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Key words: Clean Energy Forum; Clean Energy; Climate Change; Energy Policy; Business; Energy Strategy; Russian Climate Policy

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Key words: Climate Change; Climate Policy; Economic Growth; Energy Policy; Environment; Fossil Fuels; Natural Resources; Renewable energy; Sustainable development

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Key words: Energy Relations; Nord Stream 2; Gazprom; German-Russian Relations

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Key words: Belt and Road Initiative; Central Asia; New Interdependence Approach; Sino-Russian Relations; Weaponised Interdependence

ENERPO JOUNRAL MANAGEMENT

WORD FROM THE DIRECTOR

EUROPEAN UNIVERSITY AT ST. PETERSBURG

Dear Readers,

I know that all of you are feeling the impact of the COVID-19 health crisis in one way or another. Its economic impact is challenging for many organisations, including us.

However, I know that at the ENERPO Research Center, even if there are to be more bumps along the road, we will be fine, and our work will continue to grow and develop. The issues of energy and climate politics, green growth, and sustainable economic development remain as crucial as ever to analyse and solve. We will have to be even more adaptive and innovative in our approach to stay at the top of our game.

In the past year, we successfully organised our Fourth Clean Energy forum, which has grown to become a fundamental medium for dialogue on Russian and international clean energy.

Indeed, we continue to plan, study, and work towards a brighter and greener future. We are excited about new opportunities to come, whilst remaining unwavering in our resolve to provide thorough, objective, useful information and debate on clean energy and energy politics in general.

I thank everyone for staying with us, contributing to our Journal, working with our research centre and the European University, and for sending us messages of your support. Stay safe!

Yours truly,
Maxim Titov

Executive Director, ENERPO Research Center

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CONFERENCE REPORT

CLEAN ENERGY FORUM 2018: ENERGY AND CLIMATE CHANGE: RISKS, STRATEGIES AND POSSIBILITIES

Alexandr Volkov

Abstract

On November 29, 2019, the ENERPO Research Center at the European University at St. Petersburg held the Fourth International Clean Energy Forum. This year's forum brought together representatives of business, government and nonprofit organizations, as well as representatives of the academic community, in particular, to discuss education and awareness for sustainable development. This report presents the main statements of the conference experts, who addressed sustainable energy development and renewable energy education and sustainable development. This year, the forum discussed the practices of large cities and companies and examined communication issues for the propagation of practices in Russia.

Keywords: Clean Energy Forum; Clean Energy; Climate Change; Energy Policy; Business; Energy Strategy; Russian Climate Policy

The Fourth International Clean Energy Forum was held by the European University at St. Petersburg's ENERPO Research Center on November 28, 2019.

The Clean Energy Forum was established in 2015. In designing the forum program, the ENERPO Research Center pays special attention to creating conditions for an open dialogue between representatives of energy companies, the academic community, non-profit organizations and government authorities.

At the previous forums in 2017 and 2018, we discussed the energy agenda, decarbonisation and climate strategies of big cities. This year we reviewed in detail the successful practices and cases of large cities and companies. In addition, we discussed the communication and dissemination of successful practices - how to make these practices and cases known and promote their wider application in Russia. The 2019 Forum contained two sessions:

- 'Clean energy and sustainable development';
- 'Education for sustainable development'.

This report is written under the Chatham House rules, and therefore names are not disclosed. Should the reader need any additional information, please contact the ENERPO Research Center.

CLEAN ENERGY AND SUSTAINABLE DEVELOPMENT

The first session was devoted to successful cases in clean energy and sustainable development, especially the introduction of green building standards and the use of green financing instruments. The session was moderated by Oleg Pluzhnikov (Climate Partnership of Russia).

The concept of sustainable development is a global trend: many countries are now taking initiatives to promote clean and renewable energy, decarbonisation and consumer behaviour changes.

At the Clean Energy Forum, participants discussed Russian incentives for combatting global climate change. Most speakers noted Russia's ratification of the Paris Agreement and the possibility of low-carbon business development. Since the Paris Agreement was adopted in 2015, the level of corporate commitments to mitigate and combat climate change has increased significantly. Environmental and social actions taken within the framework of corporate social responsibility (CSR) and the concept of sustainable development were among the topics of the first session of the Forum.

In presenting the concept of sustainable development and the corporate strategy of their companies, participants demonstrated that firms understand climate change issues and opportunities better than often expected. Many large Russian and international corporations now demonstrate strong leadership in adapting their business models to environmental challenges.

KEY POINTS OF THE FIRST SESSION

Concentration of the efforts of government agencies of different countries and the international expert community on the climate agenda. The Russian Federation joined the Paris Climate Agreement in September 2019.

Setting targets for CO2 emissions reduction.

Application of requirements and sustainable development goals. Currently 151 financial institutions (under the management of more than $30 trillion) have committed them-

selves to include environmental, social, and governance (ESG) factors in the investment analysis and implementation of the investment strategy.

Renewable energy sources. The investment attractiveness of the projects is conditioned by the state mechanism for stimulating renewable energy sources.

The research, development and implementation of new technologies among corporations to reduce the effects they have on the environment.

EDUCATION FOR SUSTAINABLE DEVELOPMENT

Renewable energy sources and energy efficiency are becoming key economic drivers in many countries. One of the most important priorities for the development of these areas in Russia is education and awareness: training of professional engineering and management personnel as well as communication with the media and consumers. The invited experts discussed the main requirements for the development of educational programs in the field of renewable energy sources and energy efficiency to ensure long-term and sustainable growth of this market in Russia. The session was moderated by Maxim Titov (Executive Director, ENERPO Research Center of the European University at St. Petersburg).

Representatives of the scientific community discussed topical issues of such educational programs around sustainable development. In defining their goals, many stressed the importance of promoting the ideas and principles of sustainable development at the federal, regional and local levels.

KEY POINTS OF THE SECOND SESSION

Education for sustainable development that enables the social transformation is needed to build socially equitable communities and achieve sustainable development goals.

Strategic principles for the education of specialists in the field of renewable energies should include knowledge of physical, mathematical and scientific disciplines, as well as knowledge of energy, construction, ecology and economics.

The goal of education for sustainable development is to advocate, connect and network to help all educators to integrate sustainable development goals and objectives into their own programs. The development of future-oriented thinking is a key challenge for education.

Education is central to efforts to develop and promote sustainable solutions to the development needs of both peoples and the planet.

CONCLUSION

As a result of the discussions, the forum's participants concluded that sustainable development and the transition from traditional fuels to clean energy is a key mission of business, government and society, both in Russia and internationally.

The first session brought together a wide range of stakeholders who focused on the implementation of green standards and the use of green financing instruments. Business representatives demonstrated case studies and strategies in relation to environmental issues and sustainable development. In many cases, actions in the area of sustainable development and renewable energy are already being undertaken and effectively implemented at the corporate level.

The second session brought together a circle of academics and educational organizations. The main conclusion of the session was that education allows people to understand the powerful factors that drive unsustainable lifestyles; it enables them to understand the nature and scope of sustainable development challenges; it provides an opportunity to develop the critical, innovative and creative approach needed to find new, more effective solutions; and it can help people to develop the confidence, organizational skills and optimism that will enable them to act individually and collectively for the benefit of all.

In general, participants of the two sessions agreed that meetings such as the Clean Energy Forum are necessary to promote dialogue at all levels and across sectors, to highlight actions undertaken, to share best practices, and, finally, to understand how to mobilize actors to address climate change. In this regard, one of the main objectives of ENERPO is to promote dialogue in order to improve decision-making on the issues of clean energy and education for sustainable development.

Alexandr Volkov

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5TH INTERNATIONAL WORKSHOP ON ECONOMIC GROWTH, ENVIRONMENT AND NATURAL RESOURCES

Ekaterina Savchenko

Abstract

On May 31 and June 1, 2019, the Fifth International Workshop on Economic Growth, the environment and natural resources was organized by the European University at St. Petersburg (EUSP) and ETH Zurich. The workshop participants, which included eminent professors, associate and young researchers, discussed a wide range of topics related to the environment, climate and energy policy and economic growth at EUSP. This report summarises several noteworthy presentations by speakers at the event.

Keywords: climate change, climate policy, economic growth, energy policy, environment, fossil fuels, natural resources, renewable energy, sustainable development

The 5th International Workshop on Economic Growth, Environment and Natural Resources took place at the European University at St. Petersburg (EUSP) on May 31st and June 1st, 2019. The workshop was organized by the Department of Economics at EUSP and the Chair of Economics/Resource Economics at ETH Zurich to promote the use of advanced economic theory in the fields of growth, environment and natural resource economics. More than 40 professors and researchers from universities including the University of Oxford, Yale University, Duke University, Paris School of Economics, Católica Lisbon School of Business & Economics and Vrije Universiteit Amsterdam participated in the event and presented their research projects.

INVESTMENTS IN TRADITIONAL AND RENEWABLE ENERGY SOURCES

Renewable energy and its impact on the global energy balance became a major discussion topic of the workshop. In one notable presentation on 'Renewable Energy Implementation and Stock Development,' Inge van den Bijgaart from the University of Gothenburg drew attention to the fact that although fossil energy is associated with environmental externalities investments and has a significant effect on climate change, investments in fossil fuels still exceed investments in renewables. Moreover, the results of economic model implementation used in her research showed that fossil fuels will continue to be a major source of energy in foreseeable future, hence there are large efforts in exploration and development of new fields.

RESOURCES AND DURATION OF AUTOCRATIC LEADERSHIP

Another aspect of natural resources was explored by Elise Grieg from ETH Zurich. Having used advanced econometric tools in her project on 'Resource Discoveries and Duration of Autocratic Leadership,' the researcher revealed some unexpected effects of natural resource wealth on autocracies and probability of coups against autocratic leaders. She identified that leaders face a lower hazard of having a coup in a country following an oil discovery, and, moreover, coups that already started are less likely to succeed if a leader has had an oil discovery.

CLIMATE POLICY RISKS OF THE EURO AREA

Veronika Stolbova from ETH Zurich presented her research on 'Climate Policy Risks of the Euro Area: Financial System and Real Economy' which she conducted with Stefano Battiston. They investigated the connection between the European financial system and low-carbon transition and estimated the potential financial losses of the Euro Area (EA) in a case when climate policies would be introduced too late and too suddenly instead of early and gradual implementation. The authors drew an integrated model of interrelations between participants of the European financial system (for example, banks, investment and pension funds) in accordance with the share of their portfolio directly or indirectly invested in fossil fuel companies since the latter are exposed to losses because of climate policies. According to the research results, banks are only slightly affected by climate policy while insurance and pension funds bear a large exposure to climate-relevant sectors – more than 22% of their equity and 14% of the total assets. Stolbova and Battiston estimated that direct exposure of the EA economy to fossil fuels is about 50% of the total assets in climate sensitive sectors and about 1.5% in overall. Potential losses of European firms from too-late-too-sudden climate policies are equal to 0.5 trillion Euros.

CLIMATE CHANGE AROUND THE WORLD: UNEXPECTED CONSEQUENCES

Tony Smith from Yale University demonstrated the consequences of climate change around the world through interactive maps covering the next 50 years and further into the future in accordance with the forecasts of specialists. He argued that while the majority of countries suffer physically and financially from climate change, several countries such as Russia or Canada can potentially benefit from it through better weather conditions and increased GDP.

CLIMATE CHANGE & POPULATION GROWTH

One of the workshop organizers and a member of the event's scientific committee, Lucas Bretschger in his presentation 'Malthus in the Light of Climate Change' investigated the widely discussed relationship between climate change and population growth. Although there are opinions among economists that such a relationship exists, Lucas Bretschger showed that climate change remains independent of population growth and there is no causality between these events.

The research projects summarised here offer just a small glimpse into the many fruitful sessions held at the workshop. During the 2 days of the event, guests listened to and discussed around 30 presentations. The next International Workshop on Economic Growth, Environment and Natural Resources will be held at EUSP later in 2020.

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GERMAN-RUSSIAN ENERGY RELATIONS: CHALLENGES OF 2019 AND A MOVE TOWARDS THE FUTURE

Joshua R. Kroeker

Abstract

This analysis paper explores the contours of German-Russian energy relations in recent years. As the result of political tensions in the international sphere, such as the ongoing Ukraine Crisis, German-Russian relations have been thrown into flux. Germany's ever-growing dependence on Russian natural gas has received local and international opposition. Nevertheless, German-Russian energy relations have remained stable and have even improved, with an increase in German imports of Russian gas and oil and a confirmation of future willingness on the Russian side to supply. As surveyed throughout this paper, German-Russian energy relations, evidenced by the final stages of the Nord Stream 2 project, symbolize a new level of cooperation between the two nations and indicate a dimension of resilience in the general relationship.

Key words: Energy Relations; Nord Stream 2; Gazprom; German-Russian Relations

In 2020, Germany continues to represent the largest energy consuming economy in the European Union. As a result of low national production and its move away from coal, Germany is increasingly dependent on natural gas. In 2019 alone, Russia exported over 200 billion cubic metres (bcm) of natural gas to the European Union and Turkey, with Germany importing over a quarter of that. Germany today remains the largest importer of Russian natural gas in the world[1]. Even with improving relations with Russia's eastern partners such as China, the European and German export markets remain the foundation of Russia's energy exports, constituting no less than 70% of Russia's energy exports. 2019 has seen many changes in Russia and Germany's energy relations, with Nord Stream 2's deadline approaching, political challenges from across the Atlantic affecting the Russian-German deal, and the continuation of obstacles in Ukraine. This article will therefore briefly analyse some of the events, difficulties, and changes that occurred within the sphere of German-Russian energy relations in 2019 and consider the prospects for the near future.

Russia's natural gas producer, Gazprom, is the lynchpin for Russian energy exports to the European Union and Germany. Accounting for over 5% of Russia's gross domestic product (GDP), the Kremlin-controlled corporation continues to grow with increasing access to the German energy market.[2] Though by no means the only Russian energy player in Germany, Gazprom has and continues to define German-Russian energy relations. In 2018 alone, Germany imported 58.5 bcm from Gazprom, compared to the 12.91 bcm, 22.77 bcm, and 23.96 bcm imported by France, Italy, and Turkey respectively[3]. In fact, the German Ministry for Economic Affairs and Energy published a report in August of 2019 that delineates Germany as seventh-largest natural gas consumer in the world[4]. Though crude oil remains Germany's primary energy source, amounting to 30.5% of German energy consumption in 2017, Russia is also Germany's primary supplier of crude oil. Nevertheless, with Germany's reliance on Russian natural gas and the challenges surrounding natural gas trade, relations in this sphere have been much more political in recent years.[5]

As Germany's need for natural gas grows at roughly three per cent per year and Germany's energy relations with Russia become ever more important, new solutions to provide for this demand have been undertaken.[6] The largest example is the Nord Stream 2 pipeline from Western Russia to Northern Germany, the building of which began in 2005 and over 75% was completed by August 2019. Gazprom owns 51% of the Nord Stream project, with France's Engie, Dutch Shell, and OMV among the other investors. As natural gas represents the fossil fuel with the lowest specific CO2 emissions, it continues to grow as an alternative to more traditional and more harmful fuels. With the demand for natural gas therefore increasing world-wide, Nord Stream 2 will provide an additional 55 bcm of natural gas annually to the European and German markets.[7] way of its completion, the wavering of Denmark to approve a section of the pipeline to be built within its sovereign territory, was resolved.

1 Gazprom Export (2018) Delivery Statistics [Online]. Available at: http://www.gazpromexport.ru/en/statistics/.
2 Soldatkin, V. (2019) 'Russian Record Gas Sales to Europe Help Gazprom Profits Double', Reuters [online]. Available at https://www.reuters.com/article/us-gazprom-results/record-russian-gas-sales-to-europe-help-gazprom-profits-double-idUSKCN1S51DU (accessed: December 25, 2019).
3 At the time of writing, the statistics for 2019 were not yet published; Gazprom Export, "Delivery Statistics."
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5 Ibid.
6 Ibid.
7 Nord Stream 2, Die Pipeline auf einen Blick [Online]. Available at: https://www.nord-stream2.com/de/pdf/document/198/.

Denmark approved of the pipeline in October 2019.[8] The pipeline is set to be completed in the early months of 2020 with gas flowing shortly thereafter.

The recent successes of Nord Stream 2, however, have received much political criticism from both within Germany and abroad, which has ultimately begun to strain relations both between Berlin and Moscow as well as between Berlin and Washington. Many observers see the pipeline as a threat to German energy security which will make both Germany and the European Union more dependent on Russian natural gas. [9] The political effects of the planned pipeline have therefore been difficult for both Berlin and Nord Stream 2 itself. As Berlin tries to balance pipeline benefits on the one hand and EU integration and solidarity on the other, it has found itself in a sensitive predicament. Moscow has remained an adamant proponent of the project. Therefore, if Berlin is able to navigate the delicate situation surrounding its energy policy and its relationship with Russia – all of which are embodied in the Nord Stream 2 plan – then the challenges presented in 2019 will be of little consequence in the growing energy relations between Germany and Russia. In addition, this essay will demonstrate that German energy policy and relations with Russia are not determined solely by Germany itself, but also by a number of actors at the EU and international levels, thereby making direct relations between Germany and Russia more difficult and multidimensional.

The first dimension of Germany's tricky balancing act is national and European critique. The German government sees it as necessary to find alternative sources of supplying its need for energy. As Germany intends to opt out of atomic and coal power in the near future, its dependence on other energy forms grow. As Germany will not yet be able to rely fully on renewable energies anytime in the immediate future, natural gas comes to play a more vital and ultimately indispensable role.[10] A common concern amongst both German and European observers is that with growing German dependence on Russian gas, Russia would be able to use this as political leverage over Germany. In fact, this has been a common concern for many years and is by no means new in 2019. This argument of Russia 'turning off the tap' feeds into general fears of a Russian threat to Germany and European energy security in general. However, Josef Auer, energy researcher at DB Research, argues quite insightfully that "Russia has been supplying natural gas to Europe, especially Germany, for 46 years and has never turned off the gas tap. And therefore, the country [Russia] is interested in stable export earnings. The bottom line is that Russia would lose, not gain, if gas supplies were cut off."[11] Although this author acknowledges the potential threat posed by the possibility of Russia stopping the flow of gas towards Europe, the act itself would be so self-damaging to Russia that the threat is most unrealistic. Nevertheless, challenges have reached the European level in Brussels. Unexpectedly, however, the opponents of Nord Stream 2 and the German-Russian relationship are not the key players in the pipeline's construction. Rather, for example, the Baltic states are challenging the pipeline in Brussels, afraid that the pipeline is indeed an act of Russian encroachment in the European Union and who fear further dependence on Russia. As the Baltic states push back against the German-Russian deal because of political consternation, the Eastern European EU members perceive a greater threat as a result of the deal

The second dimension of the challenges faced by Germany is therefore the role played by the traditional 'transit' nations in Eastern Europe, particularly Ukraine and Poland. Traditionally, Ukraine and Poland – among other Eastern European states – have benefited from allowing Russia to transit gas through pipelines to Germany and other European states via these countries. Ukraine in particular has benefited from cheap gas prices as part of its past transit deals. The weakening of Russian-Ukrainian relations, the Euromaidan revolution in 2014, and the war in Donbass, however, have resulted in turbulence between Russia and Ukraine that has had negative effects on regional gas transit deals, with fears that gas will stop flowing from Russia through Ukraine as early as 2020. The existence of Nord Stream 2 has compounded those fears, as the pipeline effectively bypasses traditional transit routes and goes directly from Russia to Germany via the Baltic Sea.[12] Moscow would save billions of Euros per year if it were able to bypass Ukraine directly. Ukraine fears that it would not be able to heat homes during the winter. All this has put Berlin in an awkward situation: Germany needs to support a compromise between Russia and Ukraine in the gas sector, as it cannot politically abandon Ukraine, a state whose independence Germany has adamantly supported since the 2014 Revolution. Yet Germany can also not be seen to abandon its responsibilities to the Nord Stream 2 project. Despite this, energy experts such as University of Oxford's Simon Pirani predict that Russia and Gazprom will continue to need additional pipeline capabilities after the opening of Nord Stream 2, thereby keeping Ukraine effectively 'in the game' for the near future.[13] It is therefore not of great surprise that 2019 saw one of the greatest breakthroughs in Eastern European gas transit. In fact, only a week before the writing of this article, and after multilateral talks with Ukraine, Russia, and the EU in Berlin, Ukraine and Russia signed a gas transit deal that will continue to see Russian gas flow through (and to) Ukraine until 2025. This had immediate effects of European market gas rates, as fears of disruption were resolved.[14] Though both Moscow and Kyiv undoubtedly benefit from the deal, Germany is likely the real winner, as Berlin no longer has the responsibility to protect Ukraine's energy interests resting on its shoulders.

This matter of transit routes has also resulted in attempted challenges in Brussels in 2019 by Poland, which continue to threaten the future of Nord Stream 2. Similar to Ukraine, Poland benefits from the transit fees that it levies over gas transported through its territory to the rest of Europe; Nord Stream 2 could effectively devastate Poland's revenue streams that come from current transport.[15] Poland has both fined the French energy firm Engie for its involvement in the Nord Stream project and has pushed for further EU legislation limiting the jurisdiction of third-party pipelines in the European Union.[16] Nevertheless, the German Bundestag gave the pipeline the green light in 2019, effectively bypassing the opposition in Brussels.[17] Though the pipeline and German-Russian relations remain controversial at both local and European levels, Germany has successfully executed the Nord Stream 2 plan on its part. The December 2019 Ukrainian-Russian transit deal will likely help to dispel fears amongst the Eastern European EU members such as Poland, which could ultimately result in less opposition from those parties to the project. Such a possible outcome would have concrete positive effects on the German-Russian energy relations in 2020 and the future.

At the time of writing, the most recent challenge to the Nord Stream 2 project and German-Russian energy relations in general comes as an extraterritorial political attempt to inhibit the success of the project. The final dimension of opposition to German-Russian energy relations is the challenges presented from across the Atlantic from American President Donald Trump. Trump's opposition to the project, however, is by no means new to 2019. In a NATO meeting in 2018, for example, US President Donald Trump quipped that Russia is controlling Germany through the pipeline and that 'making pipeline deals with Russia' will not be condoned by the United States. [18]Nevertheless, German Chancellor Angela Merkel has stood her ground with regards to the pipeline. In a statement from December 2019, Merkel asserted that "Germany is correctly opting out of nuclear and coal energy in the next few years. Then we need the pipeline for the future energy supply."[19] For the most part, she has remained unwavering in her stance towards the construction of Nord Stream 2. Yet 2019 has seen the most difficulties in realizing the project at an international level.

Washington sees Germany's dealings with Russia as a threat to German and European security. Moreover, the United States sees Europe as a market to export its – more expensive – liquified natural gas (LNG). The German-Russian deal presents a significant challenge to the American plan, as gas imported from Russia is both cheaper and easier to obtain via the pipeline. For the USA, as the US ambassador to Germany wrote in early 2019, "Nord Stream 2 would make Europe even more vulnerable to Russian energy blackmail."[20] In mid-December 2019, the United States imposed sanctions on corporations and even persons involved in the construction of Nord Stream 2.[21] The effectiveness of the sanctions are debatable, however, as the pipeline is 86% complete as of the end of December 2019. Both German and Russian political representatives have decried the sanctions, such as German Foreign Minister Heiko Maas, arguing that Europe's energy future needs to be decided in Europe and not in the US[22] Whether American sanctions will have a concrete effect on German-Russian relations and the Nord Stream project will be seen in 2020. Their existence and the threat they represent are, nonetheless, evidence of how political Germany's energy policy has become in international relations; the United States may or may not be able to truly pressure the Germans and Russian, but in any case they have demonstrated that they are a key player in Europe's energy policy.

In conclusion, this short viewpoint essay has ventured to analyse some of the components affecting the trajectory of German-Russian energy relations in 2019. For the most part, Russian-German energy relations have remained stable and have even improved, with an increase in German imports of Russian gas and oil and a confirmation of future willingness on the Russian side to supply. Aside from political tensions in other spheres such as the continuing Ukraine Crisis, the final stages of the Nord Stream 2 project symbolize a new level of cooperation between the two nations. Nevertheless, the German-Russian relationship faces opposition on all fronts, including at the local, European, and even Transatlantic levels. The German-Russian Nord Stream deal demonstrates that bilateral relations between the two countries – in a field that would benefit from being

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18 Keating, Dave (2018) 'How Dependent is Germany on Russian Gas?' Forbes [online]. Available at: https://www.forbes.com/sites/davekeating/2018/07/19/how-dependent-is-germany-on-russian-gas/#79f409153b48 (accessed December 30, 2019).
19 Keating, Dave (2018) 'How Dependent is Germany on Russian Gas?' Forbes [online]. Available at: https://www.forbes.com/sites/davekeating/2018/07/19/how-dependent-is-germany-on-russian-gas/#79f409153b48 (accessed December 30, 2019).
20 Bleiker, Carla, Sherwin, Emily, Sheiko, Iurii, Hasselbach, Christoph and Böhme, Henrik (2019) 'Nord Stream 2: Der ewige Zankapf,' Deutsche Welle [online]. Available at: https://www.dw.com/de/nord-stream-2-der-ewige-zankapfel/a-51270076 (accessed December 30, 2019).
21 Ellyatt, Holly (2019) 'US Greenlights Sanctions on Mega Russia-EU Gas Pipeline, but its Probably too Late,' CNBC [online]. Available at: https://www.cnbc.com/2019/12/18/us-sanctions-on-nord-stream-2-pipeline.html (accessed December 30, 2019).
22 Ibid.

apart from politics – are largely scrutinized and at times threatened by third parties. This does not imply that future German-Russian energy relations are doomed to fail. In 2020 and beyond, Germany and Russia will need to continue to navigate tricky waters if their energy partnership is going to grow. The final implementation of Nord Stream 2 will be evidence of the success of mutual cooperation in the fields of gas and energy. If 2019 is any indication of the future to come, the German-Russian relationship will benefit from increased bilateral cooperation, even in the face of systemic challenges and opposition from all sides.

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CHINA'S DEMAND IMPACT ON EURASIA GAS PRICING

Tristan Kenderdine

Abstract

China's investments in both Yamal-Nenets and Turkmenistan have the potential to transform global gas production into market-forced and commoditised trade. But ultimately China's and Russia's continued state dominance will mean that gas prices will remain a shadow commodity for the foreseeable future.

Key words: Arctic Ocean; China; Central Asia; Caspian Sea; Eurasia; LNG; Natural Gas

Natural gas is a product highly amenable to commodification. And yet everywhere its extraction, transport, and consumption is structurally determined and structurally priced. Without markets to set prices, producers are stuck with end-to-end contracts that usually favour the buy-side. China entering the Eurasian gas buy-side market has the potential to change the way that gas is priced, and consumed, globally.

China's entry into Eurasian gas fields via the Arctic Ocean and Gulf of Ob', effectively creates five main natural axial arcs in Eurasia, centred geopolitically on the Caspian Sea Rim economies. The four extant gas axes from the Caspian are i) south to north to Russia, ii) east to west to the Black Sea and Europe, iii) west to east to China's Xinjiang and iv) north to south to the Indian Ocean.[1] The Yamal Nenets LNG project adds a fifth, a lateral axis across the Arctic Ocean.

China's Caspian Sea pipeline developments along the west to east axis already dramatically change the structural calculus for regional gas delivery. Economies like Turkmenistan had to previously rely on prices set by the Russian buy-side, meaning Russia could, and did, buy Turkmenistan gas cheaply and sell Russian gas to Europe at a premium.[2] The introduction of China to the mix gave Turkmenistan the possibility of a better deal, even if trade is still point-to-point contracts with state-owned enterprises.

Development of a parallel north to east gas axis across the Arctic Ocean could also serve to further marketise the price of gas. The existing Yamal LNG operation and the expanded Arctic LNG 2 project create a new gas pole in the Eurasian energy architecture.[3] If previous Eurasian gas axes were dependent on landlocked geographies, the Arctic project and advances in LNG transport technology bring Eurasian gas to Asian markets across a new ocean.

1 Petersen, A. 2016. Integration in Energy and Transport: Azerbaijan, Georgia, and Turkey. Lanham MD: Lexington Books.
2 Grigas, A. 2017. The New Geopolitics of Natural Gas, Cambridge MA: Harvard University Press.
3 Novatek. 2020. Arctic LNG 2 is another LNG production-related project of NOVATEK. Available at <http://www.novatek.ru/en/business/arctic-lng/>.

This has the potential to bring the Eurasian gas pole more into line with Qatar and Australia, the other two global LNG export players. The Arctic investment developing multiple new gas corridors from the Caspian Rim and Eurasian Arctic economies should move natural gas closer to becoming a fungible commodity. Opening the Caspian Sea and Eurasian Arctic gas fields to China and Europe and wider maritime LNG fleet development also has the potential for global gas market integration.

The effect of marketising a price for fungible LNG could open new price-setting mechanisms for the existing Eurasian land-power gas-producing axes. Price institutions on ocean-transport LNG would serve to smooth prices across all the four major gas-consuming regions of Europe, Russia, East Asia, and the Indian Ocean economies. This would change the institutional dynamics of the small Eurasian hydrocarbon exporters—Turkmenistan, Azerbaijan, Uzbekistan, and Kazakhstan—as well as the transit economies of Georgia, and Turkey while completely transforming the economic extraction industrial institutions and architecture of the Eurasian Arctic.

The east-west Azerbaijan-Georgia-Turkey axis, the Russia-Georgia-Armenia-Iran-Turkmenistan axis, the west-east Turkmenistan-Uzbekistan-Kazakhstan axis as well as the wider China-Russia, Russia-Europe and US-Eurasia frictions all come together along a meta axis from the Gulf of Ob' to Turkey's Aegean Coast and the Persian Gulf.

The development of this omnidirectional Ob'-Aegean gas axis has at least as much power to change global gas geopolitical dynamics as the shale gas and LNG revolutions in the United States and China. Considering that the largest gas transit corridor is already Qatar to Japan—beyond the influence of the US, Russia or China—the Eurasian gas meta axis does not have a natural monopoly. Multiple gas poles and multiple transport axes are more likely to result in eventual commodification of gas prices.

The opening of west-east pipelines from Turkmenistan-Uzbekistan-Kazakhstan to China demonstrate the possibility of creating a gas pole centred on the Caspian Sea which can begin to more clearly connect to global markets and free itself from the older south-north axis of patron-client relationships with Moscow. Chinese demand was the factor driving Turkmenistan to shift gas export-dependency away from Russia. This means that the Caspian Sea natural gas producing economies can then begin to think seriously about being able to choose to supply south-north to Russia, east-west to Europe, west-east to China and possibly soon north-south to India through Iran and the Persian Gulf. Opening these gas geographies to multiple buyers is likely to result in greater commodification of natural gas and movement towards a market price.

Building extraction, liquefaction, refining, pipeline and shipping infrastructure is not simply a geographic or economic challenge though. Markets are connected through institutions, and polities are formed, maintained and changed by virtue of institutional interrelationality. China[4] SOEs like China National Petroleum Corporation are likely to have much weaker integrative force than institutions on the east-west axis from the Caspian Rim economies towards Europe. This weak institutional integration on the China demand-side and the inherent structural problems with the separate South Caucasus and Turkish economic institutions mean that it is very difficult to think of a contiguous economic integration in energy transport and security in the Caspian Sea region. So while the Ob'-Aegean meta axis still has the potential to marketise the global gas market, inherent institutional limitations are likely to slow any possible economic integration necessary for this to happen.

Central Asian gas suppliers on the old south-north axis to Russia are tired of dependence on Gazprom. Gazprom's refusal to offer the European price of gas, at which it resells Central Asian gas remains a sore point in the region. And Russia's perceived use of geopolitical control of infrastructure to ensure supply or to deny purchases pushed Turkmenistan to look for a better deal in China. Uzbekistan and Kazakhstan followed suit and the pipeline infrastructure which had been built to transit through Russia and eventually to Europe, was turned towards the East, and Asian markets. This supply to China is crucial to China's energy security and regional development goals in Xinjiang, thus the stakes for China are higher, and hopefully for Central Asians, so will the price be.

Turkmenistan with its avowed foreign policy of neutrality and isolation contributes most strongly to this disintegrous Central Asian gas region as China works to open the west-east corridor. The west-east axis of Turkmenistan-Uzbekistan-Kazakhstan suffers from lack of foreign investment and is dependent on national oil companies, or their gas subsidiaries such as Gazprom Stroitransgaz, CNPC, and Kaztransgaz.[5] China institutional integration along this gas corridor could help to develop a regional institutional infrastructure, where Central Asian energy developed has been defined by weak institutional penetration and consequently weak regional integration. Conversely in the South Caucasus gas fields, transport and market opening are more diversified and responsive to outside markets and demonstrate a greater level of transnational actor integration. Central Asian gas institutions becoming more Caucasus-like would be beneficial to a future regional trade architecture.

Ultimately though, the demand-side is now heavily weighted towards China's institutional transformation. China's demand of both shipped LNG across the Northern Sea Route into China's northeast seaports and traditionally piped natural gas from Turkmenistan-Uzbekistan-Kazakhstan to Xinjiang is likely to change the dynamics of the Eurasian production and supply system, determining the future development of institutional, infrastructural, supply and prices of natural gas.

China's domestic policy developments though point towards an institutional path to marketisation reform.[6] There is ongoing institutional friction there between the downstream consumer delivery system and the upstream structural system. This includes establishing a new state-owned enterprise to oversee the gas pipeline infrastructure previously owned by the big three hydrocarbon SOEs, CNPC, Sinopec and CNOOC[7], and the opening of new west-to-east pipeline infrastructure such as the Power of Siberia pipeline. [8] There is also considerable institutional innovation in the midstream storage and transport systems on the China side. But ultimately, the trend of gas price reform in China points towards a market price developing in China's own domestic consumer markets, rather than in any international contract competition. Such a development would likely fold back upstream and impact point-to-point pricing contracts.

While China-Russia-US traditional energy geopolitics looks to simply move into new geographies and oceanographies, increased economic integration in the Caspian Sea economies has the potential to subvert the extant regional geoeconomics and turn the regional economies themselves into serious players capable of marketising traditional gas supplies by simply opening their markets to more buyers.

The idea of marketised LNG pricing though is really caught in a world of land-sea power geopolitical relationships in Eurasia. [9] This is more likely to play into a Russian reconception of Eurasianism and a Eurasianist economic integration than to benefit China, the EU or the US.[10] The Yamal Nenets project, the Kamchatka LNG transshipment port project[11], the development of the Northern Sea Route for Arctic shipping transport, and the possibilities of Greenland LNG production are all important to contributing to a global gas price commodification. But these developments too are likely to fall into the point-to-point contract system and perpetuate the state control of gas supplies into the new LNG shipping transport sector, rather than move towards market price-setting.

Gas should be a commodity that responds to international prices. This would benefit exporting countries like Turk-

4 'China' is used here and throughout as an adjectival noun, describing nouns in place of the more conventional 'Chinese'. This is to separate the ethnonym and demonym from the nation state of the People's Republic of China which is not completely synonymous with the ethnicity, people, or civilisation of China.

5 Petersen, A. 2016. Integration in Energy and Transport: Azerbaijan, Georgia, and Turkey. Lanham MD: Lexington Books.

6 Liu, YX. Feng YL. & Yu XH. 2018. Gas Supply, Pricing Mechanism and the Economics of Power Generation in China. Energies 11(5).

7 Shepherd, C. 2019. China launches state enterprise to manage oil and gas pipelines. Financial Times. Available at: <https://www.ft.com/content/4c2a8e50-1a59-11ea-97df-cc63de1d73f4>

8 Economist Intelligence Unit. 2019. Russia opens Power of Siberia gas pipeline to China. Available at: <http://www.eiu.com/industry/article/348791418/russia-opens-power-of-siberia-gas-pipeline-to-china/2019-12-10>

9 Bassin, M. 2016. The Gumilev Mystique: Biopolitics, Eurasianism, and the Construction of Community in Modern Russia. Ithaca: Cornell University Press

10 Clover, C. 2016. Lev Gumilev: Passion, Putin and Power—The Ideas of the Soviet Historian are Influencing a New Generation of Hardliners, Financial Times. Available at <https://www.ft.com/content/ede1e5c6-e0c5-11e5-8d9b-e88a2a889797>.

11 Staalesen, A. 2019. Government approves €1 billion natural gas terminal on Kola coast. The Barents Observer. Available at <https://thebarentsobserver.com/en/industry-and-energy/2019/05/government-approves-eu1-billion-natural-gas-terminal-kola-coast>

menistan, Uzbekistan, Kazakhstan and Azerbaijan who have for generations had gas prices held captive by the buy-side. New investment in traditional gas exports on the west-east axis, the opening of the Persian Gulf corridor to India and the development of Yamal-Nenets all grow the gas pie, and if the pie is big enough with enough agents at the table, then commodification can occur and supply can begin to respond to demand transmitted through a price mechanism.

China's national oil companies' expansion into Central Asia, Azerbaijan and Kazakhstan's hydrocarbon developments, and the north-south gas corridor to Iran and India, coupled with the possibility of Iranian oil moving north overland into China, greatly opens the Indian Ocean and Eurasian Heartland to gas geopolitics. The opening of thicker gas corridors has the potential to be a true game changer in Caucasus-Central Asia gas geopolitics. The prospect of the Caspian Sea Rim gas exporting economies to open to newer markets has likely hastened Russia's resolve to open the Arctic gas fields and transport lines to Asia through Arctic LNG shipping. China, though, has the possibility to exploit the semi-formed institutional structures in the Eurasian gas geographies.

China's entry into both Arctic and Caspian Sea gas axes could serve to activate a process of commoditisation of gas in ex-Eurasian markets. However, China's buy-side potential to marketise prices is dependent on the development of price-setting institutions. Simply having two state-owned operators, Russia and China, in the region is insufficient to result in any commodification. The development of infrastructure that facilitates the transport of gas to East Asian markets, though, does open up even more buy-side competition – from Japan, Korea Republic, and Taiwan.

If China changes its consumer behaviour, it reforms global institutions. The China market for gas has huge transformative potential on the institutions surrounding gas extraction, refinement, shipment and pricing. For the structural blockages in the energy economies of former Soviet republics, China could lead the way towards a pricing institution reform that ultimately benefits the producing economies.

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CHINA'S BELT AND ROAD INITIATIVE IN CENTRAL ASIA: A CASE STUDY ON WEAPONISED INTERDEPENDENCE IN ENERGY, TRANSIT AND INFORMATION NETWORKS

Dana Rice

Abstract

This exploratory research paper aims to further develop conversation around 'weaponised interdependence', a concept recently introduced by Henry Farrell and Abraham Newman. Although Farrell and Newman mention multiple actors that can weaponise interdependence, their research concentrated on the US. This paper therefore identifies a research gap on other potential weaponisers and the alternate forms of interdependence they may create. Drawing on semi-structured interviews with relevant officials and academics in Russia and Kazakhstan, this paper applies weaponised interdependence to the case study of China's Belt and Road Initiative in Central Asia. While suggesting that China, like the US, may have the potential to weaponise financial and information flows in the region (the forms of interdependence that Farrell and Newman focus on), this paper suggests that weaponised interdependence may also be applicable to physical infrastructure such as roads and pipelines. Expanding on Farrell and Newman's concept of the 'disruptive actor', the paper also explores the potential role Russia could play within China's network.

Key words: Belt and Road Initiative; Central Asia; New Interdependence Approach; Sino-Russian Relations; Weaponised Interdependence

INTRODUCTION

Since the publication of Henry Farrell and Abraham Newman's article in International Security in July 2019, 'weaponised interdependence' has received much attention within the community of International Relations scholars. In October 2019, the Fletcher School of Law and Diplomacy at Tufts University organised a conference to promote more discussion on this evolving concept. This paper was written in response to the panel on 'Energy, Transit and Weaponised Interdependence'.[1] In their discussion, the panel posed the following question: to what extent (if any) does the Belt and Road Initiative (BRI) represent an attempt by China to develop a real-world structure of weaponised interdependence?

This paper aims to further develop the conversation around this question, focusing on the specific case study of BRI in Central Asia.[2] The paper also adds a secondary question: if BRI in Central Asia does represent an attempt by China to develop a real-world structure of weaponised interdependence, what role does Russia play within this structure? The aim of this research is two-fold: firstly, to contribute to an emerging theory and secondly, to enrich understanding of a complex region through this new lens. The paper is divided into the following sections: 1) theoretical framework, 2) methodology, 3) background to BRI in Central Asia, 4) analysis and 5) conclusion.

THEORETICAL FRAMEWORK

In their 2014 World Politics article, Farrell and Newman identified a new body of scholarship which they dubbed the 'New Interdependence Approach' (NIA).[3] While many scholars assume that increased globalisation only creates benefits for the states involved, Farrell and Newman suggest that globalisation has created new forms of competition and contestation as the lines between domestic and international become blurred.[4] In their most recent article, Farrell and Newman propose the concept of 'weaponised interdependence' within NIA. 'Weaponisation' here refers less to traditional military and hard security aspects and more to economic ties being wielded as a 'weapon'.

Weaponised interdependence makes a valuable contribution to International Relations theory because it brings together International Political Economy (IPE) and Security Studies, two disciplines which have historically been separated. Farrell and Newman posit that new, stronger networks of interdependence have been created in an ever-globalising world which key actors can weaponise. These networks contain both nodes and ties. Nodes are specific actors or locations while ties 'channel information, resources or other forms of influence' between these nodes[5]. Farrell and Newman identify two ways these nodes and ties can be weaponised: chokepoint effects - where the actor can deny network access to adversaries - and panopticon effects - where the actor can gather strategically valuable information. In their article, Farrell and Newman apply these concepts to global financial and information flows, using SWIFT and the Internet as case studies.

Farrell and Newman write that 'only the United States and a couple of other key states and state-like entities (most notably the European Union [EU] and, increasingly China) enjoy the benefits of weaponised interdependence, although others may still be able to play a disruptive role'.[6] As they note, most scholars of new interdependence focus exclusively on the US and the EU.[7] In taking a Euro-Atlantic focus themselves, Farrell and Newman do not explicitly explain where and how China enjoys the benefits of weaponised interdependence. This paper therefore aims to build upon ideas discussed at the Tufts University conference and apply weaponised interdependence to BRI in Central Asia.

What Is Weaponised Interdependence?

Authors	Main concepts	Areas of application by the authors	Areas of application for this paper
Henry Farrell (George Washington University) **Abraham Newman** (Georgetown University)	economic ties as 'weapon'  **nodes** - specific actors or locations in network **ties** - channels of information, resources, influence between nodes **hubs** - nodes with many ties **chokepoint effects** - where actor denies network access to adversaries **panopticon effects** - where actor gathers strategically valuable information	US as a weaponiser information and financial flows disruptive actor - ? (mentioned but not developed)	China as a weaponiser information and financial flows + physical infrastructure such as pipelines and transit routes Russia as a disruptive actor

Figure 1. What is weaponised interdependence?
Source: Author

1 *A recording of this panel is accessible via the following link: https://www.youtube.com/watch?v=qXMUEpIQJ0A*

2 *For the purposes of this paper, 'Central Asia' refers to the five post-Soviet states of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.*

3 *Farrell, H. and A. Newman, 2014. Domestic Institutions Beyond the Nation-State: Charting the New Interdependence Approach. World Politics. 66(2): 333.*

4 *Farrell, H. and A. Newman, 2016. The New Interdependence Approach: Theoretical Development and Empirical Demonstration. Review of International Political Economy. 23(5): 714.*

5 *Farrell, H. and A. Newman, 2019. Weaponised Interdependence: How Global Economic Networks Shape State Coercion. International Security. 44(1): 50.*

6 *Farrell, H. and A. Newman, 2019, 57.*

7 *Farrell, H. and A. Newman, 2014, 354.*

METHODOLOGY

This paper follows a qualitative methodology. Between September and November 2019, the author conducted a number of semi-structured interviews in Saint Petersburg, Moscow and Almaty. The interviewees included officials at the Eurasian Economic Union (EAEU), the Eurasian Development Bank and the Valdai Discussion Club. In addition, the author met with leading experts on Eurasian integration at the European University at Saint Petersburg, Saint Petersburg State University, Moscow State Institute of International Relations, Kazakh-German University and Narxoz University. The author was also able to speak with Dr. Mikhail Krutikhin, one of the participants on the 'Energy, Transit and Weaponised Interdependence' panel at Tufts University. Finally, the author conducted field research in the Khorgos International Centre for Cross-Border Cooperation (ICBC) on the border of Kazakhstan and China.

Weaknesses of theoretical framework and methodology

One of the main weaknesses with Farrell and Newman's concept is the difficulty in recognising and measuring weaponised interdependence. The examples of nodes, ties, panopticon effects and chokepoint effects provided here are somewhat anecdotal in nature -- their goal is simply to offer potential avenues for further exploration. Future research will need to be more systematic in its analysis. Drawing further on network theory is one possible way in which future research can address this weakness. Network theory, a framework applied in many disciplines, allows the nodes and ties within a network to be visually represented in formal graph-based models.

The terminology 'weaponised interdependence' may also be misleading. 'Interdependence' suggests that two countries are dependent on each other and therefore the weaponiser must be harming its own interests, too. What Farrell and Newman are describing then may be closer to 'dependence' where one powerful actor exploits the interests of others with limited harm to themselves. Nevertheless, 'interdependence' at least highlights how rapid globalisation has generated new forms of exploitation.

BACKGROUND TO THE BELT AND ROAD INITIATIVE: CHINA'S AMBITIONS IN CENTRAL ASIA

A key problem in the analysis of BRI is determining the initiative's exact aims. Official documents on BRI refer to five priorities: policy coordination, infrastructure connectivity, unimpeded trade, financial integration and connecting people. However, these priorities still lack clarity. Academics and journalists have put forward various hypotheses about what 'infrastructure connectivity', 'financial integration' and BRI's other aims mean in practice. Many think it is a geopolitical ploy especially for power over its neighbours in Central Asia — in other words, a reinvigoration of the Great Game that was played out in this region in the 19th century.[8] Some academics believe it is an ingenious method for dealing with surplus industrial capacity.[9] According to others, BRI is a way of exporting the Chinese model of development to the Third World.[10] Yet others believe that securing access to energy and minerals for rapidly growing domestic consumption is at the heart of the initiative.[11] Most recently, BRI was mentioned at the Tufts conference in terms of ensuring a system of weaponised interdependence. In order to understand the validity of these arguments and how weaponised interdependence unites the various perspectives, this section explores China's ambitions in Central Asia and how many of the projects (often energy-based) now part of BRI began long before BRI was announced in 2014.

In the decade prior to BRI, China's interest in its Central Asian neighbours largely centred around energy. Both Kazakhstan and Turkmenistan have extensive oil and gas deposits. Kazakhstan, the largest landlocked country in the world and leading economy in Central Asia, is the #1 producer of oil in the region. The country possesses over 170 oil fields in total with Tengiz being the 6th largest in the world. Turkmenistan is the #1 gas producer in the region, holding the world's 6th largest proven reserves. While Uzbekistan has far smaller natural resource reserves and Kyrgyzstan and Tajikistan have virtually none, these three states play an important role as transit states.

To conceptualise how Central Asia fits into the Chinese investment strategy, it is important to look at China's energy balance. China is currently heavily reliant on coal with oil making up only 20% of the fuel mix and natural gas just 8%.

8 See, for instance, S. Blank, 2012. Whither the New Great Game in Central Asia?. Journal of Eurasian Studies. 3(2): 147-160; K. S. Stegen and J. Kusznir, 2015. Outcomes and Strategies in 'New Great Game': China and the Caspian States Emerge as Winners. Journal of Eurasian Studies 6(2): 91-106.

9 See, for instance, T. Kenderdine, 2017. China's agroindustrial capacity cooperation in Central Asia. Central Asia-Caucasus Analyst, [online] 28 April. Available at: <https://www.cacianalyst.org/publications/analytical-articles/item/13442-china's-agroindustrial-capacity-cooperation-in-central-asia.html> [Accessed 10 November 2019].
10 See, for instance, F. Fukuyama, 2016. China's road or the Western way: whose economic development model will prevail?'. South China Morning Post, [online] 14 January. Available at <https://www.scmp.com/comment/insight-opinion/article/1901128/chinas-road-or-western-way-whose-economic-development-model> [Accessed 08 November 2019].

11 See, for instance, T. S. Eder and J. Marshall, 2019. Powering the Belt and Road: China supports its energy companies' global expansion and prepares the ground for potential new supply chains'. MERICS, Mercator Institute for China Studies, [online] 27 June. Available at: <https://www.merics.org/en/bri-tracker/powering-the-belt-and-road> [Accessed 01 November 2019]; HSBC, 2018. Energy Cooperation Is at the Heart of BRI, [online] 03 April 2018. Available at: <https://www.business.hsbc.com/belt-and-road/energy-cooperation-is-at-the-heart-of-the-bri> [Accessed 06 November 2019].

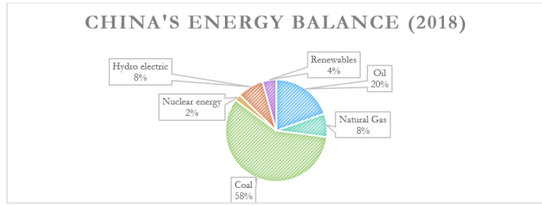

Figure 2. China's energy balance (2018)
Source: Author based on BP Statistical Review 2019

However, China's consumption of oil and gas is rapidly growing. As the graph below shows, China has increasingly relied on oil imports since the mid-1990s.

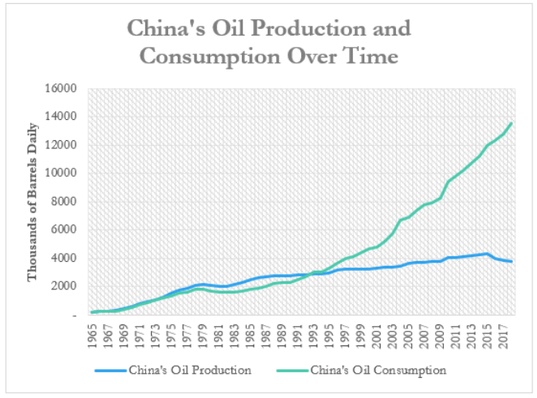

Figure 3. China's oil production and consumption over time
Source: Author based on BP Statistical Review 2019

In terms of natural gas, China has been unable to meet its consumption needs domestically since the mid-2000s. Due to extreme pollution in the cities along China's eastern seaboard and the resultant health crisis, Xi Jinping has been pushing the country's gasification, with natural gas deemed the most environmentally friendly of the fossil fuels. While shale gas has been discovered in China, the difficult nature of extraction in the mountainous Sichuan region where most of the reserves lie mean that for now China will rely mainly on imports.[12]

12 China Power Team, 2016. How is China's energy footprint changing?. China Power, [online] 15 February (updated 13 August 2019). Available at: <https://chinapower.csis.org/energy-footprint/> [Accessed 08 November 2019].

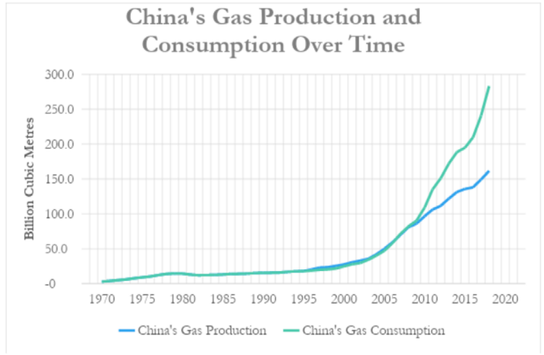

Figure 4. China's gas production and consumption over time
Source: Author based on BP Statistical Review 2019

China has invested significantly in pipelines bringing oil and gas from Central Asia to China's Far West where such projects are also seen as a key priority for fuelling economic growth and development in the restive region of Xinjiang. In Western China, these pipelines connect with China's domestic pipeline network, transporting oil and gas all the way to the eastern seaboard. With the first section completed in 2003 and additional sections connecting the pipeline to other fields in 2005 and 2009, the Kazakhstan-China pipeline was the first pipeline to bring Central Asian oil to China. In 2009 and 2010, Lines A and B of the Central Asia-China gas pipeline (also known as the Turkmenistan-China gas pipeline) were also completed, supplying 13 bcm/a from the Amu Darya Project and 17 bcm/a from Turkmengaz State Concern in Turkmenistan.[13] Line C opened in 2014, supplying 10 bcm/a, 10bcm/a and 5bcm/a from Turkmenistan, Uzbekistan and Kazakhstan respectively.[14] While a proposed Line D would bring gas from Turkmenistan's Galkynysh gas field via Tajikistan, the project appears to have been postponed indefinitely.[15]

Energy acts as the backbone fuelling China's grand vision for Central Asia as a hub of cross-Eurasian trade. China sees further development of land trade routes as a way to avoid maritime chokepoints such as the Malacca Strait,[16] and countries in Central Asia are perfectly positioned as part of this land corridor. In recent years, China has invested in numerous Central Asian projects outside the energy sector from precious mineral mining and cement factories to railroads and special economic zones to technological investment in 'smart cities'.

13 CNPC. Flow of natural gas from Central Asia'. Available at: <https://www.cnpc.com.cn/en/FlowofnaturalgasfromCentralAsia/FlowofnaturalgasfromCentralAsia2.shtml> [Accessed 21 November 2019].
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16 As early as 2003, then-president Hu Jintao identified the need to secure alternative energy sources and trade routes in case in a time of crisis the Malacca Strait should be blockaded and energy supplies from the Middle East cut off. Hu referred to this issue as the 'Malacca Dilemma'. See B. A. Hamzah, 2017. Alleviating China's Malacca Dilemma. Institute for Security & Development Policy, [online] 13 March. Available at: http://isdp.eu/alleviating-chinas-malacca-dilemma/ [Accessed 20 November 2019].

Since 2013 all of these different projects have been incorporated and reimagined as one giant network: the Belt and Road Initiative. BRI is actually two interconnected initiatives: the Silk Road Economic Belt and the 21st Century Maritime Silk Road. The idea of a Silk Road Economic Belt or 'SREB' was announced in September 2013 by Xi Jinping in Astana (now Nur-Sultan) – highlighting Central Asia's importance. The SREB is the land route that stretches from eastern China to western Europe via Central Asia.[17] The 21st Century Maritime Silk Road, on the other hand, connects various ports from China's eastern seaboard through the Indian Ocean and Suez Canal into the Mediterranean. These two routes were known by the collective name 'One Belt One Road' until 2016 when President Xi decided that the word 'one' was open to misinterpretation and thus it was rebranded as the 'Belt and Road Initiative'.[18]

In particular, NIA allows the Belt and Road Initiative to be viewed in the same language of interdependence that policy experts and officials intimately involved in the Eurasian integration process use. When asked to describe China's role in Central Asia, many of the officials and academics interviewed used the same vocabulary independently of each other - 'interconnectivity', 'transport', 'logistics', 'hub'. One official at the Eurasian Economic Commission, who wishes to remain anonymous, stressed the need for enhanced ties between Central Asia and China moving forward.[19] When questioned about what the risks of China's influence were, the official replied,'none', unwilling to offer any criticism. As Dr. Yaroslav Lissovolik - Program Director at the Valdai Club - explained, Central Asia needs to overcome its geographical handicap of being an entirely land-locked region.[20]

According to Lissovolik, Central Asia has no option other than economic integration - this includes becoming part of China's 'hyper-continental' network.[21]

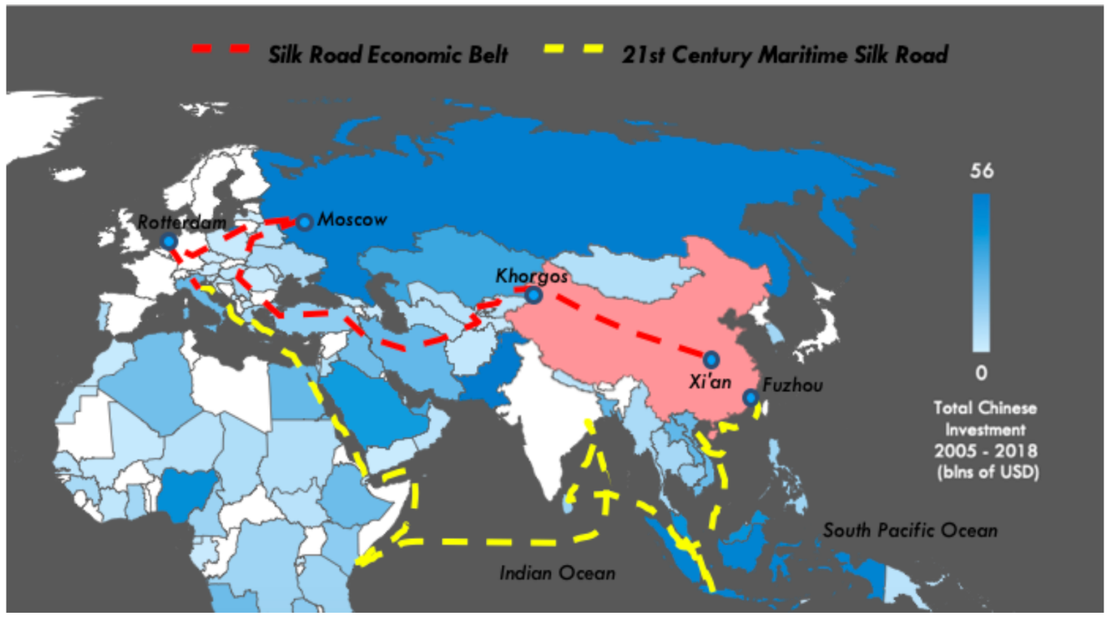

Figure 5. China's Belt and Road Initiative
Source: Author based on American Enterprise Institute's China Global Investment Tracker

ANALYSIS

Why apply NIA and weaponised interdependence?

The New Interdependence Approach (NIA) may offer an innovative framework within which to conceptualise BRI.

Nodes and ties

As discussed in the previous section, BRI formalises individual overseas projects (many of which Chinese companies began many years ago) into a consolidated network. Within Central Asia, physical nodes can be understood as key pieces of infrastructure like dry ports and power plants while ties are roads, railways and pipelines. At least symbolically,

17 SREB is comprised of six key 'corridors': the New Eurasia Land Bridge Economic Corridor, the China-Mongolia-Russia Economic Corridor, the China-Central Asia-West Asia Economic Corridor, the China-Pakistan Economic Corridor, the Bangladesh-China-India-Myanmar Economic Corridor and the China-Indochina Economic Corridor.
18 Shepard, W., 2017. Beijing to the world: don't call the Belt and Road Initiative OBOR. Forbes, [online] 01 August. Available at: <https://www.forbes.com/sites/wadeshepard/2017/08/01/beijing-to-the-world-please-stop-saying-obor/#5ff9d8e617d4> [Accessed 20 November].
19 Interview with official from Analytical Support Section, Eurasian Economic Commission, Moscow, 13 November 2019.
20 Interview with Dr. Yaroslav Lissovolik, Program Director at the Valdai Discussion Club, Moscow, 13 November 2019.
21 Idem.

these various nodes and ties can be seen in Khorgos, a zone on the border of China and Kazakhstan often promoted as a success story of Chinese investment in Central Asia. Located almost exactly at the farthest point on Earth from any ocean, Khorgos is not only an inland container port but also a Special Economic Zone (SEZ), a duty-free cross-border shopping area and the point where both the Central Asia-China railway and the Central Asia-China gas pipeline pass into China. However, a question remains as to whether China can weaponise these nodes and ties against other states.

It may be that the application of weaponised interdependence to physical energy and transit infrastructure can only be taken so far. Politicians frequently discuss the weaponisation of physical infrastructure, often overestimating its power compared to newer forms of interdependence. However, as one panellist phrased it, whether China really is weaponising its economic network in Central Asia may be irrelevant. What matters are how Central Asian states and their citizens respond to perceptions of China leveraging its infrastructure coercively. In one prominent example, the proposed Kazakh land reforms in 2016 which would have allowed foreigners (presumably Chinese companies) to lease large swaths of agricultural land for up to 25 years lead to mass anti-China protests.[22] In general, Central Asian populations are growing distrustful of China and their supposedly 'no strings attached' investment and loans.

Chokepoint effects

BRI 'chokepoint effects' (influence used to 'limit or penalise use of hubs by third parties')[23] might originate from control over key physical infrastructure for energy and transit like Khorgos. While Chinese BRI loans are attractive due to their lack of political requirements, in many cases Central Asian states are unable to repay these loans, instead falling into a 'debt-for-resources' arrangement. To provide one example, China had a monopsony over Turkmen gas following the Global Financial Crisis when states like Russia ceased to act as buyers. As Turkmenistan was unable to finance the gas pipeline to China, the state still provides China with an undisclosed amount of natural gas for free or at severely depressed prices, contributing to the economic crisis experienced in Turkmenistan in recent years.[24] In many cases, Central Asian states do not know exactly how much debt they owe China due to lack of transparency and accountability.[25] These debt practices have the potential to be weaponised by China in order to gain more favourable deals and to be used as leverage in political bargaining. Already Central Asian states have stood by China in matters that might otherwise appear contradictory to their interests -- Turkmenistan, for instance, offered written support for China's Uighur crackdown in Xinjiang despite Uighurs' ethnic and religious ties to Turkmens.[26]

However, any analysis of 'chokepoint effects' in BRI raises the question of exactly what 'third parties' China is weaponising against. On one hand, it may be that China is weaponising or has the potential to weaponise against states within its own network as the example of dictating favourable terms in Turkmen gas contracts highlights. On the other hand, the entire network can also be used to weaponise against the US. By developing the land corridor to Europe through Central Asia, China may be able to evade possible US containment in the future through a diversification of trade routes, pipelines and partners. As China's reported military base in Tajikistan shows,[27] China has the potential to turn its economic ties with some of the Central Asian states into an actual military presence, possibly undermining the US' influence in the region. Nevertheless, as mentioned by one panellist at the Tufts University conference, China is far from achieving the US' spatial weaponisation of interdependence with its Command of the Commons (Professor Barry Posen's term for American dominance in sea, sky and space).

Panopticon effects

As described by Farrell and Newman, 'panopticon effects' ('access to or jurisdiction over hub nodes … to obtain information'[28]) are often non-physical and centre around intelligence collection opportunities. As part of BRI in Central Asia, China has been investing in advanced surveillance technology in so-called 'smart cities' or, as Bradley Jardine aptly called them, 'the data nodes in the Digital Silk Road'[29]. In Kyrgyzstan, for instance, China National Electronics Import and Export Corporation, a company currently under US sanctions, recently supplied facial recognition cameras for free to be used by police in the capital Bishkek.[30] In Kazakhstan, another US-sanctioned Chinese company, Hikvision, supplied major cities with the same technology that Hikvision itself claims can be used to recognise faces of the persecuted Uighur minority in a crowd.[31] Meanwhile, Huawei has a huge presence in Central Asia, accounting for as much as 90% of the telecommunications market in states like Tajikistan.[32] The US has already expressed concerns about Huawei's influence in other countries and has threatened to diminish intelligence sharing if these countries do not cut ties. While these Chinese investments offer much needed advances for relatively poor and often fragile Central Asian states, they may also provide China greater control over information flows as it 'gains a monopoly over … [the regional] data supply chain'. [33]

Russia's ambitions in Central Asia: disruptive actor or co-integrator?

If the assumption that China is either intentionally or unintentionally weaponising interdependence through BRI is accepted, then one must next explore Farrell and Newman's proposition that 'others may still be able to play a disruptive role'. [34]Neither Farrell and Newman nor the conference participants elaborated on what a 'disruptive role' means. This sub-section therefore aims to develop the idea of 'disruptive actors' and asks whether Russia has the power to play this role in Central Asia.

For the purposes of this paper, a disruptive actor is understood to be one who benefits from fear and opposition within the network. Unlike China, Russia can meet its own domestic needs for oil and gas. Its interest in Central Asia stems more from legacy and geographical proximity or, as Mariya Omelicheva and Ruoxi Du put it, 'security, status and power'.[35] Russia aims to maintain its historical position of influence and has its own initiatives in the region - such as the Eurasian Economic Union - which might seem incompatible with BRI. In the long term, Russia may be able to capitalise on fears around BRI's lack of transparency and attract the post-Soviet states further (back) into its own sphere of influence. As Farrell and Newman write, 'targeted states – or states that fear they will be targeted – may attempt to isolate themselves from networks … and even … reshape their networks so as to minimize their vulnerabilities'.[36]

However, at a time when it is already facing economic isolation from the US and EU, Russia is not in a strong place to disrupt the network China is building within Central Asia. While most experts and officials in Russia interviewed held that the view that the Sino-Russian partnership in Central Asia was a long-term strategic alliance, it is at a minimum a marriage of convenience. At the moment, Russia cannot compete with China on economic terms because it does not have the finance to offer pipelines or other projects on the same scale as China. To provide one recent example of the disparity, both the Russian and Chinese governments welcomed Iranian foreign minister Mohammad Zarif and his delegation to their respective countries within a few days of each other in late August and early September 2019. Celebrating the EAEU-Iran free trade agreement which was to take effect one month later, Russia promised $1bn for a powerplant plus an expected $10bn increase in EAEU-Iran trade over the next few years.[37] China, on the other hand, pledged $400bn in BRI funding and other Sino-Iranian projects.[38]

Given its lack of economic pull, Russia is trying to remain relevant in Central Asia by cooperating with China. By taking credit for developing the idea of a 'Greater Eurasian Partnership', Russia hopes to maintain its position of 'security, status and power' and control over certain network nodes. In his interview, Dr. Lissovolik suggested that we will see this Greater Eurasian Partnership develop into something concrete in the next five years which will subsume individual initiatives like the EAEU and BRI.[39] This new organisation might arrive in the form of BRICS+ or the Regional Comprehensive Economic Partnership (RCEP) – the world's largest regional trading bloc which China is in the process of forming – creating even stronger forms of interdependence between Russia, China and Central Asia.

However, when various interviewees were pressed to provide concrete examples of where Russia and China had cooperated on 'connectivity' and 'transit' in Central Asia, no one could point to a specific project. Even the recent news story that China, Russia, India and the EAEU countries are planning to create a new monetary transfer system as an alternative to the Western-led SWIFT was met with scepticism by the two EAEU officials interviewed. Both said it was highly unlikely such a financial system would be created, chiefly because of disagreement over which country's system would be used and how this could hurt the security of the other countries.[40] In other words, without using the exact phrase, the officials expressed concern over the possible 'panopticon effects' of greater interdependence in financial flows. As even the most optimistic Eurasian Development Bank official interviewed acknowledged, Sino-Russian relations are constrained by historical tensions, and it is difficult to predict their direction once Putin steps down from leadership.[41]Should ties with the EU and US strengthen at some point in the future, Russia may take a more active role as a disruptor in China's growing web of influence in Central Asia, ending their current marriage of convenience.

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CONCLUSION

Expanding on comments made at the October 2019 Tufts University conference, this paper explored the evolving concept of 'weaponised interdependence' using the case study of BRI in Central Asia. Two questions were posed: (1) to what extent (if any) does BRI represent an attempt by China to weaponise interdependence in Central Asia and (2) if BRI is viewed as an attempt at weaponised interdependence, what is Russia's role within this network? While unable to definitively answer either of these questions due to its exploratory nature, the paper reconceptualised BRI through the language of weaponised interdependence: nodes (e.g. Khorgos), ties (e.g. Central Asia-China gas pipeline), chokepoint effects (e.g. China's debt exploitation for resources and military bases) and panopticon effects (e.g. investment in surveillance technology in Central Asian cities). Within this network, Russia may be seen as playing either the role of a disruptive actor (profiting off Central Asian states' distrust of China) or as a co-integrator (working alongside China through the 'Greater Eurasian Partnership') or both. Through this exploratory research, this paper aimed to contribute to weaponised interdependence by applying the concept to the Belt and Road Initiative and elaborating on the idea of a disruptive actor. In addition, the paper offered a potential new lens through which to understand Central Asia and the effects of globalisation and increased interdependence on the region.

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