



Kaczmarek, M. and Siddi, M. (2021) The EU and China in Central Asian energy geopolitics. In: Bossuyt, F. and Dessein, B. (eds.) *The European Union, China and Central Asia: Global and Regional Cooperation in a New Era*. Taylor and Francis. ISBN 9781003022336

There may be differences between this version and the published version. You are advised to consult the published version if you wish to cite from it.

<http://eprints.gla.ac.uk/263530/>

Deposited on 9 January 2022

Enlighten – Research publications by members of the University of Glasgow  
<http://eprints.gla.ac.uk>

# **The EU and China in Central Asian Energy Geopolitics**

*Marco Siddi, Finnish Institute of International Affairs*

*Marcin Kaczmarek, University of Glasgow*

## ***Abstract***

Central Asia is home to some of the world's largest gas resources. Turkmenistan, Kazakhstan and Uzbekistan feature in the top-20 states in terms of volumes of available proven gas reserves. Kazakhstan is also a significant oil exporter. Great powers have long been attracted by the prospect of controlling and exploiting these resources. In the 1990s and 2000s, post-Soviet Russia was, and to some extent remains, the key energy actor in the region. However, towards the end of the 2000s, China successfully challenged the monopoly Russia had maintained over the transit of natural resources from Central Asia. Beijing acquired a pivotal role in the Turkmen gas industry and in Turkmen gas exports, as well as in the Kazakhstani oil exploration. Chinese companies signed agreements with Turkmenistan and Kazakhstan that envisioned the construction of new pipelines and the delivery of gas and oil respectively. Financial support provided by China allowed Turkmenistan to resist pressure from Russia. Russia seems to be interested in maintaining the control of Central Asian gas exports westwards, while it has accepted Chinese control of energy flows eastwards. The European Union (EU) has largely failed to access Central Asian gas resources. The EU's Southern Gas Corridor aimed to tap into Iran's and Turkmenistan's gas reserves, but has so far only gained access to the more limited Azeri supplies. This was due to a number of factors, including the international sanctions on Iranian energy exports and the need to import Turkmen gas through either Russia or a yet-to-be-built Trans-Caspian pipeline. Moreover, due to the recent rise of liquefied natural gas exports and the drop in gas prices, analysts question the economic competitiveness of gas imported to the EU via pipeline over such a long distance.

## **Introduction**

Because of its vast energy resources, Central Asia has acquired importance in the foreign and energy policy strategies of several great powers. Besides Russia, the historical hegemonic power in the region, also the European Union, and China in particular, have intensified economic relations with Central Asia and gained access to its energy resources. China is now the main energy importer from Central Asia, having secured large supplies of Turkmen gas and Kazakh oil (Pirani 2019). Beijing began to seek a role in the regional energy sector in the 2000s and consolidated this role further in the 2010s, with the construction of infrastructure channelling oil and gas eastwards. China is the main trading partner of Uzbekistan, Turkmenistan, and Kyrgyzstan. Its trade with the five Central Asian countries has grown tenfold since 2000 (Russell 2019: 3). To this has to be added that the Shanghai Cooperation Organization (SCO) remains the most relevant multilateral forum for exercising China's political influence in the region (Alimov 2018), and that the Belt and Road Initiative (BRI) and its Eurasian section, the Silk Road Economic Belt, are likely to further strengthen Chinese economic influence in Central Asia.

The European Union (EU) is Kazakhstan's main trading partner and the largest commercial actor in the region overall (Russell 2019: 3-4). The EU exports manufactured goods to the region, such as cars and machinery. Oil imports from Kazakhstan constitute the bulk of the EU's economic relationship with Central Asia. Most of the EU's foreign direct investment towards the region also flows into the Kazakh oil sector. EU institutions and member states have also provided finance and development aid in other sectors, such as education, rural and sustainable development (Bossuyt 2018: 610-615). Overall, the EU's economic and political presence in the region has been much more substantial and sustained in time than that of the United States. Washington attempted to enhance its role in Central Asia in the early and mid-2000s, following its military intervention in Afghanistan, but it later scaled down its ambition, not least due to the growing competition of other actors (China and Russia in particular) in the economic and security spheres (Kim and Indeo 2013; Rumer et al. 2016).

While it has lost its former pre-eminence in the region, Russia has retained significant economic leverage. It makes up for nearly 20 per cent of Central Asia's foreign trade, coming right after China (which accounts for around 20 per cent) and the EU (approximately 30 per cent). It remains Tajikistan's main trading partner and an important economic player in all other Central Asian countries, with the exception of Turkmenistan (Russell 2019: 3). Russian energy companies play a role in the regional energy sector, either through the control of strategic infrastructure (such as the Central Asia-Centre gas pipeline) or through a growing role in production and export (see for instance Lukoil's operations in Uzbekistan; Pirani 2019: 18). In recent years, Russia has attempted to strengthen its position in Central Asia by promoting economic integration, most notably through the Eurasian Economic Union (EAEU), of which Kazakhstan and Kyrgyzstan are also members (together with Russia, Armenia, and Belarus; see Roberts and Moshes 2016 for an analysis). Most

significantly, Russia remains the main security actor and has a military alliance with Kazakhstan, Tajikistan, and Kyrgyzstan in the Collective Security Treaty Organisation (CSTO).

Despite expectations of growing great power rivalry in Central Asia, which were based on long-standing conceptualisations of Central Asia as a pawn in the ‘Great Game’ of leading powers (cf. Radnitz 2018: 1605), the region seems to have been left relatively unscathed by geopolitical tensions. This is particularly striking when the comparison is made with other areas of the post-Soviet space (Ukraine, the Caucasus), or when the growing confrontation between great powers (between Russia and the West since 2014, and between China and the United States more recently) is taken into account. Arguably, this was possible thanks to Russia’s peaceful acceptance of its loss of economic pre-eminence to the EU and China in Central Asia, as well as to the fact that European and Chinese economic penetration does not seem to undermine Moscow’s role as the dominant security actor. In fact, Russia and China have even explored the possibility of cooperation between their main regional economic integration initiatives, the EAEU and the BRI, despite their different visions of regionalism (Fouchere 2017, Kaczmarek 2017, Lewis 2018). In this sense, in 2018, China and the EAEU signed a trade agreement that envisioned the reduction of some non-tariff barriers and simplified some customs procedures. Moreover, also the BRI could provide a platform for enhanced EU-China cooperation (Bossuyt and Bolgova 2020).

This chapter explores the role energy plays in Central Asian geopolitics, with a focus on the policies of China and the European Union. It starts with a brief overview of the resources and energy sectors of Central Asian countries, before moving on to an analysis of the European and Chinese approaches. It then explores avenues for EU-China cooperation in the region, including potential contributions by both powers to sustainable energy development. In this regard, the chapter argues that China and the EU should incentivise Central Asian states to reduce their dependence on fossil fuel exports. This approach is consistent with the goals of the Paris climate agreement. Moreover, it would help prevent economic disruption in Central Asia when oil and gas demand would decrease as a result of the energy transition in the Global North.

### **The Geopolitics of Energy in Central Asia**

During the Soviet period, Central Asia provided a range of primary resources to the Union of Socialist Soviet Republics (USSR). For instance, Kazakhstan supplied wheat and coal, whereas Uzbekistan and Turkmenistan focused on the production of cotton and textiles (Sorbelli 2018: 110). While Central Asia is also rich in oil and gas, they initially played a less significant role in Soviet economic planning in this area because Western Siberian and Caucasian resources were more easily accessible and closer to the large Soviet industrial centres. The discovery of substantial gas resources in Turkmenistan led to the construction of the Central Asia-Centre gas pipeline system in the 1960s, and to its further expansion in the 1970s and 1980s. The system channelled

Central Asian gas to the north, towards industrial centres in Russia, via Uzbekistan and Kazakhstan. When the Soviet Union collapsed, most of Central Asia's hydrocarbon resources were still green fields (Sorbello 2018: 110).

Central Asian fossil fuel resources are concentrated in Kazakhstan, Turkmenistan and Uzbekistan, whereas in Tajikistan and Kyrgyzstan the energy balance is dominated by hydropower and coal respectively (Pirani 2019). Kazakhstan is mostly an oil-exporting economy that has developed a strong working relationship with international oil companies. Its net gas exports are limited – around 6 billion cubic metres (bcm) per year – due to the high domestic consumption, for which the oil extraction industry is mostly accountable (most Kazakhstani gas is associated with oil, and large volumes are reinjected into oil reservoirs to raise oil output rates; see Pirani 2019: 22-23). Turkmenistan is by far the largest gas exporter thanks to its vast and new reserves (Pirani 2019: 6).

Until the late 2000s, most Turkmen gas was exported to/via Russia and the Central Asia-Centre pipeline.<sup>1</sup> In the last decade, as pipelines to China were built, Beijing has become the largest customer of Turkmen gas. Given that exports to Russia, Kazakhstan, and Azerbaijan are now very small, and those to Iran have ceased, China is de facto the only significant importer of Turkmen gas (Jakóbowski and Marszewski 2018). Uzbekistan has substantial oil and gas resources, but they are used mostly for domestic consumption. After minerals (gold in particular) and agricultural products, gas constitutes an important part of the country's export revenues. However, Uzbek gas exports (which oscillated between 8 and 14 bcm/year in the 2010s) are unlikely to increase due to high domestic demand and stable production (Pirani 2019: 2, 21, 24-25, 30-31).

The Kazakh, Turkmen and Uzbek economies rely heavily on the fossil fuel sector and (in the case of Uzbekistan) the extraction of other mineral or primary resources. This reliance has grown after the fall of the Soviet Union and makes the overall economic performance of Central Asian countries dependent on price fluctuations and shocks in the energy and minerals markets. The relationship with the former Soviet 'centre' – today's Russia – has changed, as economic and political relations with alternative partners have become possible, and the three countries have chosen partly different paths to develop their energy industry. Kazakhstan was the first to open up the energy sector to foreign investors, and the construction of an oil pipeline to China (operational since 2006) symbolised the diversification of its energy partners (on Kazakh foreign policy, see Anceschi 2020). At the same time, as a member of the Russia-led EAEU and the CSTO, Kazakhstan remains a close economic and military partner of Russia. Uzbekistan, the most populous of the three countries (with nearly 34 million inhabitants), also attempted to reduce its dependence on Russia by adopting military neutrality and not becoming a member of the EAEU (Sorbello 2018: 112, 115-117).

Turkmenistan closed off its hydrocarbon sector to foreign actors until the mid-2000s, when it began allowing Chinese investment to boost gas production (Sorbello 2018: 112-118). Until the late 2000s, Turkmenistan was the largest supplier to the Gazprom-owned Central Asia-Centre gas pipeline (with around 40-50 bcm annually). Gazprom purchased Turkmen gas for domestic consumption and re-export westwards. However, it drastically reduced its imports of Turkmen and Central Asian gas following the 2008 economic crisis and the so-called ‘gas war’ in 2009.<sup>2</sup> In 2007, China National Petroleum Corporation (CNPC) was awarded exploration licences and the Turkmen government committed gas discoveries to exports to China. In 2011, discoveries at the Galkynysh field were assessed as containing 16.4 trillion cubic metres of gas, making it the world’s second largest gas field (Sorbello 2018: 118). The stage was set for Turkmenistan to become an important supplier of gas to China, with its exports rising from 3.5 bcm in 2010 to 34.5 bcm in 2018 (Pirani 2019: 2).

Between 2007 and 2014, three lines of the Central Asia-China gas pipeline were built, with a total capacity of 55 bcm/year (CNPC official website). This allowed the reorientation of the bulk of Turkmen and other Central Asian gas exports from Russia to China. Chinese institutions largely financed the construction of the pipeline and their loans are being repaid from gas export proceeds. The pipeline is currently used at near full capacity and plans have been made for the construction of a fourth line (via Tajikistan and Kyrgyzstan), which would bring total capacity to 85 bcm/year. However, in 2017 CNPC froze the expansion project, which appears to be conditional to Turkmen consent to greater Chinese presence in the upstream sector, as well as to Beijing’s political and economic calculations concerning growing dependence on Central Asian gas (Pirani 2019: 19, 33-34). The completion of the Power of Siberia pipeline in 2019, with a capacity of 38 bcm/year, and the possibility to increase liquefied natural gas (LNG) imports or even build another pipeline from Russia, act as alternative options to further Central Asian gas imports for China.

Even without a further expansion of the Central Asia-China pipeline, Turkmenistan has already developed a strong dependence on gas exports to China. This is also due to the failure to build alternative export routes, for both economic and political reasons. The construction of an offshore pipeline to Azerbaijan, and from there further west on land, was prevented by economic costs and the uncertain legal status of the Caspian Sea (Siddi 2019a and 2019b). The latter issue was resolved in 2018, but a coastal state (i.e. Russia or Iran) could still object to the construction of a Trans-Caspian pipeline on environmental grounds. Hence, substantial Turkmen gas exports to the EU remain highly unlikely due to both high transportation costs and political obstacles. The building of a Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline, which has been discussed in political circles for at least 15 years, appears equally unlikely due to the lack of economic logic (Pirani 2019: 35-37; on TAPI, see also Anceschi 2017).

Therefore, China will remain the main importer of Central Asian gas, with Russia coming a distant second.<sup>3</sup> As the export of Central Asian resources to China, rather than to the West, is functional to Russia retaining a central position in its main gas export markets in Europe, Moscow has tacitly

accepted the growing role of China in the Central Asian energy industry. Russia retains its security pre-eminence in much of the region and, to an extent, Russian companies (i.e. Lukoil in Uzbekistan) are involved in the development of energy resources that are exported to China. Part of Rosneft's oil export to China is sent via Kazakhstan. Moreover, China's import needs have been growing at such a pace that they can absorb both Central Asian and new Russian hydrocarbon exports, as witnessed by the implementation of the Power of Siberia project. The latter pipeline became operational in 2019 and is expected to achieve its full capacity of 38 bcm per annum by 2024.<sup>4</sup>

### **The role of China**

From Beijing's perspective, the importance of Central Asia is determined by three factors: (a) domestic security challenges in Xinjiang<sup>5</sup> and China's response, (b) the implementation of the Belt and Road Initiative, and (c) the policy of energy diversification (Cooley 2012; Lanteigne 2019). This importance has evolved since the collapse of the Soviet Union. Initially, the issue of delimitating borders with newly independent states and the necessity to create an international environment, conducive to Beijing's security and economic policies in Xinjiang, dominated China's view of the region (Harris 1993; Dorian et al. 1997). Given the geographical proximity of Kazakhstan, Kyrgyzstan, and Tajikistan to Xinjiang, cooperation with Central Asian states remains key to the success of Beijing's policies towards the province, both with regard to plans for economic development and domestic security policies.

Since the late 1990s, Central Asia became an element of China's policy of energy import diversification as it provided secure overland routes. In the 2000s, China's approach to the region was dominated by the energy factor, the construction of new oil and gas pipelines as well as investment in exploration of natural resources. The period of Xi Jinping rule (since 2012) broadened the importance of the region for China in two ways. First, the proclamation of the Belt and Road Initiative (at that time termed One Belt One Road) elevated Central Asia's place in China's foreign policy (Dave and Kobayashi 2018). Central Asia serves as the key transit corridor for the overland part, i.e. the Silk Road Economic Belt (SREB). The SREB that links western and central China with the European states needs to go through Central Asia, regardless of whether routes via Russia, the South Caucasus or Iran are considered. Second, the crackdown on ethnic minorities in Xinjiang, initiated around 2016, targeted not only Uyghurs but also Central Asians living in China (Grant 2020). As a result, the policy towards Uyghurs pushed Beijing to secure at least acquiescence, if not outright cooperation, from Central Asian states.

Beijing nourished relations with Central Asian states as soon as they gained independence. The goals of stabilising the neighbouring region of Xinjiang, preventing any support for separatist movements, paving the way for economic development and delimiting new international borders

were the key incentives underpinning China's policy in the immediate aftermath of the Soviet Union's collapse. These were also among the main reasons behind the co-founding of the Shanghai Cooperation Organisation (SCO) (Zhao 2013). By the early 2000s China's interests broadened and Beijing began to perceive Central Asia as a convenient repository of energy resources. The 2008-2009 global economic crisis turned out to be a game-changer for China. In its aftermath, China emerged as the most important economic partner for Central Asian states, next to the EU and Russia, as well as an essential political interlocutor. Chinese banks lent Central Asian regimes billions of dollars, often providing a lifeline that other players could not or did not want to offer (Levina 2019). Beijing has become the largest creditor for Turkmenistan (Jakóbowski and Marszewski 2018). This economic leverage over Central Asian states substantially increased Beijing's bargaining power. China also became the main source of investments, including in road and, to a lesser extent, rail infrastructure (Reeves 2018).

Furthermore, the political importance of Beijing in the region increased substantially as cooperation with China offered Central Asian states a way to balance their relations with Russia. However, Beijing's rising influence in the region has faced potential obstacles as attitudes towards China have begun to diverge between the elites and societies (Peyrouse 2016). While the elites remain willing to capitalise on closer economic and political ties, societal discontent has become increasingly visible. Fears of land grab, economic expansion at the cost of local populations and the fate of the Kazakh minority in Xinjiang has led to a number of public protests in Central Asian states (Chen and Jimenez-Tovar 2017).

China continues to keep a low profile in its security policy towards Central Asia. The SCO serves as the main channel for engagement in security- and defence-related issues (Zhao 2013). In 2016, Beijing established a quadrilateral border security cooperation comprising China, Pakistan, Afghanistan, and Tajikistan, transcending traditional divisions between Central and South Asia and excluding Russia (Joint Statement 4 August 2016). However, it has remained relatively silent about its activities and prospects. Despite Western media reports on the growing Chinese military activism in Tajikistan, Beijing consistently denied any military presence (Kaczmarek 2019).

Bilateral relations dominate China's policy towards Central Asian states, especially with regard to energy trade and infrastructure investment, even though Beijing has two multilateral formats at its disposal, the SCO and the BRI. In the context of the latter, the importance of Central Asia for China's external relations was acknowledged with Xi Jinping's proclamation of the BRI in Astana in 2013. The construction of gas and oil pipelines and the development of economic ties with the region preceded the announcement of the BRI.

In terms of diversification of energy imports, Central Asia provides China with both resources (natural gas and, to a much lesser extent, crude oil) and secure overland routes for their transport. The Central Asia-China gas pipeline system remains the biggest and most relevant import route,



even when the gas pipeline from Russia, the Power of Siberia, will reach its maximum capacity of 38 bcm around 2025. Given the relative security of this overland pipeline, the importance of Central Asian gas cannot be overstated as it reduces potential risks related to LNG shipments via maritime routes. Gas imports from Turkmenistan (34,5 bcm in 2018), Uzbekistan (6,5 bcm in 2018), and Kazakhstan (5,8 bcm in 2018) accounted for 37 per cent of overall gas imports in 2018 (125 bcm in total, of which 74 bcm was purchased in the form of LNG) and 16 per cent of consumption (285 bcm in 2018) (Reuters 15 October 2019).

The situation is different in the crude oil sector. Oil imports from Kazakhstan dropped to 1.3 million tonnes in 2019 (from the record level of 11 million tonnes in 2013), accounting for a miniscule part of the overall amount imported by China that year. Kazakhstan plans to increase oil shipments in 2020 to 6 million tonnes, but this will remain a negligible amount of China's total imports (Reuters 14 January 2020). Russia's Rosneft exports 10 million tonnes to China via Kazakhstan's pipelines (Reuters 25 September 2019). Taken together, even in the case of increasing shipments from Kazakhstan and transit from Russia, Central Asia can be expected to play a minor role in China's oil imports. In 2019 China imported approximately 500 million tonnes of oil, and the Central Asian routes accounted for less than 2 per cent (US Energy Information Administration 23 March 2020). China's presence in the Central Asian energy sector does not fully address the 'Malacca dilemma'. Due to the substantial part of China's trade going through the Strait of Malacca, Beijing's policymakers are afraid of the possibility of these import sea routes being blockaded by the US Navy, and continue searching for alternative routes (Zhang 2011). The volume of oil imported from or transited via Central Asia is too limited to represent an alternative route, however.

The oil and gas pipeline infrastructure constitutes but one pillar of China's presence in the Central Asian energy sector. The role of Chinese companies in the upstream sector, to a large extent gained at the expense of their Russian counterparts, comprises the other fundament of China's position in regional energy politics. Chinese companies gained a significant foothold in the oil upstream sector in Kazakhstan, as well as access to the gas upstream sector in Turkmenistan. Through the acquisition of majority shares in two large producers (AktobeMunaiGaz and PetroKazakhstan) and several smaller ones, by 2007 Chinese companies had gained control of 15 per cent of Kazakhstan's oil exploration.

Beijing invested heavily in the upstream sector. Chinese investments included 50 per cent of the Kazakh oil producer MangistauMunaiGas (2009, worth US\$5 billion), an 8.33 per cent stake in the Kashagan oil field (2013, prevailing over the Indian Oil and Natural Gas Corporation and gaining access to the most prospective oil field in Kazakhstan), a 50 per cent stake in the Kazakhstani producer Caspian Investment Resources from Russia's LUKoil (2014). Beijing also provided Kazakhstan and Turkmenistan with several multi-billion dollar loans (Kaczmarek 2015: 91).

Overall, China has emerged as the key player in Central Asian energy. The decreasing gas prices have not, however, generated an expected windfall. On the contrary, the dependence of Central Asian states on the Chinese market has increased dramatically. In the case of Turkmenistan, Beijing enjoys a monopsonist position as it purchases 94 per cent of Ashgabat's gas exports (Jakóbowski and Marszewski 2018). Other Central Asian states are less dependent. Uzbekistan does not rely on the export of energy resources to such a degree, whereas Kazakhstan's oil export remains diversified. Nonetheless, China remains the most promising prospective market in the case that Central Asian states aim at increasing their oil and gas export.

In terms of developing renewable energy in Central Asia, Beijing's interest remains limited. This reflects a broader pattern of energy investments implemented by China overseas that are to a large extent based on traditional energy resources. Coal-fired power plants constitute 45 per cent of all investments, with hydropower responsible for 30 per cent, and wind and solar energy for merely 2,6 per cent (Kong and Gallagher 2020). Despite the existing potential for cooperation on advancing clean energy between China and the EU in Central Asia (Xu 2013), the prospects for practical implementation seem rather bleak.

### **The role of the European Union**

The European Union has intensified economic and diplomatic relations with Central Asian countries since the 2000s. While the region is less of a priority for Brussels than the Eastern and Southern Neighbourhood (namely the countries that are part of the European Neighbourhood Policy), the EU has had an interest in Central Asian energy resources, oil and gas in particular, since the early 2000s. One of the EU's goals since the 2000s has been that of developing an energy supply route that bypasses Russia and taps into the vast Central Asian energy resources, especially gas. This goal was not achieved with regard to gas imports; conversely, the EU's oil imports from the region are significant.

Oil trade with Kazakhstan is significant and covers approximately 7 per cent of total EU oil imports, the same percentage as imports from Saudi Arabia (only Russia, Norway and Iraq supply more oil to the EU) (European Commission website). Substantial EU gas imports from Central Asia failed to materialise, despite the fact that the EU has been discussing the idea since the mid-2000s. The Nabucco pipeline, which could have shipped gas from Iran, Azerbaijan, and potentially Turkmenistan, was never built due to its dubious economic logic and geopolitical tensions (Kardas 2011, Sierra 2010). The progressive imposition of UN and EU sanctions on Iran since 2006-7 hindered imports from Iran, one of the main prospective suppliers to Nabucco. The need to make large investments in the Turkmen upstream energy sector, as well as the legal and political difficulties of building a Trans-Caspian pipeline for transport westwards, frustrated EU plans to

import Turkmenistan's gas resources. Eventually, China was faster at making the necessary investments and securing available supplies, and the EU will have to content itself with modest imports of Azeri gas (a maximum of around 10 bcm/year) in the 2020s, when the Southern Gas Corridor will become fully operational (Siddi 2019a). Should additional volumes of Turkmen gas become available for export (in addition to those going to China), Russia's Gazprom is in a better position to secure them than the EU is: it already has the infrastructure in place – the Central Asia-Centre pipeline – and it makes more economic sense to import Turkmen gas for consumption in southern Russia than in Europe, over a much longer distance (cf. Elliott 2019).

The EU's long standing pursuit of access to Central Asian gas is reflected in the content of its first Central Asia Strategy, launched in 2007. Developing transport and energy links was one of the priorities of the strategy, together with responding to security threats, promoting economic development and human rights (European Council 2007). The section of the Strategy concerning energy focused on oil and gas, and stated that "gas deliveries from the region are of special importance to the EU". It also specified that the EU would "support the exploration of new oil, gas and hydro-power resources and the upgrading of the existing energy infrastructure". Moreover, "to enhance EU security of energy supply", the EU would "also support the development of additional pipeline routes and energy transportation networks" (European Council 2007: 12-13).

However, over a decade later, a European Parliament Research Service assessment found that there had been little progress in the energy-related priorities of the 2007 Strategy. The study emphasised that "no new energy transport routes have been developed" and that "despite a recent agreement on the legal status of the Caspian Sea, a pipeline bringing Turkmen gas to Europe remains a distant prospect" (Russell 2019: 10). Little progress was also made on the EU's goal of promoting renewable energy. Excluding hydropower, renewables made a "negligible contribution to the region's energy mix", despite Kazakhstan's "ambitious plans to generate more electricity from wind and solar power" (Russell 2019: 10). Kazakhstan and Turkmenistan are large producers and consumers of fossil fuels, and they rank 10th and 17th respectively in the country list of largest carbon dioxide emitters per inhabitant (partly due to high energy inefficiency).<sup>6</sup> Uzbekistan, Tajikistan, and Kyrgyzstan have lower emissions per capita, but they are highly vulnerable to climate change, in particular droughts and desertification, which threaten fragile ecosystems, agriculture and human health (Russell 2019: 9).

In the 2010s, the main tangible advancement of institutional relations between the EU and Central Asian states was the EU-Kazakhstan Enhanced Partnership and Cooperation Agreement (EPCA). The document includes a chapter on "raw materials and energy" (in title III) that covers topics such as regulating prices, preventing trading and export monopolies, access and rights to prospect, explore and produce hydrocarbons, the conditions for investment in raw materials and energy goods, as well as rules concerning transit and energy transmission (see Official Journal of the EU 2016). The EPCA puts much more emphasis on hydrocarbons than on renewable energy.

Provisions concerning cooperation on developing renewable energy and addressing climate change are much more general and short, and can be found only later in the document, in title IV, concerning cooperation in the area of economic and sustainable development. Overall, despite having been negotiated in the same period as the Paris climate agreement, the EPCA focuses more on the sourcing and economic exploitation of fossil fuels than on a joint framework to address climate change and promote the energy transition.

The EU's new Central Asia Strategy, adopted in 2019, devotes more attention to climate change in the region, whereas the emphasis on fossil fuels has been toned down compared to the 2007 Strategy. This is both a reflection of the EU's growing focus on energy transition and the result of market and political considerations, based on which additional fossil fuel imports from Central Asia are economically questionable and likely to face political difficulties – especially due to Chinese and Russian opposition and the weak rule of law in producing countries. The EU's 2019 Central Asia strategy mentions “cooperation on implementing the Paris climate commitments” already in the introduction, in the first of the “three interconnected and mutually reinforcing priorities” of the strategy (European Commission 2019: 2).

The Strategy is more explicit about EU goals and action in the area of climate and environment than earlier EU-Central Asia documents. For instance, it states that the EU “will cooperate with its Central Asian partners on the implementation of [...] nationally determined contributions [related to the Paris climate agreement] through concrete measures directed towards climate change mitigation, adaptation and disaster risk reduction”. It also specifies that the EU will encourage Central Asian countries to “move away from linear production models to a circular economy” and to pursue the transition to a low-carbon economy by “making available EU technology and expertise in renewable energy and energy efficiency” (European Commission 2019: 7). The fight against air pollution and especially better water management – an issue that has caused tensions between Uzbekistan and Tajikistan (Genté 2017) – are also singled out as “specific initiatives” of the EU (European Commission 2019: 8).

It remains an open question whether the change in EU rhetoric will be accompanied by corresponding policies. Moreover, while fossil fuels play a lesser role in the 2019 Strategy than in past documents, the Strategy also states that “the EU will continue to focus on enhancing the role of Central Asia in contributing to the security of energy supply and diversification of suppliers, sources and routes of the EU, including assessing the possibility to build the *Trans Caspian Pipeline*” (European Commission 2019: 12). This reads as an endorsement of the past, failed EU approach to build large infrastructure to import gas from Central Asia. Meanwhile, the decision of EU financial institutions to end financing for fossil fuel-based energy projects (see EIB 2019) has made the construction of a Trans Caspian Pipeline even less likely, as projects of such dubious economic rationale usually depend on substantial public loans and diplomatic backing. However,

the fact that the project continues to be mentioned in official EU documents testifies to the resilience of fossil fuel-oriented geopolitics in EU decision making.

### **Competition and avenues for EU-China cooperation in Central Asian energy sectors**

While both China and the EU have increased their economic presence and influence in Central Asia, China's role has grown much more significantly, especially in the last decade. In the 2010s, the EU was confronted with a 'ring of fire' in its immediate neighbourhood – first with the Arab Spring and the destabilisation of countries in the south, such as Libya and Syria, and later with the Ukraine conflict and the crisis with Russia in the east. Meanwhile, European economic growth was sluggish, with considerable variation across the continent, and the European integration project itself was questioned by a succession of internal crises concerning the Eurozone, refugees, and Brexit. In the same period, China enjoyed a time of relative stability in its neighbourhood, despite the recurrent tensions concerning long-standing issues such as the North Korean nuclear programme and the disputes with Vietnam and the Philippines over Beijing's assertive actions in the South China Sea. Most importantly, China continued to experience rapid economic growth, which fuelled its demand for energy imports and strengthened its profile as leading regional power in Asia (Breslin 2018).

This context paved the way for China's economic penetration in Central Asia and purchase of most of the region's gas exports. The outcome of Chinese and EU strategic policies was clearly beneficial to Beijing: while China built the necessary infrastructure and secured nearly the totality of Central Asia's current export volumes, the EU failed in its long-standing plan to access Central Asian resources. The picture looks different in the oil sector, where the EU secured substantial imports from Kazakhstan.

The different outcome of Chinese and EU policies in Central Asia is not simply the result of Beijing's growing economic and geopolitical weight, on the one hand, and the EU's relative decline, on the other. Several contextual factors play an important role. With regard to gas imports, the EU already has a diversified portfolio of suppliers (with the exception of a few member states) and import routes (from Russia, Norway, North Africa, and LNG terminals). In the EU, accessing Central Asian resources was considered important for political reasons, namely reducing dependence on Russia. Economic reasons faded when EU gas demand slowed down and then decreased in the late 2000s. In China, incessant economic growth, dependence on heavily polluting coal and on oil imports via the politically sensitive 'choke point' of the Strait of Malacca made access to Central Asian gas a much more significant priority.

Russia's stance *vis-à-vis* Chinese and EU plans to access Central Asian gas also played a role. For Russia, the EU was and remains the main market for its gas exports. With EU gas demand

stagnating, European access to Turkmen gas would have possibly resulted in loss of market shares for Russian companies in Europe. For this reason, Russia competed against plans for a European Southern Gas Corridor with alternative infrastructural projects directed at the same potential buyers, such as South and Turkish Stream (Siddi 2019). On the other hand, China's rapidly growing gas demand meant that, even if Beijing secured Central Asian resources, it would still be interested in further imports from Russia. In fact, from a Russian perspective, China's acquisition of Turkmen gas exports ensured that potential EU imports from Central Asia would remain limited and pose no challenge to Russian exporters.

European presence in other sectors of Central Asia's economy was seen as less strategically important. In political terms, the EU's influence and power of attraction remain relatively weak in the region. Russian leaders understand that no Central Asian state will ever join the EU or the North Atlantic Treaty Organization (NATO) and are therefore not overly concerned about their considerable trade ties with the EU. Within this context, the Kremlin recognises that allowing Central Asian states some freedom in the economic realm is possibly the best way to obtain their cooperation in the field of security (cf. Radnitz 2018: 1599).

Furthermore, incentives for the EU to become more involved in Central Asian politics have been limited. European domestic stability is much more dependent on developments in the southern shore of the Mediterranean and the Eastern neighbourhood, as highlighted by the Ukrainian, Syrian and refugee reception crises in the 2010s. The reverse is true for China. For Beijing, the relationship with Central Asian states plays an important role for developments in China's westernmost regions, such as Xinjiang, which tend to be unstable due to the repressive policies of the central government toward Turkic ethnic groups. Moreover, Central Asia constitutes an essential route for the BRI, and thus for Beijing's future access to the European market.

Given the common interest of China and the EU in expanding trade ties, the BRI provides an opportunity for cooperation between Beijing and Brussels; this also concerns its Central Asian component. The BRI is mentioned in the EU's 2019 Central Asia Strategy as an initiative that "can create significant opportunities to address the major needs of Central Asia" (European Commission 2019: 11). This suggests that the EU is open to seeking cooperation with China in the pursuit of the priorities that it has recently defined in the Strategy. The sustainable development of Central Asian economies is an important area of potential cooperation, both for the region and for Chinese and EU interests (see also Bossuyt and Bolgova 2020).

Currently, Central Asian states – Kazakhstan and Turkmenistan in particular – depend heavily on the export of fossil fuels for their revenues. The income from this export also props up authoritarian regimes in the region. With the implementation of the energy transition in the EU and, prospectively, China, Central Asia is likely to lose progressively this important source of income. China and the EU could cooperate in the implementation of sustainable projects that prepare the

region for a post-fossil fuel world. This would help prevent economic disruption and also contribute to the climate goals set in the Paris climate agreement. To begin with, the EU and China should stop regarding Central Asia as a fossil fuel reservoir, an enduring attitude that has pushed the region into its current dependence on energy exports. The EU's 2019 Central Asia strategy appears as a step in the right direction, provided that it is followed by concrete policies.

The policies pursued by China in the realm of clean energy are more ambiguous than those of the EU. On the one hand, China has emerged as the number one producer of solar and wind energy equipment. It has pursued an ambitious plan aimed at the reduction of greenhouse gas emissions (Chiu 2017). On the other hand, the pace of the energy transition has slowed down in China since 2019 (Business Green 11 July 2019).

## **Conclusion**

The positions of the European Union and China in Central Asian energy geopolitics are highly unequal. China has emerged as the primary customer of the region's natural gas resources and an important stakeholder in the oil sector. The EU has not managed to either gain access to Central Asian gas resources or construct infrastructure that would allow for its import, although it remains an important buyer of the region's crude oil. China and the EU have not competed directly for Central Asian resources. To a large extent, China's upper hand has been the result of its relations with Russia and Central Asia. In the late 2000s and the 2010s, Russia accepted China's growing role in the Central Asian economies, including the energy sector, as an inevitable development and arguably a 'lesser evil' than Western influence. The fact that China has not challenged Russia's preeminent security role in the region has helped assuage Moscow's concerns about its relative loss of economic influence. Following the development of a broader Sino-Russian entente in the late 2010s (cf. Lukin and Torkunov 2020), we can expect the consolidation of cooperation or at least the continued recognition of reciprocal interests in Central Asia between Russia and China.

On the other hand, future cooperation between the EU and China in Central Asia, including the energy sector, largely depends on Europe's future strategic orientation and autonomy. As relations between China and the United States – the EU's long-standing ally – deteriorate, Europe risks to be drawn into a geopolitical conflict that is detrimental to its interests. In 2020, this conflict has become more acute following the rhetorical attacks of the Trump administration concerning alleged Chinese responsibility for the spread of the Covid-19 pandemic (RTE 20 May 2020). To make matters worse, during 2020 the US pressured European allies to curtail the role of the Chinese company Huawei in the implementation of 5G technology in Europe, citing security concerns (Guardian 13 July 2020). The involvement of Europe in US-Chinese tensions could undermine potential cooperation between Beijing and Brussels. However, the ongoing debate on strategic autonomy in the EU could open the possibility for Brussels to pursue its policies and

interests in Central Asia without being influenced excessively by political pressure coming from either Washington or Beijing.

Broader geopolitical tensions are not the only challenge confronting EU-Chinese engagement and potential cooperation in the Central Asian energy sector. While the growing number of transit corridors between China and the EU implemented within the BRI framework paves the way for closer cooperation between the two actors, the energy realm is not among the main priorities. Central Asia would greatly benefit from EU and Chinese investments that guide their economies out of the current dependence on fossil fuel consumption and exports. The sudden drop in the oil price in 2020 due to the Covid-19 pandemic, as well as Saudi Arabia's simultaneous decision to increase oil production, exposed once more the economic risks of excessive dependence on fossil fuel exports (Le Monde Diplomatique 13 July 2020). For the EU and China, investments in Central Asia's clean energy sector would also be a way of showing their global commitment to the implementation of the Paris climate agreement. 'Green' or 'climate cooperation', rather than new geopolitical articulations of the old 'Great Game', would be a much more appropriate approach to the challenges faced by Central Asia in the twenty-first century.

## **Bibliography**

Alimov, R. (2018) 'The Shanghai Cooperation Organisation: Its role and place in the development of Eurasia', *Journal of Eurasian Studies*, Vol. 9, pp. 114-124.

Aneschi, L. (2017) 'Turkmenistan and the virtual politics of Eurasian energy: the case of the TAPI pipeline project', *Central Asian Survey*, Vol. 36, No. 4, pp. 409-429.

Aneschi, L. (2020) *Analysing Kazakhstan's Foreign Policy: Regime neo-Eurasianism in the Nazarbaev era*, Abingdon: Routledge.

Bossuyt, F. (2018) 'The EU's and China's development assistance towards Central Asia: low versus contested impact', *Eurasian Geography and Economics*, Vol. 59, No. 5-6, pp. 606-631.

Bossuyt, F. and I. Bolgova (2020) 'Connecting Eurasia: Is Cooperation Between Russia, China, and the EU in Central Asia Possible?'. In Lagutina, M. (ed.), *Regional Integration and Future Cooperation Initiatives in the Eurasian Economic Union* (pp. 234-250). IGI Global.

Breslin, S. (2018) 'Global Reordering and China's Rise: Adoption, Adaptation and Reform', *The International Spectator*, Vol. 53, No. 1, pp. 57-75.



Business Green, 11 July 2019. <https://www.businessgreen.com/news/3078738/market-drag-china-slowdown-puts-renewable-energy-investment-into-reverse-gear> (accessed 29 May 2020).

Chen, J. and S. Jiménez-Tovar (2017) 'China in Central Asia: Local Perceptions from Future Elites', *China Quarterly of International Strategic Studies*, Vol. 3, No. 3, pp. 429-45.

Chiu, Dominic (2017) 'The East Is Green: China's Global Leadership in Renewable Energy', *New Perspectives in Foreign Policy*, Issue 13.

CNPC official website: [https://www.cnpc.com.cn/en/CentralAsia/CentralAsia\\_index.shtml](https://www.cnpc.com.cn/en/CentralAsia/CentralAsia_index.shtml)

Cooley, A. (2012) *Great Games, Local Rules: The New Power Contest in Central Asia*, Oxford: Oxford University Press.

Dave, B., & Kobayashi, Y. (2018). China's silk road economic belt initiative in Central Asia: economic and security implications. *Asia Europe Journal*, 16(3), 267-281.

Dorian, J. P., Wigdortz, B., & Gladney, D. (1997). Central Asia and Xinjiang, China: emerging energy, economic and ethnic relations. *Central Asian Survey*, 16(4), 461-486.

EIB (European Investment Bank) (2019) EU Bank launches ambitious new climate strategy and Energy Lending Policy, 14 November.(accessed 1 April 2020).

Elliott, S. (2019) 'Gazprom agrees to resume gas imports from Turkmenistan', *Platts*, 16 April. <https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/041619-russias-gazprom-agrees-to-resume-gas-imports-from-turkmenistan> (accessed 1 April 2020).

European Commission website, <https://ec.europa.eu/eurostat/cache/infographs/energy/bloc-2c.html> (accessed 31 March 2020).

European Council (2017) The EU and Central Asia: Strategy for a New Partnership, 31 May. [https://eeas.europa.eu/sites/eeas/files/st\\_10113\\_2007\\_init\\_en.pdf](https://eeas.europa.eu/sites/eeas/files/st_10113_2007_init_en.pdf) (accessed 1 April 2020).

Fouchere, A. (2017) 'Les "routes de la soie" passent par le Kazakhstan"', *Le Monde Diplomatique*, September, pp. 8-9.

Genté, R. (2017) 'Un grand barrage pour une petite nation', *Le Monde Diplomatique*, February, pp. 6-7.

Grant, A. (2020). Crossing Khorgos: Soft power, security, and suspect loyalties at the Sino-Kazakh boundary. *Political Geography*, 76, 102070.

Guardian, 13 July 2020. <https://www.theguardian.com/technology/2020/jul/13/europe-divided-on-huawei-as-us-pressure-to-drop-company-grows> (accessed 23 July 2020).

Harris, L. C. (1993). Xinjiang, Central Asia and the implications for China's policy in the Islamic world. *The China Quarterly*, 133, 111-129.

Jakóbowski J. and M. Marszewski (2018) *Crisis in Turkmenistan. A test for China's policy in the region*, OSW Commentary, No. 284, [https://www.osw.waw.pl/sites/default/files/commentary\\_284\\_0.pdf](https://www.osw.waw.pl/sites/default/files/commentary_284_0.pdf)

Joint Statement of the Inaugural High Level Military Leader Meeting on Quadrilateral Cooperation and Coordination Mechanism in Counter Terrorism by Afghanistan-China-Pakistan-Tajikistan Armed Forces, China Military Online, 4 August 2016, [http://english.chinamil.com.cn/news-channels/2016-08/04/content\\_7191537.htm](http://english.chinamil.com.cn/news-channels/2016-08/04/content_7191537.htm) (accessed 3 July 2020).

Kaczmarek, M. (2015). *Russia-China relations in the post-crisis international order*. Routledge.

Kaczmarek, M. (2017) 'Two Ways of Influence-building: The Eurasian Economic Union and the One Belt, One Road Initiative', *Europe-Asia Studies*, Vol. 69, No. 7, pp. 1027-1046.

Kaczmarek, M. (2019) 'Russia-China Relations in Central Asia: Why Is There a Surprising Absence of Rivalry?', *The Asian Forum*, Vol. 7, No. 4, <http://www.theasianforum.org/russia-china-relations-in-central-asia-why-is-there-a-surprising-absence-of-rivalry/>.

Kardas, S. (2011) 'Geo-strategic position as leverage in EU accession: The case of Turkish–EU negotiations on the Nabucco pipeline', *Southeast European and Black Sea Studies*, Vol. 11, No. 1, pp. 35– 52, March.

Kim, Y., & Indeo, F. (2013). The new great game in Central Asia post 2014: the US "New Silk Road" strategy and Sino-Russian rivalry. *Communist and Post-Communist Studies*, Vol. 46, No. 2, pp. 275-286.

Kong, B. and K. Gallagher (2020) *Chinese development finance for solar and wind power abroad*, GCI Working Paper 009, [https://www.bu.edu/gdp/files/2020/02/WP9-Kong-Bo-inc\\_abstract-1.pdf](https://www.bu.edu/gdp/files/2020/02/WP9-Kong-Bo-inc_abstract-1.pdf)

Lanteigne, M. (2019) *Chinese Foreign Policy: An Introduction*, Fourth edition. Abingdon: Routledge.

Le Monde Diplomatique, 7 July 2020. <https://mondediplo.com/2020/07/07boussema> (accessed 23 July 2020).

Levina, Maria (2019) 'Can Central Asia countries pay their external debts?', *The Times of Central Asia*, 17 March 2019, <https://www.timesca.com/index.php/news/26-opinion-head/20949-can-central-asia-countries-pay-their-external-debts> (accessed 7 July 2020).

Lewis, D. G. (2018) 'Geopolitical Imaginaries in Russian Foreign Policy: The Evolution of 'Greater Eurasia'', *Europe-Asia Studies*, Vol. 70, No. 10, pp. 1612-1637.

Lukin, A and T. Torkunov (2020) 'Trump's Policies and the Sino-Russian Entente', *Survival*, Vol. 62. No. 2, pp. 27-36.

Official Journal of the European Union (2016) Enhanced Partnership and Cooperation Agreement between the European Union and its Member States, of the one part, and the Republic of Kazakhstan, of the other part, Vol. 59, 4 February. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2016:029:FULL&from=en> (accessed 1 April 2020).

Peyrouse, S. (2016). Discussing China: sinophilia and sinophobia in Central Asia. *Journal of Eurasian Studies*, 7(1), 14-23.

Pirani, S. (2019) Central Asian Gas: prospects for the 2020s. OIES Paper NG 155, Oxford: Oxford Institute for Energy Studies, December. <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2019/12/Central-Asian-Gas-NG-155.pdf?v=f0aa03aaca95> (accessed 1 April 2020).

Radnitz S. (2018) 'Between Russia and a Hard Place: Great Power Grievances and Central Asian Ambivalence', *Europe-Asia Studies*, Vol. 70, No. 10, pp. 1597-1611.

Reeves, J. (2018). China's silk road economic belt initiative: Network and influence formation in Central Asia. *Journal of Contemporary China*, 27(112), 502-518.

Reuters, 25 September 2019. <https://www.reuters.com/article/kazakhstan-russia-china-oil-idAFL5N26G2X0> (accessed 29 May 2020).

Reuters, 15 October 2019. <https://www.reuters.com/article/us-china-energy-gas-sinopec/chinas-gas-demand-growth-to-slow-to-10-this-year-sinopec-official-says-idUSKBN1WU0AY> (accessed 29 May 2020).

Reuters, 14 January 2020. <https://uk.reuters.com/article/uk-china-economy-trade-crude/chinas-2019-annual-crude-imports-set-record-for-17th-year-idUKKBN1ZD0CQ>, <https://www.reuters.com/article/us-kazakhstan-china-oil/kazakhstan-to-divert-some-oil-flows-from-europe-to-china-idUSKCNITY1W6> (accessed 29 May 2020).

Roberts, S. P. & Moshes, A. (2016) 'The Eurasian Economic Union: a case of reproductive integration?', *Post-Soviet Affairs*, Vol. 32, No. 6, pp. 542-565.

RTE, 20 May 2020. <https://www.rte.ie/news/world/2020/0520/1139600-covid-trump-accuses-china-of-mass-worldwide-killing/> (accessed 23 July 2020).

Rumer, E., Sokolsky, R. and P. Stronski (2016) *U.S. Policy towards Central Asia 3.0*, Washington, DC: Carnegie Endowment for International Peace, <https://carnegieendowment.org/2016/01/25/u.s.-policy-toward-central-asia-3.0-pub-62556>

Russell, M. (2019) *The EU's New Central Asia Strategy*, European Parliament Research Service, January. [https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/633162/EPRS\\_BRI\(2019\)633162\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/633162/EPRS_BRI(2019)633162_EN.pdf) (accessed 1 April 2020).

Siddi, M. (2019a) 'The EU's Botched Geopolitical Approach to External Energy Policy: The Case of the Southern Gas Corridor', *Geopolitics*, Vol. 24, No. 1, pp. 124-144.

Siddi, M. (2019b) 'The Southern Gas Corridor: Prospects and Challenges for EU Foreign Policy', in A. Bayramov, *The changing geopolitics of energy infrastructure in the Caspian Sea Region*, *Caucasus Analytical Digest* 112, November, pp. 8-11.

Sierra, O. P. (2010) 'A corridor through thorns: EU energy security and the Southern Energy Corridor', *European Security*, Vol. 19, No. 4, pp. 643-60, December.

Sorbello, P. (2018) 'Oil and Gas Political Economy in Central Asia: The International Perspective', in S. Raszewski (ed.), *The International Political Economy of Oil and Gas*, Cham: Palgrave, pp. 109-124.

US Energy Information Administration, 23 March 2020. <https://www.eia.gov/todayinenergy/detail.php?id=43216> (accessed 29 May 2020).

Xu, H. (2013) 'China-Central Asia "Twin-Track" Energy Cooperation', *China International Studies*, pp. 126-137

Zhang, Z. (2011) 'China's energy security, the Malacca dilemma and responses', *Energy policy*, Vol. 39, No. 12, pp. 7612-15.

Zhao, H. (2013) 'China's View of and Expectations from the Shanghai Cooperation Organization', *Asian Survey*, Vol. 53, No. 3, pp. 436-60.

---

<sup>1</sup> The pipeline system, composed of five branches, runs from fields in Turkmenistan, via Uzbekistan and Kazakhstan, to Russia.

<sup>2</sup> Following the global drop of oil and gas prices, in April 2009, Russia decreased gas imports from Turkmenistan and strove to renegotiate the existing deal, which had turned out to be too costly for Gazprom. Beijing tacitly intervened in the dispute by offering Turkmenistan a \$4 billion loan, which allowed it to resist Russian pressure. The next step was to complete the construction of a gas pipeline from Turkmenistan to China, which became operational in December 2009. The 'gas war' was the most important episode of political-economic competition between Russia and China in Central Asia.

<sup>3</sup> In 2019, Gazprom signed a five-year contract with Turkmenistan that envisions annual import of up to 5.5 bcm; news report. See Reuters, 3 July 2019. <https://www.reuters.com/article/us-russia-gazprom-turkmenistan-deal/gazprom-signs-five-year-natural-gas-contract-with-turkmenistan-idUSKCN1TY1X5> (accessed 29 May 2020).

<sup>4</sup> See project details on Gazprom's website: <https://www.gazprom.com/projects/power-of-siberia/>.

<sup>5</sup> The official name of Xinjiang is the Xinjiang-Uyghur Autonomous Region.

<sup>6</sup> See for instance Global Carbon Atlas, <http://www.globalcarbonatlas.org/en/CO2-emissions> (accessed 31 March 2020).