development Bank (NDB), the Export-Import Bank of China (EXIM), China's Sovereign Wealth Fund (SWF), and the China Investment Corporation (Debata 2022). These bodies, in addition to China's foreign exchange reserves and the State Administration of Foreign Exchange have pumped trillions of dollars and "extended a fairly liberal hand to carry forward" the economic strategy of the BRI (Debata 2022). Though most of the current funding of the BRI comes from the existing policy banks, the Asian Infrastructure

Investment Bank (AIIB) will play a bigger role in the future. The AIIB was founded under Beijing's leadership in response to a number of weaknesses in the existing system of multilateral development banks. A primary objection of China's is the fact that institutions such as the World Bank and Asian Development Bank (ADB) have traditionally been dominated by the US and other developed countries. A significant part of the impetus for launching the AIIB was China's concern that the governance structure of existing international financial institutions was evolving too slowly. Beijing's frustration with global international institutions is not only their size and its weight within them, but also their focus. China has argued for years that the World Bank should be more oriented on infrastructure and growth (Dollar 2015).

The Belt-associated infrastructural projects help China meet its growing resource needs through extraction projects in oil, natural gas, and minerals, which all come with environmental, developmental, and health impacts. In an effort to combat this image and boost its own tech sector, China eagerly promotes its photovoltaic (solar power) technology, where it is a global leader. China's photovoltaic industry currently accounts for 70 percent of photovoltaic modules on the global market, according to its VIce Minister of Ecology and Environment, Zhao Yingmin (NDRC 2022). Beginning in 2013, the Chinese government has issued a series of policy documents to strengthen eco-environmental risk prevention and management of the BRI.

Approximately 44 per cent of China's investment support in the framework of the Belt and Road initiatives is related to energy (Borrell 2020). China has immense opportunities linked to new green technologies where it has taken a leadership position. In addition to 70 percent of the world's solar modules, Chinese firms currently produce 69 percent of lithium-ion batteries, and 45 percent of wind turbines (Borrell 2020). China also controls much of the refining of minerals critical to clean energy, such as lithium and cobalt. The ambitious medium- and long-term goals of China provide further motivation to develop these technologies and become an "electro-state" (as opposed to a petrostate), which will have huge geopolitical consequences (Borrell 2020).

The *Guiding Opinions on Promoting the Construction of Green BRI* established the priorities of "preventing eco-environmental risks and ensuring eco-environmental safety," to "promote the formulation and implementation of policies and measures to prevent eco-environmental risks of investment and financing projects, and strengthen the environmental impact of foreign

investment." More recently in November 2020, the Ministry of Ecology and Environment (MEE) together in cooperation with four other ministries/regulators jointly issued the "guidance on promoting investment and financing to address climate change" which encourages the active integration of climate investment and financing into the BRI with the goal to incentivize "financial institutions to support the low-carbon development in BRI and South-South Cooperation, and advance the launch of overseas climate mitigation and adaptation projects."

Part of this environmental consideration is the classification of projects into categories based on three major environmental objectives: pollution prevention, climate change mitigation, and biodiversity conservation:

1. **Red projects**– projects requiring stricter supervision and regulation: projects at risk of causing "significant and irreversible" environmental damage or major negative environmental impacts in one or more of the objectives. Such projects include coal-fired power, hydropower, petrochemical, and mining projects.
2. **Yellow projects**– environmentally neutral projects with moderate impacts: projects here "Do No Significant Harm" (DNSH) to any environmental aspect, and any residual environmental harm can be mitigated by the project itself through affordable and effective measures within reasonable boundaries. These projects include waste-to-energy (WTE) projects.
3. **Green projects**– encouraged projects: projects have no significant negative impact on any of the environmental objectives and positively contribute to at least one environmental aspect, particularly if they support international environmental agreements and conventions. This category includes projects such as renewable energy development and utilization (solar and wind power plants, etc).

The BRI *Eco-environmental Protection Cooperation Plan* proposed to "guide green investment decision-making and strengthen environmental risk management in BRI and other foreign investment projects."

According to a table featured in the document, the "construction and operation of solar photovoltaic (PV) power generation," which also includes solar thermal power generation, deserves a green light. The following conditions are further specified: the minimum photoelectric conversion efficiency of silicon cell and battery modules; the minimum

photoelectric conversion efficiency of silicon-based, CIGS, Cadmium telluride photovoltaics (CdTe), and other thin-film battery modules; and the decay rates of the silicon battery modules for the first 25 years.

The "construction and operation of hydroelectric power generation facilities," though, falls under the red category. If accounting for mitigation and compensation strategies, however, it can potentially move to the green category. The two conditions imposed here include: 1. specification of carbon emission due to flooding (e.g., based on CBI: power density >5W/M2, estimated reservoir emission intensity <100g CO2e/kWh); 2. application of internationally relevant hydroelectric power EHS standards for mitigation hierarchy of environmental damage (e.g., IFC 2015 Hydroelectric Power Standard).

A third renewable renewable energy form, the "Construction and operation of wind power generation" is firmly in the green category, even without mitigation or compensation strategies. There is only a note to "Specify bird migratory areas, design standards, GB/ISO, or other local relevant standards."

The document lays out the momentum for the BRI's ecological initiatives, citing support from the international consensus, global green development trends, and their potential as an impetus for world economic growth and recovery in the wake of COVID-19. The motto that "green is the color of the Belt and Road Initiative" was emphasized in China's *14th Five-Year Plan for National and Economic and Social Development* and the 2035 Vision of the 5th Plenary Session of the 19th Central Committee of the Communist Party of China in October 2020.

The BRI *Eco-environmental Protection Cooperation Plan* proposed to "guide green investment decision-making and strengthen environmental risk management in BRI and other foreign investment projects."

While China's overseas energy spending has long been notoriously dirty, it is becoming greener. Most of China's energy investments along the Belt and Road Initiative have focused on fossil fuels. Only as recently as 2020 have renewables overtaken fossil fuels in BRI energy investments (Wang 2021). Their share of Chinese overseas energy investments rose from 38% in 2019 to 57% in 2020, despite a total decrease of BRI investments of 54% that same year (Wang 2021). To accelerate tripartite cooperation, Chinese investors would benefit from

further coordinating their alignment with international environmental standards, for example in line with the “Green Development Guidance for BRI Projects" published in December 2020 by the BRI Green Development Coalition BRIGC and backed by relevant Chinese ministries (Wang 2021).

In April 2019, Chinese and international partners officially launched the BRI International Green Development Coalition (BRIGC) at the Second Belt and Road Forums for International Cooperation. This coalition “aims to establish a policy dialogue and communication platform, an environmental knowledge and information platform, and a green technology exchange and transfer platform, so as to advance global consensus, understanding, cooperation, and action of a green Belt and Road Initiative” (Green Development Guidance for BRI Project Baseline Study Report 2020). As a related project later that year, BRIGC officially launched the Joint Research on Green Development Guidance for BRI Projects (Guidance Project). The purpose of this is “to explore the formulation of guidelines on the assessment and classification of BRI projects form the perspective of preventing ecological and environmental risks, establish risk prevention and management system, provide green solutions for BRI project, and support decision making for stakeholders” (Green Development Guidance for BRI Project Baseline Study Report 2020).

In 2020, the BRI International Green Development Coalition together with relevant Chinese ministries published a document titled “Green Development Guidance for BRI Projects Baseline Study Report.” This report identified the outbreak of COVID-19 as one of the stimuli which has roused China’s increased concern for multilateral cooperation to tackle emerging issues. “Against the shock of the epidemic…policies based on interconnections, openness, and inclusiveness are the only way to cope with a global crisis and achieve long-term development. With green recovery a core concern of global economic recovery policy, the international community expects the Belt and Road Initiative (BRI) to play an important role in contributing to a global green recovery. A green BRI will provide a platform for all countries to share in a resilient, inclusive, and sustainable development mechanism, and to implement the UN 2030 Agenda for Sustainable Development” (Green Development Guidance for BRI Projects Baseline Study Report 2020). It recites how China and BRI participating countries have “actively carried out bilateral and regional cooperation for ecological and environmental governance, biodiversity conservation, and climate change response, continually consolidating

and deepening Green BRI implementation, and jointly promoting implementation of the UN 2030 Agenda for Sustainable Development, which has achieved positive results."

Chinese finance institutions (FIs) apply terms and labels to manage projects and promote ecological initiatives. For example, the Export-Import Bank of China (Eximbank) has created a special department at its headquarter office to provide low-carbon transition support for foreign governments and international institutions. As outlined in the bank's covenants, the bank must keep an overview of project implementation. If a project is in gross violation of relevant government regulations and standards, the bank maintains a credit exit mechanism. According to a 2016 *White Paper on Green Finance*, this is to "urge globally operating enterprises to fulfill their green and social responsibility" (Export-Import Bank of China 2016). As recently as November 2019, the bank had set up a preliminary structure of environmental protection, new energy lending, and energy saving.

This 2016 *White Paper on Green Finance* summarized China's ecological progress with the following points over the past four decades. In the 1980s, China named environmental protection a basic national priority. In the 1990s, the country developed a sustainable development strategy which emphasized the coordination between the environment and the economy. In the 2000s, China introduced the concept of Scientific Outlook and Development. From 2002-2007, during the Fifth Plenary Session of the 16th CPC Central Committee, China set the goal of building a resource-saving and environment-friendly society. In the 12th Five Year Plan period from 2011-2015, China further established the concept of green and low-carbon development. In 2012, the 18th National Congress of the CPC incorporated ecological progress into the "Five in One" general layout of the socialist cause with Chinese characteristics. Furthermore, the Fifth Plenary Session of the 18th CPC Central Committee "elevated the concept of green development to a strategic height, specifying it as a fundamental concept that matters to the overall development of China and guides its economic and social development during the 13th Five-Year Plan period and beyond."

China's 2016 *White Paper on Green Finance* explains that the term:

> *"requires that the financial sector sees environmental protection as a fundamental policy and integrates environment-based potential returns, risks and costs into day-to-day business operations, including investment and financing decisions. It requires the financial sector to pay attention to protecting the ecological environment, treating*

> *environmental pollution and* ***increasing the efficiency of nonrenewable energy resources while vigorously developing renewable energy and adjusting the energy structure during related operations****. It also guides the social and economic resources to serve the sustainable development of the society. In a broad sense, green finance not only includes green securities, green funds, green bonds, green credit, green trust and green insurance, but also the low-carbon and environment-friendly operation of financial institutions themselves. In a narrow sense, green finance mainly refers to green credit.*

This same *White Paper* highlights the Eximbank's application of the green development concept globally through its promotion of the Belt and Road Initiative and its carrying out of international industrial capacity cooperation. Through its financing abroad, the bank has urged internationally cooperating Chinese enterprises to fulfill and exceed their green and social responsibilities, "thus promoting sustainable development of the world economy." The bank understands the opportunity of the bank's green financing abroad through the Belt and Road Initiative as a way to 1) introduce Chinese green industry and standards in the world market; 2) promote capacity transfer; 3) enhance the international competitiveness of China's green industry; and 4) help partner countries with the protection of the ecological environment.

The Eximbank expressed commitment to establish "an all-inclusive and multi-level cooperation and exchange mechanism with international institutions, including the World Bank, Asian Development Bank and [German] KfW….it [offers] support to a large number of projects in the areas of building materials, chemicals, iron and steel, wind power, biomass power generation, solar power and small hydropower stations, playing an important role in allocating green resources to the real economy by means of policy-based financing (*White Paper on Green Finance* 2016). Since 2008, the Eximbank has maintained a relationship with the World Bank in the areas of energy conservation and emission reduction (*White Paper on Green Finance* 2016).

A 2021 study of Kazakhstan's engagement with the BRI with regard to educational standards found that "[higher education] institutions…exhibit partial agency to accrue pragmatic benefits rather than concede to isomorphic pressures or mimic internationalization from neoliberal contexts. The discrepancy between policy discourse from China and policy reception in Kazakhstan raises questions about the rhetoric of a multipolar global order and the realities of

international cooperation in higher education" (Lee et al. 2021). Through interviews about the BRI with various leaders in higher education institutions, the researchers characterized the approach to BRI engagement as "a Kazakhstan-centric utilitarian view rather than a China-centric perspective as one might expect for a discussion on a high-level Chinese policy" (Lee at al. 2021). They identify the three most motivating factors for engagement with the BRI as revenue generation, employment and industrial links, and access [to education] (Lee et al. 2021). Though the topic of that study was education, it may represent a broader attitude of different industries to BRI investment, including energy.

In 2021, Chinese companies reached agreements with officials in the Fergana region for two solar farms worth more than $1 billion in total. However, the current status of those projects is unclear. Even where China is not constructing facilities, it is often involved elsewhere in the value chain. After the Emirati company Masdar won a contract to build a 500 MW wind farm in the Navoi region, it awarded the Chinese turbine manufacturer Xinjiang Goldwind Science and Technology as its main supplier (Darasha 2022).

Until 2022, Uzbekistan had been a source of natural gas for China. China's shifted attention to Uzbekistan's solar development. In May 2022, Uzbekistan's investment committee and China's Ministry of Commerce reached an agreement to construct a series of small and medium-sized hydroelectric power facilities worth a total of $2.7 billion.

Behind Russia, China is the second largest trading partner of Uzbekistan, accounting for 17-20 percent of Uzbekistan's total trade in 2021 (Sharlifli 2022). Additionally, China is the largest investor in Uzbekistan, the largest consumer of Uzbekistan's cotton and provides the majority of Uzbekistan's telecommunications and soil improvement equipment, which affects the WEF balance and thus, hydropower capacity (Lu 2019).

Among the Chinese investment projects in Tajikistan was the construction and financing of the North-south 500KV transmission line, which not only significantly improves the poor infrastructure of Tajikistan, but also advances the infrastructure connectivity between China and Central Asia (Lu 2019).

Case 3: Collective Security Treaty Organization

State	Date of membership	Democracy Index (EIU 2021)	Regime type (EIU 2021)	GDP, current US$ billion (World Bank 2021)/ percentage of total	GDP per capita, current US$ (2021)	Population, million (2021)
Armenia	1994	5.49	Hybrid regime	13.9 (0.67%)	4,670.2	3
Belarus	1994	2.41	Authoritarian	68.22 (3.3%)	7,303.7	9.34
Kazakhstan	1994	3.08	Authoritarian	190.8 (9.2%)	10,041.5	19
Kyrgyzstan	1994	3.62	Authoritarian	8.54 (0.41%)	1,276.2	6.69
Russia	1994	3.24	Authoritarian	1,780 (86%)	12,172.8	143.45
Tajikistan	1994	1.94	Authoritarian	8.75 (0.42%)	897.1	9.75
TOTAL or average (not including countries below)		3.3		2,070.21		191.23 (about 2.4 % of global)
Former members						
Azerbaijan	1994-1999	2.68	Authoritarian	54.62	5,384.0	10.15
Georgia	1994-1999	5.12	Hybrid regime	18.7	5.04	3.71
Uzbekistan	1994-1999 2006-2012	2.12	Authoritarian	69.24	1,983.1	34.9

The CSTO covers about 2.4% of the global population and its members have an average Democracy Index of 3.3.

Though Russia's financier role in Central Asian economies has been declining since the collapse of the USSR, it still maintains its status as the main security guarantor in the region. As with the coupling of Chinese initiatives featured in this paper, the soft power of Russia's economic diplomacy through the EAEU works in tandem with the hard power of the CSTO. The CSTO is perhaps the most boldly politicized platform from these case selections. As it is a security alliance led by Russia, members (and potential members) have expressed wariness of the commitment it might mean to support Russia's military actions, particularly those in "frozen conflict" zones.

Russia should be quite concerned with or at least very attentive to the WEF balance in Central Asia because it impacts its own security, investments, and commitments. In the case of emerging markets such as those in Central Asia, the governments often have a mix of measures in place both to shield consumers and companies from the full impact of energy costs and boost the domestic fossil fuels industries (Strohecker 2022). When the Kazakh government's lifting of the cap on fuel prices in January 2022 led to violent protests, the Kazakh President Tokaev called upon the forces of the CSTO to restore order in the country. In doing so, Tokaev took a gamble and "hit of legitimacy for…calling on the Russians [for] assistance" (Neuman 2022).

Another realized security risk are the not infrequent border clashes between member states. A recent example of this occurred in April 2021 when Kyrgyz and Tajik neighbors sparked a conflict over a water reservoir and pumping station. At least 55 people were killed while many more were injured and more than 40,000 civilians were displaced. Infrastructure was set ablaze, border guards exchanged fire, and outposts were mutually captured on both sides of the poorly demarcated border. While another cause for these clashes had to do with tension surrounding Tajik enclaves in Kyrgyzstan, a resource imbalance is one way to reignite grievances between neighbors. Sporadic clashes in this area continued in January, March, and most recently in September 2022. Both countries are members of the SCO and CSTO, and are theoretically allied to each other.

Because the CSTO is heavily politicized, it might be limited in its capability to direct regional norms, compared to the other platforms. In addition to its members distributing norms is the interesting category of states who were previously members and left. Uzbekistan joined as a full member in 2006, with its membership being ratified by the Uzbek parliament in 2008. It remained a member of the body until 2012. As far back as 1996, then President Karimov was insisting that he would not cede "even a particle" of Uzbek sovereignty to multilateral CIS Commonwealth of independent States (CIS) institutions (Akhundova 1996). Uzbekistan's break from the platform in 2012 signaled a lack of faith in its capability and an interest in a more multi-vector diplomatic policy.

With Russia's invasion of Ukraine in February 2022, membership in the CSTO of other states feels riskier than before. Central Asian energy on its way to European markets passes through the territory of Russia, but European countries want to make sure that Central Asian economies are not damaged by the sanctions (Umarov 2022). Approaching the turn of the 21st century, the landlocked region of Central Asia had one main outlet for energy exports: through the Soviet-era pipeline network into and through Russia.

The CSTO approaches energy security in its member states as a matter of critical national security. A 2015 *Resolution of the Parliamentary Assembly of the CSTO: About the draft recommendations on the harmonization of legislation of the CSTO member states in the field of strengthening energy security* defines energy security as "state protection of the country, society, state, economy from threats to reliable fuel and energy supply." The document identifies that threats to energy security include the depletion of natural resources and ecology. It states that the official purpose of this is to "coordinate the efforts of public authorities of CSTO member states in their legislative activities to prevent threats to security in the energy sector through the development of conceptual foundations for ensuring energy security of the CSTO member states, development of common approaches to the legal regulation of the procedure for ensuring energy security, as well as general provisions of the administrative-legal regime of energy security." Its *Principles for Ensuring Energy Security* include: a) "diversification of the types and fuel and energy used, as the economy should not be overly dependent on any one energy carrier"; and b) "Taking into account the requirements of environmental security, the development of the energy sector must comply with the increasing requirements of environmental protection."

It also notes among its list of socio-political threats to energy security, a) national-ethnic conflicts, manifestations of separatism in individual CSTO member states; b) strikes and labor conflict in organizations of the energy complex; ad c) socio-political conflicts in producing regions, as well as in regions through which energy carriers are transported." Natural threats include: "a) natural disasters (earthquakes, floods, hurricanes, ice, mudflows, landslides, etc.); b) anomalous manifestations of natural processes (critically low or critically high temperature, prolonged dryness of river flow, external electromagnetic anomalies, etc.); c) climate change."

In order to prevent the aforementioned threats, the document advises to encourage "financial support for fundamental and applied research work in the main areas of development of priming energy technologies, including in the field of nuclear and renewable energy." It also mentions the "formation of mechanisms for the implementation of a long-term policy that ensures the rationalization of the fuel and energy balance in the entire CSTO system and in individual CSTO member states based on the normalization of conditions for inter-fuel competition and the integrated development of regional energy, including the development of renewable energy sources and local fuels."

Case 4 – Shanghai Cooperation Organization

State	**Date of membership**	**Democracy Index (EIU 2021)**	**Regime type (EIU 2021)**	**GDP, current US$ billion (World Bank 2021)**	**GDP per capita, current US$ (World Bank 2021)**	**Population, Million (World Bank 2021)**
China	15 June 2001	2.21	Authoritarian	17734 (76%)	12,556.3	1410
Kazakhstan	15 June 2001	3.08	Authoritarian	190.8 (0.82%)	10,041.5	19
Kyrgyzstan	15 June 2001	3.62	Authoritarian	8.54 (0.04%)	1,276.2	6.69

Russia	15 June 2001	3.24	Authoritarian	1775.8 (8%)	12,172.8	143.45
Tajikistan	15 June 2001	1.94	Authoritarian	8.75 (0.04%)	897.1	9.75
Uzbekistan	15 June 2001	2.12	Authoritarian	69.24 (0.3%)	1,983.1	34.9
India	9 June 2017	6.91	Flawed democracy	3170 (13.6%)	2,277.4	1390
Pakistan	9 June 2017	4.31	Hybrid regime	346.34 (1.5%)	1,537.9	225.2
TOTAL		3.43 (average)		23303.47 (total)		3238.99 (about 41% of global)
Acceding members						
Iran	17 Sep 2021 (membership TBA)	1.95	Authoritarian	231.55 (in 2020)	2 756.7 (in 2020)	85.03

The eight current members of the SCO have an average EIU Democracy Index score of 3.43, which would be well within the "Authoritarian regime" category. They represent 40.1 percent of the global population and 24.2 percent of global GDP in 2021 (World Bank). The member states account for nearly 20 percent of the global oil reserves and 44 percent of its natural gas, based on BP data for 2021 for eight permanent member states and Iran. The SCO has two permanent bodies, including the SCO Secretariat in Beijing, China, and the Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent, Uzbekistan.

The soft power of China's economic diplomacy through the BRI works in tandem with the hard power of the Shanghai Cooperation Organization. The BRI, as an enormous channel of foreign policy through financial engagement, brings new security risks from increased exposure of Chinese personnel and investments, as well as the task to manage an even broader overseas footprint than before (Ghiasy and Zhou 2017). While Beijing is eager to expand by both land and sea routes, the Belt will be flowing through areas of Eurasia with a high potential for turbulence and political instability (Yu 2014-15). The development and implementation of the

BRI cannot make steps forward without guarantees of security and stability. Both the BRI and SCO cite the need for cooperative solutions to threats in Central Asia of "combating religious extremists and trans-border crimes, preventing regional conflicts, protecting the environment, and regulating illegal migrants" (Lu 2019).

In February 2014, China released its "Overall National Security Outlook," which expressed a shift in how the Party sees traditional and non-traditional risks to national security. It reflected a "shift in China's assessment of the external environment from one of a 'period of strategic opportunity' first announced by Jiang Zemin in 2002, to one requiring vigilance against a myriad of risks" (Nadin et al. 2022). In addition to China's long standing foreign regional objectives of combating terrorism, extremism, drug trafficking, and transnational crime, the policy developed a broader conception of security and threats against it, including environmental risks.

Though the SCO has established a mechanism for regular consultation on the level of financial ministers and central bank governors, it lacks its own financing mechanisms (Lu 2019). There is an SCO Interbank Consortium, but this remains a "loosely based organized institution rather than a fixed entity, unable to fulfill the key role of financing projects" (Lu 2019). While there has been talk of establishing financial mechanisms such as an SCO Development Bank or an SCO Development Fund (Special Account), these proposals have not materialized (Lu 2019). This lack of financing mechanisms hinders more coordinated development between the SCO and BRI (Lu 2019). Another restraint on coordinated development is the issue of common standards. Lu (2019) writes that "Russia and Central Asian countries basically adhere to Soviet standards, which are obviously incompatible with those of China." However, the SCO's people-to-people exchanges are "rich in content," expanding from culture, education, disaster relief to health and disease control, sports, tourism, media, environmental protection, and preservation of cultural relics (Lu 2019).

Part of China's interest in Central Asian energy are the needs to ensure an adequate oil supply, to diversify its sources of crude oil imports, and to mitigate geopolitical uncertainties. China also wants to reduce its dependence on energy supplies from the Middle East. The SCO is increasingly evolving into "an economic alliance and presenting itself as a reliable alternative for its members to thwart economic shocks and financial uncertainty stemming from sanctions associated with the global geopolitical climate" (Nadin et al. 2022).

Rapid economic growth and increasing urbanization is feeding China the complex energy situation it is currently facing domestically, incentivizing the search for alternative energy sources. With consideration to global energy geopolitics shifts in recent years, a core issue for China is how to secure favorable energy cooperation with the help of policy guarantee mechanisms to mitigate potential risks. Both the Shanghai Cooperation Organization and the Belt and Road Initiative fit into this strategy as mechanisms of geopolitical security (Zhou et al. 2020). However, research on these policy guarantee mechanisms remains deficient in both its integrity and systemic nature. This is partially due to the organizations themselves evolving, adapting, and expanding in response to a politically dynamic international climate.

Russia is wary of the SCO's potential to decentralize and weaken energy cooperation between Russia and the Central Asian states within the EAEU (Zhou et al. 2020). However, the former has yet to establish a functional multilateral energy cooperation framework and mechanisms widely accepted by member states and across Central Asia.

In September 2022, the SCO held a summit in Samarkand, Uzbekistan. Some of the key takeaways included 1) China's expanding national security narrative; 2) the economic opportunities and risks through infrastructure, development, and trade; and 3) the significance of an Iran-Turkiye-China-Russia SCO alliance, and why the SCO should not be viewed as an anti-Western alliance (Nadin et al. 2022). At the summit, Xi Jinping called for SCO collaboration on themes of non-traditional security risks, including food and energy security, outer space security, and maintaining the security, stability, and diversification of supply chains. Furthermore in this spirit, Xi also used the summit to promote China's recently announced "Global Security Initiative" (GSI). The GSI was launched in April 2022 at the Boao Forum for Asia Annual Conference and pushes the idea of "indivisible security." Officially by China's definition, this idea represents the notion that no country can strengthen its security at the expense of others. As Chinese risk assessments and protective infrastructure gets broader and broader, Beijing will rely on organizations and bodies such as the SCO and GSI to enhance and legitimize its political capital building.

Also at the September 2022 SCO summit, the Uzbek President Shavkat Mirziyoyev and his Chinese counterpart, Xi Jinping, held talks on the sidelines of the summit. According to a

readout from Mirziyoyev's office, they agreed on "breakthrough projects"in green energy, agriculture, and infrastructure development (Opredelyonie vazhneishie… 2022).

In 2020, the Secretary General of the United Nations António Guterres spoke via video message to address areas of cooperation between the SCO and the United Nations working bodies. He emphasized that "ambitious multilateral action is urgently needed to save lives and livelihoods" (Guterres 2020). He called upon the members of the SCO to take into account the Paris Agreement on climate change, the 2030 Agenda for Sustainable Development, and commitment to new-zero emissions by 2050 when making decisions and setting their national and regional agendas. In fact, China has committed to be net-zero by 2060 (Xi 2020).

Protests in Kazakhstan in May 2016 and again in April-May 2021 against Chinese investments in agriculture and land renting policies were in part motivated by negative perceptions of Chinese environmental practices (Kaiyrtaiuli 2021, Radio Azattyk 2021). Therefore, it is critical as a matter of image-control that China is perceived as an actor promoting green goals in its development projects, especially abroad among populations that it has less control over than its own.

Discussion

Thirty years after independence from the centralized planning and system of the USSR, the five Central Asian states are at a critical point of respective national legitimization and collective regional development. Authoritarian-led multilateral economic and security platforms are incorporating more (in this case, WEF) environmental protection concerns because they are so critical to the economic development and security of their investments. In authoritarian countries, the leadership often prioritizes regime survival to an extraordinary extent, above regional identities and cooperative ideologies. In the case studies examined here, however, regional cooperation was deemed a more effective method of addressing the present challenges, specifically environmental.

Ecological issues increasingly compound Central Asia's political, social, and economic issues and risk areas (Ghiasy and Zhou 2017). Challenges of environmental mismanagement and degradation and inefficient use of scarce natural resources will hit agrarian communities especially hard (Ghiasy and Zhou 2017). A 2015 study found that two-thirds of Central Asia's

water and electricity potential is lost due to infrastructural problems and inefficient utilization (Lopour 2015). This has implications not only for the water-energy-food nexus, but also for national income and especially rural livelihoods. The positive feedback loops between ecological insecurity and poverty have and will continue to exacerbate socio-political problems and worsen interstate disputes. Thus resource mismanagement inefficiencies on local and regional scales present both a threat to broader stability, but also a potential opportunity for cooperation and incoming investment (Ghiasy and Zhou 2017).

As China invests more money into infrastructure and energy projects, it needs assurance that these expenditures will be protected. China benefits from having strong, stable leaders in the governments of the Central Asian countries who are favorable to or at least understand their countries' respective dependence on China.

China's Communist Party and state leader Xi Jinping declared China's goal to be carbon-neutral by 2060 in an address to the United Nations General Assembly in September 2020 (Xi 2020). He added that China would increase support for other developing countries in promoting green and low-carbon energy, and not to build new coal-fired power projects abroad (Xi 2020). This goal is in line with China's international commitment to "global climate action" under the 2016 Paris Accords. In response to this announcement, the High Representative of the European Union for Foreign Affairs and Vice President of the European Commission Josep Borrell stated that this could be "a tipping point in the global fight against climate change…[and] accompany European efforts in the field of climate diplomacy" (Borrell 2020). In making these ambitious announcements, China wants to position itself vis-à-vis the United States as a defender of multilateralism and global rules (Borrell 2020). However, the reality has been described rather as a "selective multilateralism" or a "pick-and-choose" approach (Borrell 2020). Considering China's traditional caution in making international commitments, these publicized goals also suggest the leadership's confidence that "technological progress in energy efficiency and the cost of renewable energy can make carbon neutrality attainable, without hampering China's economic development" (Borrell 2020).

Observers hoped to see China use the UN Climate Conference (COP26) in Glasgow in 2021 as an opportunity to assert itself as an environmental leader, "filling the void left by the Trump-led US administration's retreat from international climate agreements" (Holzmann and Grünberg 2021). However, the Biden administration rejoined the Paris Accord in 2021 and set

the 2030 “Greenhouse Gas Pollution Reduction Target aimed at creating well-paid union jobs and securing US leadership on clean energy technologies” (The White House 2021).

Environmental concerns and the initiatives that address them span from proactive every day, small things to large, unpredictable catastrophes and reactions/recovery from them. Concerning the latter, natural disasters, climate change events, and crisis concerns are more relevant to security institutions because of possible political consequences and upheaval. Also important on the other side, however, is the daily management of natural resources and equitable relationships, which are more relevant to sustainable economic development structures. The mismanagement or negligence of these can also lead to political crises, instability, and violent conflicts.

Cooperation on the scale of a region is logical. Environmental issues do tend to affect the geographically proximate and especially those who share long borders. Therefore, it is somewhat intuitive for neighbors to cooperate on environmental concerns. A localized scale of identifying and addressing environmental threats has proven to be more effective than either national or global scales. For these and other historical, cultural, and practical-infrastructure-related reasons, it makes sense that Russia and China have a natural interest in investing in regional connectivity.

Chinese collaboration with Russia has been characterized as “tak[ing] low-risk advantage of Moscow’s high-risk adventurism” (Jones and Twardowski 2021). Scholars at the US-based think tank, The Brookings Institute, have acknowledged that the questions of “public goods and bads,” such financial stability and climate change, can no longer be managed meaningfully without large-scale Chinese action (Jones and Twardowki 2021). This is even more acutely the case in the region of Central Asia.

Environmental issues are a growing concern for the economic agendas of the EAEU and BRI. Even countries who are not necessarily motivated by international optics or climate priorities will still feel the push by economic pressure. A world shifting toward more renewable and “cleaner” energy sources will mean demand for and therefore the price of oil and fossil fuels will likely drop. This puts into sharper focus on the need for fossil-fuel dependent countries to adapt the existing infrastructure through which they may derive the majority of their income. Varying regime types have different tools at their disposal for transitioning from being oil-

reliant to utilizing renewable energy sources. For regimes that want to exert influence and control over their neighbors while still maintaining the norm of non-interference, multilateral platforms give the appearance of equality. But the historical and financial contexts of the platforms in focus still leverage one power in the advantage.

The non-democratic regimes of Central Asia tend to maintain their control over the populace on tenuous ground with their legitimacy stemming from a stable, basic provision of the bare minimum. Because issues of the WEF nexus are so critical in the region of Central Asia, fortifying their stability in each of the countries is in the interest of all countries involved, including Russia and China. Climate change and resource scarcity are increasingly perceived as "threat multipliers," directly aggravating existing societal problems such as poverty, injustice, social insecurity, violence, terrorism, or civil war (Detges 2017, WBGU 2007, Theisen 2017, Scheffran et al. 2012, Ide et al. 2016). In 2014, the security and conflict implications of land use made it to the international policy agenda when the Intergovernmental Panel on Climate Change (IPCC), for the first time, included a chapter on human security in its fifth assessment report, thus drawing attention to the fact that climate change is undermining the livelihoods of millions of people across the world (IPCC 2014). That being said, the pathways from climate change, resource access, and distribution to conflict are "indirect, highly complex, and linked to other factors such as political, economic, and social conflicts, including ineffective institutions, social inequalities, or low economic development" (Scheffran et al. 2012).

Conflicts may be violent or non-violent. Conceptually, it will be helpful to distinguish between two types of potential threats of conflict. First, there are conflicts that arise as a direct result of the impacts of climate change (e.g. drought, rising temperature, etc.) and which mostly occur between or within communities, or between communities and the government. Secondly, there are conflicts that are instigated by climate-related mitigation and adaptation measures, for example, between project implementers, governments, and communities affected by the projects (Froese and Schilling 2019). The projects are climate adaptation or mitigation measures, such as a wind park or hydroelectric dam. These types of conflict can arise when formerly communal land is acquired by the government or international investors to implement large projects, which can deny access to primary users, be they farmers, pastoralists, or indigenous people, and affect their livelihoods and cultural identities (Brannstrom et al. 2016, Barbier and Tesfaw 2012).

However, there are dangers to securitizing the environment and energy field. Considering the realm of environmental protections within the framework of security thinking can potentially narrow the space for deliberative politics instead of widening it (Brock 1997). Brock (1997) warns against the linking of environmental and national security in order to avoid the further commodification of natural resources, which can lead to rising social tensions and prospects of conflict. He suggests instead linking it to ideas of social security and food security.

Another problematic consequence of focusing on climatic factors as drivers of conflict is securitization, whereby "a policy field—irrespective of its objective threat to security—is lifted from the conventional political sphere and transformed into being treated as a security matter…someone has successfully framed it as an existential threat to the extent that the audience accepts it as a security issue" (Theisen 2017). A securitized field as such legitimizes (or at least enables) extraordinary powers and means. It can justify receiving disproportionate attention and resources in comparison to non- or less securitized issues. One consequence of a securitized field worth being wary of is its ability to be used to silence debate or establish accepted facts "despite shaky underpinnings" (Corry 2012, Theisen 2017).

One of the questions I hoped to answer is whether these self-proclaimed region-building organizations actually offer functional multilateral cooperation or if they work more as agents of respective countries' bilateral relationship with China and Russia. The latter case would support the idea that these organizations actually drive more competition than cooperation in the region. This domination by peripheral neighbors to the north and east reduces the agency of the five republics to define integration themselves and instead perpetuates dependence on external leadership.

Despite Russia being eager to establish the EAEU and encourage participation in it, it has not "shown the same enthusiasm for the strong supranational institutions the [EAEU] needs to function in a manner anything like the [European Union]'s common rules-based regime" (Wolczuk et al. 2022). Comparatively with the European Union, Russia prefers the neighborhood control of its regional organization without the democratic accountability and transparency of the EU.

Partially accountable for the Russian and Chinese multilateral organizations' appeal and success in Central Asia (and around the globe) have been grievances with the existing international lending institutions. In October 2009, the former Mexican President Ernesto Zedillo led a high-level commission to review reform of the World Bank. While the Zedillo Commission acknowledged the importance of environmental and social safeguards, it argued that the World Bank has become so risk averse that the implementation of these policies imposes an unnecessary burden on borrowing countries (Dollar 2015). Instead, developing economies are moving away from the existing multilateral banks to finance infrastructure because they are so slow and bureaucratic. The initial response of developing countries in Asia to the AIIB was enthusiastic and "a diplomatic victory for China" (Dollar 2015). This reflects the hope of developing economies that a multilateral bank can have good safeguards and still be quicker and more efficient than the existing global institutions. It is yet to be seen if the AIIB and other Chinese initiatives create a risk of competing blocs, or if the outcome will be a more robust and inclusive set of institutions. Dollar (2015) believes that the AIIB is likely to make other development banks more effective and will become a cooperative part of the global architecture.

The Commission identified that governance weaknesses of the World Bank were undermining its legitimacy and effectiveness, elaborating on the organizations under its umbrella, including the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA). The first recommendation category included reforms of representation: distributing Board membership more evenly across constituencies, aiming for a 50/50 voting structure between developed and developing countries, and eliminating the US veto privilege. The second recommendation category advocated for restructuring governing bodies: a delegation of loan approval ability to increase activity and selection of the Board's leadership by election, as opposed to seniority. The third reform category addresses eliminating the US prerogative from the World Bank and the European prerogative from the IMF. And the fourth recommendation was to increase the World Bank's funding base if it intends to develop and maintain "the potential role for the Bank in acting as a channel for global public goods funding (especially for climate change)" (Linn 2009). By accommodating the interests of developing countries and giving them a greater role in the Bank's governance, a greater trust will build in the institution and letting it play a key role in ensuring a stable, prosperous, and sustainable world economy (Linn 2009). "The

developed countries would then be more likely willing to forego some of their traditional prerogatives in the governance of the institution; and the developing countries would likely be willing to give the World Bank a greater mandate in assisting them to respond to global challenges" (Linn 2009).

The Central Asian countries do cooperate with the World Bank, IMF, EU, and other liberal multilateral institutions outside the scope of this paper, and many intentionally balance a multi-vector approach to their diplomacy. However, the economic and security guarantors with the greatest linkages and most accessible resources are those with the most acute strategic interests, China and Russia.

Conclusion

This paper analyzes how four of the most influential region-building multilateral platforms in Central Asia frame their relevance to environmental questions, specifically the area of promoting alternative energy production. These platforms are united in their purpose of integration and strengthening ties, although they are distinctly characterized by asymmetrical dynamics of control in favor of external architects in Moscow and Beijing. While the growth and expansion of these organizations do increase ties within the region of Central Asia and between the five Central Asian states, they also reinforce dependencies on hegemonic neighbors. These neighbors are keen to solidify their control over the landscape of regional integration, military and security alliances, and the energy wealth of Central Asia.

In the absence of mechanisms of democratic accountability, authoritarian states and the industries which operate within them do not necessarily feel the same pressures to environmentally upgrade in line with global greening trends. In the sphere of energy, industries in autocracies are more sensitive to political imperatives than to environmental ones. Especially when a state's economy and ruling elites depend on fossil fuel wealth, the energy sector can be insulated against the global push for sustainability as a value in itself.

However, when an authoritarian state does calculate an acute benefit from pursuing an environmental protection measure, then it has the potential to act on it and push it forward with less opposition push back. Russia and China engage the international order when it is

conveniently feasible and aligned with their own strategic interests. When their interests are threatened or challenged by the global norms which emerged after the end of the Cold War, they express their sovereignty in rejecting external judgment. Not only do they disregard global trends which do not benefit them, but they now build up an alternative order. For the five Central Asian states, accepting cooperation and financing from them is a matter of respect, convenience, and need. However, it is important to note that the Central Asian states practice multi-vector diplomacy to various degrees, avoiding an exclusive commitment to Russian and Chinese influence, especially in the environmental sphere.

Russia and China should both be extremely concerned with the WEF nexus in Central Asia because it impacts their own security and investments. The notion of region has evolved as a unit of innovation, economic growth, security assurance, and an appropriate scale to resolve the challenges of sustainable development.

The states of Central Asia, Russia, and China are all classified as authoritarian regimes by the Economic Intelligence Unit. As with other socio-economic transitions and initiative-promotion, moving to green energy is inherently different between countries based on the governments' political structure and the relevant political tools it has on hand. One recently emerging research topic is how the threat of climate change is exerting pressure on governments and economies, especially those oil-reliant regimes, which would otherwise be more hesitant to do so. The massive amount of power and revenue that oil-exporting states enjoy often prevents them from making compromises for the sake of the environment.

China and Russia have been carefully but consistently increasing their capacity to wield influence in multilateral platforms that uphold and shape the norms of globalization.

For the security-oriented organizations, the Shanghai Cooperation Organization and the Collective Security Treaty Organization, environmental concerns are prioritized through the logic of expanding their conception of a security threat. Russian and Chinese governments, as well as those in Central Asia, have a lot of historical and recent lessons about how a compromised ecological element can undermine governments, threaten supply chains, exacerbate community and ethnic tensions, and affect economies. The expansion of national security to include environmental security also extends to and is tied in with dimensions of

economic and social security. Specifically, the domain of energy security is critical to both the hubs and the spokes of the multilateral platforms.

The economic platforms of the Belt and Road Initiative and the Eurasian Economic Union incentivize membership and norm diffusion by deepening financial interdependence between the states. Within the Eurasian Economic Union, Russia operates as a disproportionately powerful member, often setting the course of priorities and directing momentum in the direction of its own benefit. Within the New Silk Road Infrastructure, China is an attractive partner whose financing does not come with the same liberal conditionality (and judgment) as those of the liberal world order (World Bank, IMF, EU financing). Infrastructure is the "hardware" of economic integration, which is certainly necessary. But so additionally are the "software" of trade agreements. While the realized benefits of the BRI in Central Asia are more on the infrastructure side, the EAEU is more focused on trade agreements. This reflects the financial capital of China and the political capital of Russia in the region.

One key characteristic of each of the organizations in focus is simultaneous state sovereignty on domestic issues combined with hegemonic subjugation on regional issues. This represents both Russia's and China's preference for bilateral power dynamics which underpin their platforms' recruitment, structure, and norms.

Through prioritizing and investing in environmental regionalism in Central Asia, hegemonic neighbors Russia and China can green-wash their image and engage the liberal norms of sustainability and multilateral institutions, while still enhancing the legitimacy of their own alternative norms and authoritarian tendencies.

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