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## Connectivity in Central Asia at the Crossroads of International Crises

Transport, Energy and Water  
from Interdependence to New  
Cooperation Ways

Michaël LEVYSTONE

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- « Russie – Venezuela. Un partenariat à l'épreuve de la guerre en Ukraine » [Russia-Venezuela: a partnership put to the test by the war in Ukraine], *Briefings de l'Ifri*, Ifri, April 8, 2022, available at: [www.ifri.org](http://www.ifri.org);

- « La guerre en Ukraine vue d'Asie centrale » [The war in Ukraine viewed from Central Asia], *Briefings de l'Ifri*, Ifri, July 13, 2022, available at: [www.ifri.org](http://www.ifri.org);
- « Le Kazakhstan à l'épreuve des crises. Des émeutes de janvier 2022 à la guerre en Ukraine » [Kazakhstan in crisis: from the unrest of January 2022 to the war in Ukraine], *Russie.NEI.Reports*, No. 39, Ifri, September 2022, available at: [www.ifri.org](http://www.ifri.org).

# Abstract

From the reestablishment of an Islamic Emirate in Afghanistan by the Taliban to the war in Ukraine, not forgetting climate change, the most serious international crises, whether circumstantial or systemic, are having a severe impact on connectivity in Central Asia with regard to transport, energy and water. While the search, which is an existential one for the countries of this landlocked region (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan), for foreign partners has been legitimized and even encouraged by the troubling context in which they are evolving, the steps they have taken in this respect since the outbreak of the war in Ukraine on 24 February 2022 show an obvious desire to bypass Russia, which has been heavily sanctioned by the West.

As a result, Central Asian transportation networks are developing in two directions: to the west, with Kazakhstan and the Caspian Sea as key links in Sino-European trade routes; and to the south, whether by sea (development of port links from Kazakhstan and Turkmenistan to Azerbaijan and Iran) or by land (creation of a railway line between Uzbekistan, Afghanistan and Pakistan).

In the energy sector, Kazakhstan, hindered by Russian blockades of its main oil pipeline, is turning to the Caspian Sea in order to be able to continue transporting oil to European markets. Turkmenistan exports its gas to the Chinese and South Asian markets, where its projects, but also those of Kyrgyzstan and Tajikistan in the field of hydropower, are being hampered by developments in Afghanistan.

Lastly, the question of water highlights the paradox of interdependent countries that are divided between those that control Central Asia's water resources (Kyrgyzstan and Tajikistan) and the rest, located downstream of the Syr Darya and the Amu Darya (Kazakhstan, Uzbekistan and Turkmenistan). While a growing number of initiatives are being launched to promote smart management of the region's significant water resources, this remains the most polarizing issue in Central Asia, despite its urgent nature.

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# List of Initialisms and Acronyms

**ADB:** Asian Development Bank.

**BTC:** Baku-Tbilisi-Ceyhan oil pipeline.

**CAREC:** Central Asia Regional Economic Cooperation Program, established in 1997 by the ABD to promote cooperation between the countries of Central Asia, the Caucasus and South Asia.

**CASA-1000:** Central Asia-South Asia Power Project, hydropower transmission project between Kyrgyzstan, Tajikistan, Afghanistan and Pakistan.

**CCWAEC:** China-Central Asia-West Asia Economic Corridor, land route of the New Silk Roads, passing essentially through Kazakhstan.

**CKU:** China-Kyrgyzstan-Uzbekistan railway project.

**CPC:** Caspian Pipeline Consortium oil pipeline, linking the oil deposits of north-western Kazakhstan (Kashagan and Tengiz, in the Caspian Sea; Karachaganak, on the border with Russia) to the Russian port of Novorossiysk (on the Black Sea).

**CPEC:** China-Pakistan Economic Corridor, network of transport infrastructure built by China to reach the ports of Gwadar and Karachi, in southern Pakistan.

**EAEU:** Eurasian Economic Union.

**ECO:** Economic Cooperation Organization.

**EU:** European Union.

**JICA:** Japan International Cooperation Agency.

**KTI:** Kazakhstan-Turkmenistan-Iran railway line.

**LPI:** Logistics Performance Index established by the World Bank.

**M37:** main motorway of Turkmenistan, serving, from west to east, the cities of Garabogaz, Turkmenbashi, Balkanabat, Ashgabat (the capital), Mary and Turkmenabat, before continuing towards Bukhara, in Uzbekistan.

**NELBEC:** New Eurasia Land Bridge Economic Corridor, land route of the New Silk Roads, passing primarily through Kazakhstan and Russia.

**PAKAFUZ:** railway line linking Pakistan (Peshawar) to Afghanistan (Kabul; Mazar-e Sharif) and Uzbekistan (Termez).

**SEZ:** Special Economic Zone.

**SOCAR:** State Oil Company of Azerbaijan Republic.

**TAPI:** Turkmenistan-Afghanistan-Pakistan-India gas pipeline project.

**TITR:** Trans-Caspian International Transport Route (or Middle Corridor), transport network linking China to Europe *via* Central Asia, the Caucasus and Turkey.

**TRACECA:** Transport Corridor Europe-Caucasus-Asia, international transport program developed by the European Union in the 1990s.

**UNRCCA:** United Nations Regional Centre for Preventive Diplomacy for Central Asia.

**USAID:** United States Agency for International Development.

**USSR:** Union of Soviet Socialist Republics.

**WHO:** World Health Organization.

**WREP:** Western Route Export Pipeline, Baku-Tbilisi-Supsa oil pipeline.



# Introduction

The war begun by Russia on 24 February 2022 in Ukraine is prompting the republics of Central Asia, which are more or less economically dependent on Moscow, to seek alternative sources of growth. Their aim is as much to avoid the consequences of the economic sanctions adopted by the United States and the EU against Russia as to secure inflows of money, whilst maintaining access to international markets. However, this ambition, which concerns the transportation of both goods and energy resources, faces two obstacles. The first is financial, since not all Central Asian countries have sufficient resources to renovate their transport infrastructure or build new one (Kyrgyzstan, Tajikistan). The second is geographical, in that Central Asia is stuck between the Caspian Sea (which does not flow into the ocean), big powers that need to be kept sweet (Russia, China, Iran) and an uncertain neighbor, Afghanistan, which complicates Central Asian countries' desire to connect to South Asia.

This context of crises also offers new challenges and opportunities at the regional level<sup>1</sup>, to which the republics of Central Asia appear resolved to respond together in the areas of transport and energy. This willingness to adopt a coordinated approach can also increasingly be seen when it comes to water. In view of structural factors (climate change, dilapidated infrastructure, extensive irrigation in environments not suited to agriculture), the water issue, another aspect of Central Asian connectivity, is plunging the countries of the region into further uncertainty.

What consequences are the war in Ukraine and the Afghan crisis having on transport and energy infrastructure management in Central Asia? Meanwhile, how are the countries of the region responding to the water emergency?

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1. This study will consider issues of connectivity in Central Asia. This does not mean that the United States and the EU are losing interest in the dynamics at play in this region and its immediate neighborhood. In fact, these two actors, which are clearly more peripheral in geographical terms than China, Iran, Afghanistan and, to a lesser degree, Azerbaijan and Turkey, expressed their views on these issues in the region in a broader sense during the years following the collapse of the USSR. The US supported the BTC oil pipeline project and the CentGas consortium (which never came to fruition), with a view to promoting exports of Central Asian hydrocarbons to its then allies (oil for Turkey; natural gas for Pakistan), while bypassing Russia and Iran. While it also had energy ambitions (such as the unfinished Nabucco gas pipeline project with Iran), the EU's main involvement in the region took the form of the TRACECA multimodal transport corridor launched in 1993 between Europe, the Caucasus and Asia.

# Intercontinental Transit: a Natural Vocation for Central Asia

After centuries of being cut off from the main international trade routes (primarily maritime ones), Central Asia is now, thanks to the effect of the geoeconomic upheavals caused by the war in Ukraine, once again prized by regional powers wishing to avoid Russia. This renewed interest may have a beneficial effect on the countries of Central Asia, whose customs policies lack coordination and whose transport networks present significant disparities.

## Central Asian Transport Networks: Contrasting National Realities

In **Kazakhstan**, as throughout Central Asia, motorways are by far the most common method of transporting goods. Nevertheless, rail freight is considerably more widespread in that country than in its Central Asian neighbors, for two main reasons. Firstly, Kazakhstan alone has more than half the region's railways. Secondly, in spite of the most ambitious transport infrastructure investment plan launched by any Central Asian country<sup>2</sup>, Kazakhstan's roads remain in poor condition. This is the case particularly in the regions of West Kazakhstan and Aktobe (in the country's west), Kostanay (north), Karaganda (center) and Kyzylorda (south).<sup>3</sup> Another peculiarity of the Kazakh transport network relates to its access to the Caspian Sea, *via* the ports of Aktau and Kuryk (which saw their freight traffic double in the first half of 2022<sup>4</sup>).

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2. The Nurly Zhol ("Path to the Future") program, presented in 2014 by President Nazarbayev, with a budget of 9 billion dollars. In 2019, a sub-programme of Nurly Zhol was implemented for the reconstruction and renovation of 23,000 km of roads throughout the country. "Avtomobil'nye dorogi" [Motorways], the Motorway Committee of the Kazakh Ministry of Industry and Infrastructure Development, 5 December 2019, available at: [www.gov.kz](http://www.gov.kz).

3. For example, the 369 km motorway that links Kyzylorda and Jezkazgan has not been renovated for more than 50 years. A. Kurmangalieva, "Vsio, chto nuzhno znat' ob avtomobil'nykh trassakh Kazakhstana" [Everything you need to know about roads in Kazakhstan], The Steppe, 29 March 2022, available at: <https://the-steppe.com>.

4. N. Khodjayev, "Death of China-To-Russia Cargo Transit Routes Means It's All Aboard for Kazakhstan", bne IntelliNews, 25 June 2022, available at: [www.intellinews.com](http://www.intellinews.com).

Also located on the shores of the Caspian Sea, **Turkmenistan** has been striving for the last few years to make the most of its coastline, where it organised the first edition of the Caspian Economic Forum on 12 and 13 August 2019, and where it has several ports: Alaja, Hazar, Ekerem and, primarily, Turkmenbashi. Even before the opening of the extended and modernized version of this complex, which is capable of handling 4 million tonnes of goods per year, the authorities had begun construction of the M37, a motorway connecting it to the capital, Ashgabat, the nerve center of the country's transport arteries. Turkmenistan has also invested in the development of rail corridors, essentially for the purposes of boosting bulk exports (oil, refined products, construction materials, etc.). This interest in rail infrastructure has spread beyond the country's borders, despite the regime's avowed self-sufficiency. In fact, since 2014 the country has opened links with both Iran (KTI line) and Afghanistan (Kerki-Imamnazar-Aqina and Serhetabat-Turghundi lines).

**Kyrgyzstan** and **Tajikistan** present certain similarities when it comes to transport. Their rail networks are the least developed in the region, due to mountain ranges that are incompatible with the construction of this type of infrastructure. Running from north to south and autonomous on a national level, the rail networks of Kyrgyzstan and Tajikistan are interlinked with those of neighboring countries. For example, there are connections between Balykchy in Kyrgyzstan and Lugovoe in Kazakhstan, and between Bekabad and Kokand in Uzbekistan *via* Konibodom in Tajikistan, which the two countries plan to electrify. The least developed economies in Central Asia, Kyrgyzstan and Tajikistan are dependent on external aid to renovate their transport infrastructure. Loans from the ABD and the JICA paid for the renovation of Kyrgyzstan's Bishkek-Osh, Bishkek-Naryn-Torugart and Osh-Batken-Isfana routes.

Seeing the KTI line as an attempt by Kazakhstan and Turkmenistan to bypass it<sup>5</sup>, **Uzbekistan** began in 2015 to capitalize on its central location in the region<sup>6</sup>, announcing a four-year plan for the development and renovation of its transport networks. The authorities in Tashkent, which had launched Central Asia's first high-speed passenger trains in 2011 (the Afrosiyob, designed by the Spanish group Talgo), confirmed their interest in the rail sector with the opening of new corridors, such as those between Navoi and Nukus (covering a distance of 700 km), and between Kumkurgan and the Afghan town of Tash Gozar (223 km). At the same time, Uzbekistan set about extending its network of electrified railway lines (including

5. Along similar lines, the two countries are building a road bridge over the Kara-Bogaz-Gol Gulf in order to extend the Ashgabat-Turkmenbashi road towards the Kazakh border. The bridge, built by Ukrainian construction company Altkom, is expected to enter into service in 2024. "Novyj avtomobil'nyj most svyazhet Turkmenistan i Kazakhstan v 2024 godu" [A new road bridge will connect Turkmenistan to Kazakhstan in 2024], Mir 24, 17 June 2022, available at: <https://mir24.tv>.

6. Uzbekistan is the only country to share borders with all the Central Asian states (as well as with Afghanistan).

through the creation in 2016 of the link between Angren and Pop, in the east of the country), which currently covers 1,100 km, making it the largest in the region. As part of the “good neighbor” policy introduced by President Mirziyoyev since 2016, Uzbekistan has been involved in the construction of cross-border infrastructure aimed at facilitating the flow of goods and people, including a road and rail bridge linking Farab to the city of Turkmenabat, south of the Amu Darya river, and an international border post near the Kazakh town of Beyneu.

**Table 1: Road and rail networks and transportation of goods in the countries of Central Asia**

	KAZ	KYRG	TAJ	TURK	UZB
<b>Road network (in km)</b>	96,000	34,000	27,000	24,000	43,000
<b>Road density (in km/1,000 km<sup>2</sup>)</b>	35.3	171.3	190.9	49.2	95.8
<b>Road freight in 2021 (in millions of tonnes)</b>	3,310	26.2	20.1*	420.1**	1,373.5
<b>Rail network (in km)</b>	16,500	420	970	5,200	6,500
<b>Rail density (in km/1,000 km<sup>2</sup>)</b>	6.1	2.1	6.8	10.6	14.5
<b>Rail freight in 2021 (in millions of tonnes)</b>	416	2.1	5.3*	20.8**	72

\* Data relating to 2018.

\*\* Data relating to 2016.

Sources: Rail-News.kz, National Statistics Committee of the Republic of Kyrgyzstan, CAREC, National Statistics Committee of the Republic of Uzbekistan<sup>7</sup>.

7. “V Kazakhstane vyros ob’iom perevozok gruzov vsemi vidami transporta” [Freight transport has increased across all modes of transport in Kazakhstan], Rail-News.kz, 18 February 2022, available at: <https://rail-news.kz>; “Perevozki gruzov po vidam transporta” [Freight by mode of transport], National Statistics Committee of the Republic of Kyrgyzstan, 2022, available at: [www.stat.kg](http://www.stat.kg); “Otsenka zheleznodorozhnogo sektora dlia Tadzhikistana” [Assessment of the rail sector for Tajikistan], CAREC, March 2021, p. 15, available at: [www.carecprogram.org](http://www.carecprogram.org); “Otsenka zheleznodorozhnogo sektora dlia Turkmenistana” [Assessment of the rail sector for Turkmenistan], CAREC, March 2021, p. 13, available at: [www.carecprogram.org](http://www.carecprogram.org); “Social’no-ekonomicheskoe polozhenie Respubliki Uzbekistan. VI. Transport i sviaz” [The socio-economic situation in the Republic of Uzbekistan. VI. Transport and communications], National Statistics Committee of the Republic of Uzbekistan (Goskomstat), 2021, p. 192-193, available at: <https://stat.uz>.

**Map 1: Major Central Asian transport routes**

## Potential Hindered by Border Flow Management Failures

The regime of European sanctions against the Russian economy, which prohibits goods destined for the EU from passing through Russian railway stations and ports without slowing Sino-European trade (+10% in the first quarter of 2022 compared with the first quarter of 2021), is naturally causing foreign transporters to focus on the Central Asia region. Thus, Central Asian transport infrastructure is expected to be considerably more in demand in the coming years than prior to 2022, when just 2% of goods traded between Asia and Europe were transported by Central Asian lorries or trains.<sup>8</sup> Though Central Asia's road coverage is considerably greater than its rail coverage, trains should be given precedence over lorries for the transportation of goods through the region due to the costs incurred

8. P.Kh. Azimov and D.I. Nadzhmiddinov, "Razvitie regional'noj transportno-logisticheskoy sistemy stran Tsentral'noj Azii v usloviakh globalizatsii mirovoj ekonomiki" [The development of the regional transport and logistics network of Central Asia in the context of globalization], *Nauchno-tekhnicheskie vedomosti SPbGPU, Ekonomicheskie nauki*, Tom 12, No. 6, 2019, p. 89, available at: <https://cyberleninka.ru>.

through the use of severely deteriorated roads (65%) on a route that, in terms of longitude, matches that of Kazakhstan's railways. The seemingly obvious railway solution, however, comes with its own problems. If goods are to be transported from abroad to Central Asian railway stations by train, the difference between the track gauge in Central Asia (1,520 mm, identical to that used in Russia) and that of the railways of Asia and Europe (1,435 mm) would involve transloading upon entering and leaving the region<sup>9</sup>, exposing users to additional costs, as well as lengthening the transportation times, which are already increased due to the disrepair of the rolling stock used in Central Asia.<sup>10</sup>

President Tokayev's call, at the most recent Summit of Heads of State of Central Asia, held on 21 July 2022 in Cholpon-Ata (Kyrgyzstan), to promote the economic integration of the region by creating a network of cross-border structures (border posts, free zones, etc.) sounded like a vain wish in the current context, for several reasons. Firstly, the countries of Central Asia are generally reluctant to collaborate on a multilateral basis in the area of customs, with each preferring to impose their own customs clearance procedures and border checks, rather than seeking to harmonize their legislation with that of their Central Asian neighbors. Secondly, while their integration within a common system would make sense—especially for countries with border routes as interconnected as those of Kyrgyzstan, Tajikistan and Uzbekistan around the Fergana valley—, this process is hindered by local tensions<sup>11</sup> and by Kyrgyzstan's and Kazakhstan's membership of the EAEU. Furthermore, the logistics and industrial platforms created in Central Asia to develop cross-border trade have not been a resounding success, with the exception of those focused on non-Central Asian countries (such as Khorgos, between Kazakhstan and China, and the Serakhs SEZ, on the Turkmen-Iranian border). Lastly, the poor LPI

9. Most transloading upon entering Central Asian territory takes place at the borders with China (at Khorgos and Dostyk, in eastern Kazakhstan, as well as at Torugart and Irkeshtam, in eastern Kyrgyzstan), with some also taking place at the Turkmen-Iranian border (Serakhs). The transloading carried out at the Kazakh port of Kuryk (on the Caspian Sea) primarily concerns goods mostly transported from east to west.

10. The condition of Central Asia's trains brings down their average speed, which sits in a range between 60 and 70 km/h. Increasing it to 80 km/h would enable it to effectively compete with maritime transport. P.Kh. Azimov and D.I. Nadzhmiddinov, "Razvitie regional'noj transportno-logisticheskoy sistemy stran Tsentral'noj Azii v usloviakh globalizatsii mirovoj ekonomiki" [The development of the regional transport and logistics network of Central Asia in the context of globalization], *Ibid.*

11. On 29 April 2021, war broke out between Kyrgyzstan and Tajikistan over the Golovnoy reservoir in the province of Batken, on the border between the two countries. Coming after tensions over water, this conflict (which had been frozen until it was briefly reactivated between 14 and 19 September 2022) highlights how difficult it is for Bishkek and Dushanbe to agree on the definition of their long shared border. As at 21 July 2022, 664 km (out of a total of 987) had been defined. S. Rukhullo and F. Mukhammadi, "Tadzhikistan i Kyrgyzstan za god soglasovali eshchio 80 km linii gosgranitsy" [Tajikistan and Kyrgyzstan defined an additional 80 km of their shared border in the space of a year], *Radio Ozodi*, 22 July 2022, available at: <https://rus.ozodi.org>.



scores<sup>12</sup> of Central Asian countries highlight their lack of competitiveness, compared with more advanced countries, with regard to handling freight traffic entering and leaving their territory. The slow customs administration of Kazakhstan, which can inflict waiting times of up to 40 hours, is a particular disadvantage, demonstrating that Kazakhstan's relatively better LPI compared to those of its Central Asian neighbors does not mean that that country does not have significant deficiencies in terms of border flow management.

**Table 2: LPI of the countries of Central Asia (2018)**

	KAZ	KYRG	TAJ	TURK	UZB
<b>Global performance</b>	2.81	2.55	2.34	2.41	2.58
<b>Competence and quality of logistics services</b>	2.58	2.36	2.33	2.31	2.59
<b>Quality of commercial and transport infrastructure</b>	2.55	2.38	2.17	2.23	2.57
<b>Efficiency of customs clearance process</b>	2.66	2.75	1.92	2.35	2.1
<b>Ease of obtaining competitive prices for shipments</b>	2.73	2.22	2.31	2.29	2.42
<b>Frequency with which shipments reach their recipient within the set time frame</b>	3.53	2.94	2.95	2.72	3.09
<b>Global ranking (out of 160 countries)</b>	71 <sup>st</sup>	108 <sup>th</sup>	134 <sup>th</sup>	126 <sup>th</sup>	99 <sup>th</sup>

NB: scores range from 1 (low) to 5 (high).

*Produced by the author based on data provided by the World Bank. "Logistics Performance Index: global performance", World Bank, 2018, available at: <https://donnees.banquemondiale.org>.*

12. The LPI reflects perceptions of a country's logistics based on criteria such as: efficiency of customs clearance process, the quality of commercial infrastructure and connected transportation infrastructure, ease of organising shipments at competitive prices, quality of infrastructure services, monitoring and traceability of shipments, and frequency with which shipments arrive with the recipient within the scheduled time frame.

## China, Turkey, Azerbaijan and Iran: A Driving Force for the Eurasian Corridors

**China** did not expect the magnifying-glass effect that the war in Ukraine had on Central Asia, making it a focal point for the transit of goods destined for European markets. Beijing, which has been implementing its New Silk Roads project since 2013, is pursuing two objectives in Central Asia. On the one hand, it wants to create or improve local transport networks, hence the Angren-Pop (Uzbekistan) and Uzen-Bereket-Gorgan (KTI) railway lines, and the Dushanbe-Chanak (Tajikistan) and Kashgar-Irkeshtam-Osh-Andijan (linking Xinjiang to Kyrgyzstan and Uzbekistan) motorways. On the other hand, it intends to integrate regional infrastructure with larger multimodal transport corridors to create the right conditions for SEZs like the one at the Kazakh port of Aktau. The context of the war in Ukraine is leading China to prioritize the CCWAEAC over the NELBEC<sup>13</sup>, the other flagship route of its New Silk Roads project in Central Asia, which passes through Russia. Meanwhile, Beijing is also seeking to extend its trade routes towards markets in southern Central Asia. In any case, that is what we can infer from both the announcement of the resumption of the works on the CKU railway line<sup>14</sup> in autumn 2022, and the discussions initiated between the authorities of these three countries concerning a multimodal transport corridor project aimed at connecting the cities of Kashgar (Xinjiang) and Hairatan (Afghanistan)<sup>15</sup>.

The **duo of Turkey and Azerbaijan** has also boosted the use of transport networks that pass through Central Asia since the beginning of the war in Ukraine. Turkey, which does not border Central Asia, sees its neighbor Azerbaijan, which has a shoreline on the Caspian Sea just like Kazakhstan and Turkmenistan, as a springboard for the region, all the more so since Azerbaijan recaptured Nagorno-Karabakh from Armenia during the war between those two states in 2020. While Turkey had already launched a transport corridor in 2018 to connect to Turkmenistan and Afghanistan *via* Georgia and Azerbaijan (Lapis Lazuli), the recent reconfiguration of the Transcaucasian region offers it the chance to gain

13. 95% of rail freight between China and Europe passed through the northern corridor of the New Silk Roads until the outbreak of war in Ukraine. J.-M. Larçon, “La guerre en Ukraine transforme la carte des routes commerciales Chine-Europe” [The war in Ukraine is transforming the map of China-Europe trade routes], *The Conversation*, 29 August 2022, available at: <https://theconversation.com>.

14. This stretch of track could be built according to Chinese gauge standards, moving the Central Asian countries still further away from Russia. V. Sorvionkov, “Organizatsiia bez sotrudnichestva. Provodim itogi sammita ShOS v Samarkande, na kotorom Putina zastavili zhdatt” [An organisation with no cooperation. Summary of the Shanghai Cooperation Organisation (SCO) summit in Samarkand, where Putin was kept waiting], *Mediazona*, 19 September 2022, available at: <https://mediazona.ca>.

15. M. van Leijen, “A Brand New Corridor on the Table for China and Central Asia”, RailFreight.com, 12 August 2022, available at: [www.railfreight.com](http://www.railfreight.com).



more direct access to the Caspian Sea and Central Asia thanks to the creation of the Zangezur transport corridor, which would bypass Armenia. The creation of the Zangezur corridor has also sparked interest from Tashkent, which is in trilateral talks with Ankara and Baku on the matter.<sup>16</sup> The other Central Asian country that is looking closely at Azerbaijan and Turkey is Kazakhstan, for which the war in Ukraine is increasing the importance of the TITR or Middle Corridor, which links China, Azerbaijan, Turkey and Europe<sup>17</sup>. In March 2022, Kazakhstan opened an East-West transport corridor with Azerbaijan, Turkey and Georgia, before sending a freight train in June from Pavlodar to Payas, in southern Turkey, *via* Turkmen and Iranian territory.

**Iran** is asserting its status as a crossroads between Central Asia, the Caucasus and the Persian Gulf to supplant Russia – weakened by the war in Ukraine – as an interregional hub for Central Asian countries. An agreement signed with Kazakhstan in May 2022 also makes it possible to redirect freight intended for the China-Russia-Europe route towards a new China-Kazakhstan-Iran-Europe route<sup>18</sup>. The port of Bandar-e Anzali, through which Iran established links with other Caspian Sea ports in November 2021 to facilitate its economic integration in the region, is now being used for the transshipment of containers from the shores of Kazakhstan and Turkmenistan intended for South Asian markets<sup>19</sup>. These markets are also piquing the interest of Uzbekistan, which organised an international conference in Tashkent on 15 and 16 July 2021 with the evocative title “Central and South Asia: regional connectivity, opportunities and challenges”. The ambition expressed on this occasion to make **Afghanistan** a bridge between Central and South Asia continues to guide the actions of Tashkent’s leaders. Thus, upon the signing of the Tashkent Declaration with his Turkish and Azeri counterparts, the Transport Minister, Ilkhom Makhkamov, called for the creation of a multimodal transport corridor between Turkey, the Caucasus, Central Asia, South Asia

16. E. Korotkova, “Uzbekistan, Turtsiia i Azerbajdzhan podpisali Tashkentskuiu deklaraciiu” [Uzbekistan, Turkey and Azerbaijan have signed the Tashkent Declaration], *News-Asia*, 2 August 2022, available at: [www.news-asia.ru](http://www.news-asia.ru).

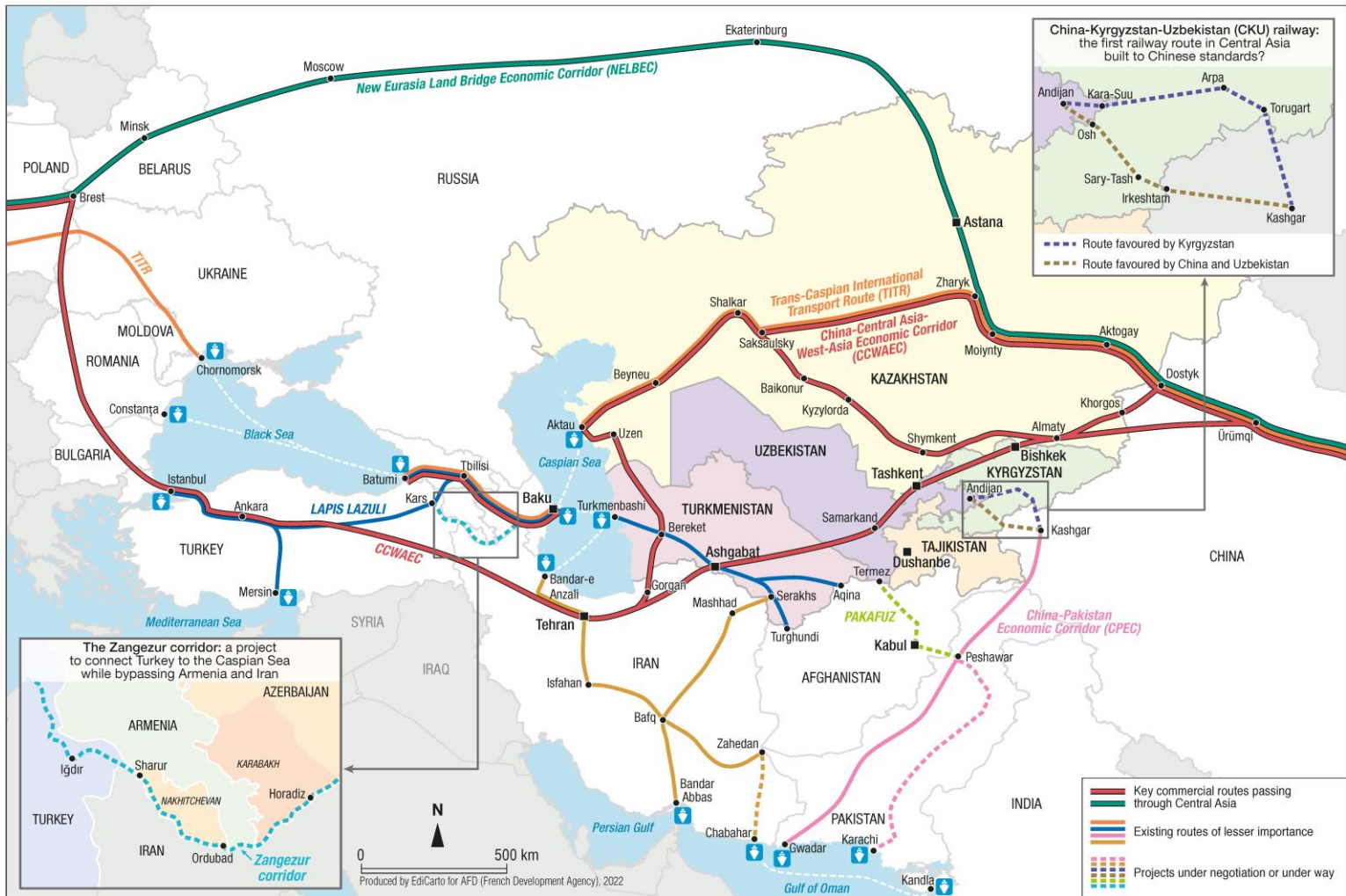
17. C. Szumski, “Kazakhstan Key ‘Middle Corridor’ Linking China to EU”, Euractiv, 17 June 2022, available at: [www.euractiv.com](http://www.euractiv.com).

18. M. Utkina, “Kak rabotaet transportnaia i tranzitnaia diplomatiia Irana v usloviakh zapadnykh sankcij” [How Iran’s transport and transit strategy is adapting to Western sanctions], *Vestnik Kavkaza*, 4 August 2022, available at: <https://vestnikavkaza.ru>.

19. In August 2022, Iran signed a new agreement allowing Kazakhstan, Uzbekistan and Turkmenistan to access its southern ports of Bandar Abbas and Chabahar in order to export their goods to countries in the Persian Gulf and South Asia. “Soglashenie mezhdur Iranom, Turkmenistanom, Uzbekistanom i Kazakhstanom o sozdanii mezhdunarodnogo transportnogo koridora” [The agreement between Iran, Turkmenistan, Uzbekistan and Kazakhstan on the creation of an international transport corridor], *Pars Today*, 17 August 2022, available at: <https://parstoday.com>.

and Afghanistan.<sup>20</sup> At the same time, Uzbekistan is involved in the construction of a railway line connecting it to Afghanistan and Pakistan<sup>21</sup>, countries with which freight more than doubled in the first half of 2022 (330,000 tonnes).

**Map 2: Central Asia, hub for inter-regional trade**



20. “Uzbekistan predlozhit’ zapustit’ mul’timodal’nyj koridor ot Turtsii i Kavkaza do Kabula” [Uzbekistan has proposed launching a multimodal corridor linking Turkey and the Caucasus to Kabul], EADaily, 2 August 2022, available at: <https://eaddaily.com>.

21. Specifically, the PAKAFUZ line links the cities of Termez (Uzbekistan), Kabul and Mazar-e Sharif (Afghanistan) and Peshawar (Pakistan). This route will enable Uzbekistan to access the ports of Gwadar and Karachi, on the Arabian Sea, via the China-Pakistan Economic Corridor (CPEC), another major infrastructure project carried out by Beijing as part of its New Silk Roads program.

# The Reorientation of Energy Export Routes

The context of dual geopolitical crises in which Central Asia finds itself (bordering Afghanistan and indirectly impacted by the economic consequences of the war in Ukraine) is causing significant upsets in the region's energy landscape. The main alternative routes to Russia for exports of Central Asian energy resources—whether it be hydrocarbons or surplus hydropower—lead to Turkey and the Caucasus in the west, China in the east and Central Asia's southern neighbors.

**Table 3: Proven oil and natural gas reserves of the major Central Asian producers of hydrocarbons in 2020**

	KAZ	TURK	UZB
Proven oil reserves (in millions of tonnes)	3,900	100	100
Proven natural gas reserves (in trillion m <sup>3</sup> )	79.7	480.3	29.9

Source: "Statistical Review of World Energy 2021", BP, 2021, p. 16 and 34, available at: [www.bp.com](http://www.bp.com).

## The Turkey-Caucasus Route: An Effective Alternative to Russia for European Connectivity?

The major producers of hydrocarbons in Central Asia, Kazakhstan (oil) and Turkmenistan (natural gas), have each undertaken to diversify their energy export routes away from the ones they inherited from the Soviet period, which lead to the Russian market. Thus, in 2005 **Kazakhstan** opened an oil pipeline to connect its Caspian Sea deposits to western China. However, that country has remained heavily dependent on Russia for its oil exports—primarily intended for the EU, its largest customer—as reinforced by the successive blockades of the CPC oil pipeline by Moscow since the start of the war in Ukraine. This pipeline, which links the vast oil fields of northern

Kazakhstan<sup>22</sup> to the Russian port of Novorossiysk on the Black Sea, enabled Astana to export 53 millions of tonnes of oil in 2021. For this reason, the announcement in August 2022 of negotiations between the Kazakh company KazMunayGas and Azerbaijan's SOCAR, with a view to facilitating exports of Kazakh oil *via* the BTC pipeline towards the Mediterranean Sea and the Baku-Tbilisi-Supsa pipeline (or WREP) towards the Black Sea<sup>23</sup>, should be greeted with a degree of caution. While they clearly show the Kazakh authorities' desire to accelerate their strategy of diversifying oil export routes away from Russia's orbit, these projects—should they be confirmed—will enable the country to move, in the best-case scenario, only 5 million tonnes of oil in total each year (one tenth of the petrol exported *via* the CPC).<sup>24</sup>

It is a different story altogether in **Turkmenistan**, which completely freed itself from Russia during the 2010s by reorienting its gas exports towards China, which has been connected since 2009 to the vast Galkynysh deposit *via* Kazakhstan and Uzbekistan. While the totalitarian nature of the regime in Ashgabat has hitherto hindered any prospect of economic cooperation with Brussels, the situation could evolve in light of the war in Ukraine, with intervention from Azerbaijan. In January 2021, under the auspices of Turkey, that country met with Turkmenistan to jointly exploit an oil and gas deposit located in the Caspian Sea, sovereignty over which Baku and Ashgabat had disputed since the end of the USSR, and which they renamed Dostluk ("Friendship") for the occasion. In the meantime, on 18 July 2022, Azerbaijan sealed a gas pact with the EU<sup>25</sup>, which was forced to find new supply sources to replace Russia, whose gas it placed under embargo. Moreover, the Europeans' willingness to gradually increase their gas imports from Azerbaijan—which are set to rise from 8 to 12 billion m<sup>3</sup> between 2022 and 2023, before eventually reaching 20 billion m<sup>3</sup>—could, in turn, boost the Azeris' order books in Russia and Turkmenistan, whose proven natural gas reserves (1,320.5 and 480.3 trillion m<sup>3</sup> respectively in 2020) far exceed those of Azerbaijan (88.4 trillion m<sup>3</sup>).<sup>26</sup> From this point of view, the Trans-Caspian project, which is putting Turkmen-Azeri collaboration around the Dostluk field at the top of the agenda once again,

22. Specifically, the deposits of Karachaganak, near Oral (on the Russian border), and of Kashagan and Tengiz, in the Caspian Sea.

23. These two routes are reliant on the oil initially being loaded onto tankers dispatched from the Kazakh port of Aktau.

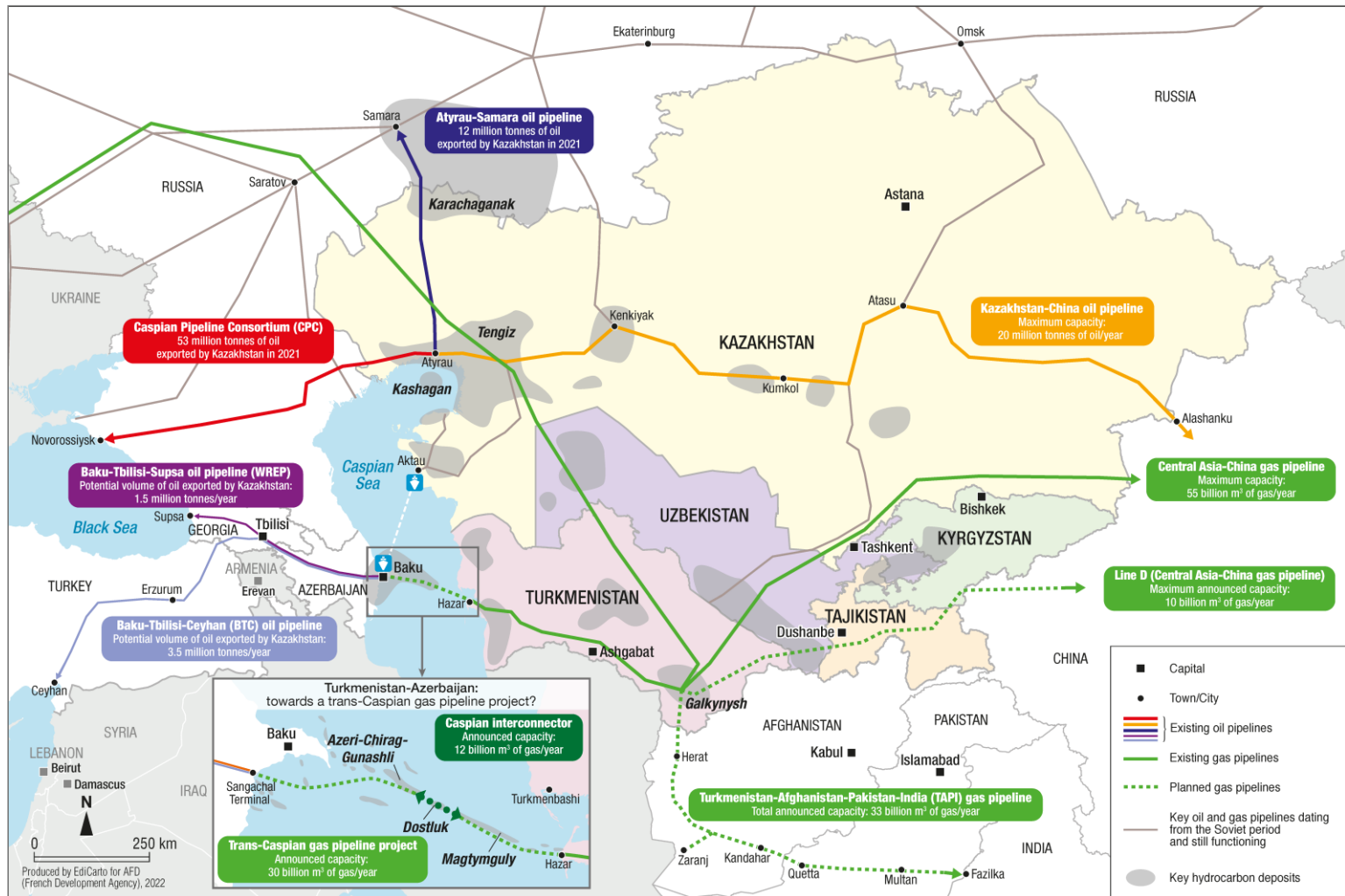
24. F. Medzhid, "Analitiki skepticheski otneslis' k perspective tranzita kazakhstanskoj nefti cherez Azerbajdzhan" [Analysts express doubts about the prospects offered by Azerbaijan for the transit of Kazakh oil], *Kavkazskij Uzel*, 18 August 2022, available at: [www.kavkaz-uzel.eu](http://www.kavkaz-uzel.eu).

25. "Gaz : l'UE se tourne vers l'Azerbaïdjan pour diversifier ses approvisionnements" [Gas: the EU turns to Azerbaijan to diversify its supplies], France 24, 18 July 2022, available at: [www.france24.com](http://www.france24.com).

26. In any case, forging closer ties with Azerbaijan, whose main gas deposit (Shah Deniz) is 20% owned by Russian holding company Lukoil, seems, at the very least, to clash with the policy of sanctions imposed by Brussels against Moscow since its invasion of Ukrainian territory.

would help support European demand, subject to the allocation of the funds required to execute the project<sup>27</sup>.

**Map 3: Exporting Central Asian hydrocarbons:  
a major challenge in an uncertain geopolitical context**



27. The US consultancy and audit firm Transcaspian Resources values the cost of building a gas pipeline to connect the offshore deposits of Magtymguly (Turkmenistan) and Azeri-Chirag-Gunashli (Azerbaijan) at 800 million dollars. With an estimated annual capacity of 12 billion m<sup>3</sup> of gas, the Caspian Interconnector would serve as the first step in the creation of a gas pipeline linking the Turkmen and Azeri shores of the Caspian Sea, which could transport 30 billion m<sup>3</sup> of gas per year over a period of at least 30 years. “Amerikanskaia kompaniia predlagaet Ashkhabadu al’ternativnyj Transkaspuii proekt tranzita gaza cherez Azerbajdzhan stoimost’iu do \$800 mln” [An American firm is proposing a gas transit project in Ashgabat as an alternative to the Trans-Caspian gas pipeline, with a value of 800 million dollars, which would pass through Azerbaijan], Interfax, 28 October 2021, available at: <http://interfax.az>.



## China: A Growing Outlet

The Kazakhstan-China oil pipeline and the Central Asia-China gas pipeline may well, from now on, position the Chinese market as a natural outlet in the eyes of Central Asian hydrocarbon producers. However, their desire to boost exports in order to secure revenues in times of crisis may come up against certain limits. With regard to Kazakhstan, we should remember that the Kazakhstan-China oil pipeline represents only a relatively marginal share of the country's annual oil exports in comparison with that of Russian pipelines.<sup>28</sup> The paltry Chinese imports of Kazakh oil in 2021 (3.6 million tonnes) highlights the fact that the Kazakhstan-China oil pipeline (which has a theoretical annual capacity of 20 million tonnes) is underexploited. This implicitly confirms that Kazakhstan is just a second-rate supplier in the eyes of China, which, in addition to having halved its investments in the country's oil and gas industry throughout the 2010s<sup>29</sup>, prefers to procure its oil from Saudi Arabia, Russia and Iraq. Moreover, President Tokayev's desire to double the capacity of the Atyrau-Kenkiyak and Kenkiyak-Kumkol stretches<sup>30</sup> seems to be a fanciful solution to make the Kazakhstan-China oil pipeline a back-up for the CPC, all the more so because China is benefiting from the sanctions to get its hands on Russian hydrocarbons.<sup>31</sup> China is also reluctant to succumb to the pressure exerted by Moscow concerning the transit of Kazakh oil. On the one hand, Beijing fears that the steep rise in oil prices could cause global consumption to plummet, ultimately impacting the Chinese economy itself, which is heavily reliant on exports.<sup>32</sup> On the other hand, Xi Jinping clearly attaches particular significance to Kazakhstan, where, on 14 September 2022, he made his first international visit since the coronavirus crisis—a trip during which he also assured President Tokayev of China's support concerning Kazakh sovereignty and integrity, which have notoriously been contested by Russia since the outbreak of the war in Ukraine.

28. In 2021, Kazakhstan is believed to have dispatched 53 million tonnes of its oil *via* the CPC and 12 million tonnes via the Atyrau-Samara pipeline, taking the share of Kazakh exports that year accounted for by Russian oil pipelines to no less than 97%. A. Kaliev, "Smozhet li Kazakhstan naladit' eksport nefiti v obkhod Rossii" [Can Kazakhstan boost its oil exports while bypassing Russia?], InoSMI, 19 July 2022, available at: <https://inosmi.ru>.

29. A. Kumenov, "Kazakhstan: prizrak kitajskogo kontroli nad nef'tiu i gazom – po bol'shej chasti ill'uziâ" [The spectre of Chinese control over Kazakhstan's oil and gas is largely an illusion], InoSMI, 26 August 2022, available at: <https://inosmi.ru>.

30. A. Syzdykbaev, "Rasshirit' nefteprovod 'Atyrau – Kenkiyak – Kumkol' planiruiut v Kazakhstane" [Kazakhstan plans to boost the capacities of the Atyrau-Kenkiyak-Kumkol oil pipeline], Kazinform, 20 May 2022, available at: [www.inform.kz](http://www.inform.kz).

31. In June 2022, China saw 8.42 million tonnes of oil delivered *via* Russia (compared with 5.44 million tonnes in June 2021), which exceeded the amount from Saudi Arabia (7.82 million tonnes), Beijing's largest supplier. "Boudé par l'Occident, le pétrole russe inonde la Chine" [Shunned by the West, Russian oil is flooding China], *Le Figaro*, 20 June 2022, available at: [www.lefigaro.fr](http://www.lefigaro.fr).

32. J. Webster, P. Ryan, "Perspectives | Beijing and Moscow Clash Over Kazakhstan's Oil", *Eurasianet*, 11 August 2022, available at: <https://eurasianet.org>.

Meanwhile, the gas aspect of Sino-Central Asian trade gives rise to several paradoxes. Despite a moratorium decreed on its gas exports in order to preserve prices in its market following the Kazakh crisis of January 2022<sup>33</sup>, Uzbekistan seemed to benefit from a significant increase in revenues, specifically from gas sales to China (which totaled more than 400 million dollars in the first half of 2022).<sup>34</sup> As regards Turkmenistan, under the presidency of Gurbanguly Berdymukhamedov, the country agreed with China, before the war in Ukraine began, to add a fourth segment to the Central Asia-China gas pipeline<sup>35</sup>. This objective was maintained by the successor and son of the former head of state, Serdar Berdymukhamedov, with the construction of a “Line D” *via* Uzbekistan, Tajikistan and Kyrgyzstan that is intended to boost the annual capacity of the Central Asia-China pipeline from 55 to 65 billion m<sup>3</sup>. This project marks a U-turn from the strategy that had been implemented for the previous several years by Ashgabat, which, in an attempt to escape China’s diktat on the sale price of its gas, had made an effort to find new international outlets. This initiative led it to relaunch its gas partnership with Iran and to carry out an ambitious project with several South Asian countries.

## The Iran-South Asia Belt: A Vehicle for Cooperation and Blockades

The improvement in relations between Turkmenistan and Azerbaijan has also benefited Iran, which signed a swap (an agreement to exchange financial flows) with those two countries in the gas sector during the ECO summit held in Ashgabat on 28 November 2021. Whereas they initially envisaged a volume of 1.5 billion m<sup>3</sup> per year, the parties agreed, during summer 2022, to double their gas exports in the context of this trilateral agreement.<sup>36</sup> Alongside this agreement, Ashgabat also became involved in the creation, over 1,814 km, of a gas pipeline between Turkmenistan, Afghanistan, Pakistan and India (the TAPI pipeline). The construction of this infrastructure, with an announced annual total capacity of 33 billion m<sup>3</sup> of gas (3 billion intended for Afghanistan, with 15 billion each for Pakistan

33. “Bloody January” began after the price of LPG suddenly doubled in the region of Mangystau, in western Kazakhstan.

34. Of course, we cannot rule out the possibility that the rise in global hydrocarbon prices, under the impact of the embargoes imposed on Russian exports, can explain this increase in the value of Uzbek gas exports to China, whose customs authorities have not disclosed the physical volume of such exports. “Vyruchka Uzbekistana ot eksporta gaza v Kitaj vyrosla bolee chem vdvoe” [Revenues from Uzbek gas exports to China have more than doubled], *Spot.uz*, 20 July 2022, available at: [www.spot.uz](http://www.spot.uz).

35. “Ashkhabad i Pekin dogovorilis’ o stroitel’stve chetviortoj vetki gazoprovoda Turkmenistan-Kitaj” [Ashgabat and Beijing have agreed to add a fourth segment to the Central Asia – China gas pipeline], *Radio Azatlyk*, 8 February 2022, available at: <https://rus.azathabar.com>.

36. “Postavki gaza iz Turkmenistana v Azerbajdzhan cherez Iran mogut byt’ udvoeny” [Gas exports from Turkmenistan to Azerbaijan via Iran could double], *Ritm Evrazii*, 6 June 2022, available at: [www.ritm Eurasia.org](http://www.ritm Eurasia.org).

and India), began in 2015 before being suspended, several times, due to the situation in Afghanistan. Despite renewed uncertainty on the security front caused by the US army's withdrawal and the subsequent return to power in 2021 of the Taliban in Kabul—which led to the withdrawal of the ADB, the main financial backer of the TAPI project—, Turkmenistan continues to actively work on this project.<sup>37</sup>

In addition to this nascent cooperation in the gas sector, Afghanistan is increasingly connected to the republics of Central Asia in the field of electricity.<sup>38</sup> Uzbekistan, which undertook at the beginning of the year to supply 2 billion kWh of electricity to Afghanistan<sup>39</sup>, plays a key role in the interconnection of the Afghan and Central Asian networks. The high-voltage power line it is currently constructing between the cities of Surkhon (Uzbekistan) and Pol-e Khomri (Afghanistan) will effectively extend Central Asia's electrical network towards its southern neighbor. Tashkent also wants to connect this infrastructure to the Central Asia-South Asia Power Project, Central Asia's flagship hydropower project, better known as CASA-1000, which is intended to facilitate exports of surplus Kyrgyz and Tajik production to the Afghan and Pakistani markets (with a target of 4.6 billion kWh per year). CASA-1000 rests on a network of 500 kW high-voltage power lines linking, either directly or indirectly, the substations of Datka (Kyrgyzstan), Khodjent and Sangtuda (Tajikistan), Kabul (Afghanistan) and Peshawar (Pakistan). This domain has also been affected by the recurrent instability in Afghanistan, which has led to the postponement of CASA-1000's entry into service until 2024.

37. "Turkmenistan zainteresovan v uskorenii rabot po stroitel'stvu truboprovoda TAPI" [Turkmenistan is interested in accelerating construction of the TAPI pipeline], *Biznes Turkmenistan*, 23 August 2022, available at: <https://business.com.tm>; "Reanimatsiia proekta gazoprovoda TAPI nachniotsia cherez polgodu" [The TAPI gas pipeline project will resume within six months], *Neft' i Kapital*, 9 June 2022, available at: <https://oilcapital.ru>.

38. The electrical network put in place in the 1960s by the Soviet Union in Central Asia created links of interdependence between those countries. For example, in 2021 Kyrgyzstan imported 1 billion kWh of electricity from three other Central Asian countries (300 million from Kazakhstan, 246 million from Uzbekistan and 500 million from Turkmenistan). D. Musuralieva, "Kyrgyzstan snova importiruet energiiu i v bol'shem ob'eme. Kogda zazhiviom bez pomoshchi sosedej?" [Kyrgyzstan is importing energy again, in large quantities. When will we be able to live without help from our neighbors?], *Kaktus Media*, 30 July 2022, available at: <https://kaktus.media>. Kazakhstan has a much greater dependence in this area on Russia, which provided it with 1.8 billion kWh of electricity in 2021, than on the other countries of Central Asia, from whom it imported just 305 million kWh. "Otchiot. Analiz rynka elektroenergii i uglia Kazakhstana ianvar'-dekabr' 2021 goda" [Report. Analysis of the Kazakh electricity and coal market in the period from January to December 2021], *Samruk Energy*, January 2022, p. 10, available at: [www.samruk-energy.kz](http://www.samruk-energy.kz).

39. U. Amueva, "Uzbekistan i Afganistan podpisali kontrakt na \$100 mln na postavku elektroenergii" [Uzbekistan and Afghanistan have signed an electricity supply contract worth 100 million dollars], *Anadolu Agency*, 3 January 2022, available at: [www.aa.com.tr](http://www.aa.com.tr).



**Map 4: Central Asia – South Asia: electrical networks in the process of interconnection**



# The Central Asian Water Basin: Fragmentations, Interconnections and Risks

When it comes to water, the problem facing Central Asia relates not so much to the quantity of resources available as to access to said resources, which differs according to each different country. While this situation has been responsible for a great many tensions in the region since 1991, a consensus is arising, at a time when several factors (extensive irrigation in arid areas, pollution, climate change, etc.) are threatening the water security of the republics of Central Asia.

## Dry Lands not Lacking in Water

Central Asia is a veritable paradox in terms of water. Though an arid region made up of a series of dry depressions, like the steppes of Kazakhstan and the deserts of Uzbekistan (Kyzylkum) and Turkmenistan (Karakum), Central Asia is not lacking in water resources, having an enclosed sea on its western border (the Caspian Sea) and, in particular, two water towers at its eastern end (the Tian Shan mountains in Kyrgyzstan and the Pamir mountains in Tajikistan), where we can find the origin of Central Asia's most important rivers: the Syr Darya and the Amu Darya.

While the Amu Darya's average annual flow is considerably larger than that of the Syr Darya (79 versus 37 km<sup>3</sup> of water approximately), both rivers criss-cross Central Asia over more than 2,000 km—particularly Uzbekistan, whose entire length is traversed—before emptying into the Aral Sea, whose basin covers every Central Asian country, as well as Iran, Afghanistan and, in part, Xinjiang. The basin of Lake Balkhash and the Junggar Basin also help to ensure the provision of water to the low, dry lands of Central Asia (in this case, those of Kazakhstan). This multitude of cross-border drainage basins, which is still sufficient to keep the five Central Asian countries above the water stress threshold (1,700 m<sup>3</sup> per year/inhabitant, as defined by the WHO)<sup>40</sup>, creates ties of interdependence between the states located

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40. Disparities in water access can be seen, however, at the international level, as shown by the case of Kazakhstan. While the eastern part of that country accounts for 75% of its water resources (thanks primarily to the rivers of the water basins of Lake Balkhash and the Irtysh river), its central part has just 3%. A. Cariou, "L'eau et l'aménagement du territoire en Asie centrale. Une ressource fondamentale pour un développement à repenser" [Water and land development in Central Asia: a key resource for development that needs to be redesigned], *Cahiers d'Asie centrale*, 25 | 2015, p. 26, available at: <https://journals.openedition.org>.

downstream of the Syr Darya and Amu Darya (Kazakhstan, Uzbekistan and Turkmenistan) and those upstream (Kyrgyzstan and Tajikistan).

**Map 5: Water frontiers and state borders, separate realities in Central Asia**



**Table 4: Annual water contributions of the Syr Darya and the Amu Darya by country (in km<sup>3</sup>)**

COUNTRY	SYR DARYA	AMU DARYA
<b>Kazakhstan</b>	2.5	0
<b>Uzbekistan</b>	5.6	6.8
<b>Turkmenistan</b>	0	1.4
<b>Kyrgyzstan</b>	27.5	1.6
<b>Tajikistan</b>	1	58.8
<b>Afghanistan &amp; Iran</b>	0	10.8
<b>TOTAL</b>	<b>36.6</b>	<b>79.4</b>

Source: "Investicii v vodno-energetičeskij kompleks Central'noj Azii" [Investments in the water and energy system of Central Asia], Centre of Sectoral Analyses and Integrated Studies of the Eurasian Development Bank, 2021, p. 13, available at: <https://eabr.org>.

## Duality in Access to and Management of Blue Gold

In the context of its division of labor in Central Asia, the Soviet Union equipped Kyrgyzstan and Tajikistan with hydroelectric dams in order to store water during winter and better irrigate, during the farming seasons (spring and particularly summer), the arable land of Kazakhstan, Uzbekistan and Turkmenistan. In return, those three republics had to supply Kyrgyzstan and Tajikistan with oil, natural gas and coal, so as to enable them to meet their energy and heating needs, particularly in the winter. The independence of the republics of Central Asia in 1991 brought this system of co-management of water resources into question. Wanting to develop their hydropower potential as a form of energy autonomy from their hydrocarbon-producing neighbors, Kyrgyzstan and Tajikistan, together responsible for 85% of water supplies in Central Asia, began the construction of dams (Kambar-Ata in 2022 for Kyrgyzstan; Rogun in 2016 for Tajikistan), with the aim of promoting a water management strategy oriented primarily towards meeting their own domestic needs.

Dependent on water supplies from Kyrgyzstan and Tajikistan, the three downstream countries do not find themselves in a completely identical situation. On the one hand, Uzbekistan (80%) and Turkmenistan (97%) have far higher water dependence rates than Kazakhstan, of whose water only 40% comes from abroad. There is some similarity between Kazakhstan and Turkmenistan, however, in the sense that both countries are dependent on non-Central Asian water suppliers. Before emptying into the part of the Caspian Sea that is under Kazakh sovereignty, the Ural river rises in the eponymous mountains in Russia; the Ili river, which feeds into the Balkhash basin, rises in Xinjiang, where the development of hydropower projects is causing concern to the Kazakh authorities. Turkmenistan, for its part, depends on the Harirud and Murghab rivers (Afghanistan) and the Atrek river (Iran)<sup>41</sup>. On the other hand, its low population density, its higher standard of living and the industrialization of its economy lead Kazakhstan to use its water resources more responsibly than its neighbors in lower Central Asia. The importance of farming as a proportion of GDP in Turkmenistan (20%) and Uzbekistan<sup>42</sup> (26%) means that water consumption is higher in those two countries, which have the highest water

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41. A. Cariou, "L'eau et l'aménagement du territoire en Asie centrale. Une ressource fondamentale pour un développement à repenser" [Water and land development in Central Asia: a key resource for development that needs to be redesigned], *op. cit.*, p. 7-8.

42. 90% of the water consumed in Uzbekistan is used for farming purposes. It is worth mentioning that this country alone covers half the irrigated land in Central Asia, or 4.2 million hectares. M. Maurel, "Quelle géopolitique de l'eau en Asie centrale et dans le Caucase ?" [What are the geopolitics of water in Central Asia and the Caucasus?], French Observatory of the New Silk Roads, 15 November 2020, available at: <https://observatoirenrs.com>; "2019 Water Yearbook: Central Asia and Around the Globe", UNRCCA, 10 December 2020, p. 121, available at: <https://unrcca.unmissions.org>.



exploitation rates in the region: 112.5% for Turkmenistan and 120.5% for Uzbekistan.<sup>43</sup> While their water exploitation rates are more reasonable, Kazakhstan (21.7%), Kyrgyzstan (32.6%) and Tajikistan (44.6%) are also in a situation of water stress, according to the criterion established by the European Environment Agency (a water exploitation rate of above 20%).

## Map 6: Water resources in Central Asia: withdrawal and usage



## Water Security in Central Asia: Between Threats and Glimmers of Hope

In the space of 40 years, the availability of water resources in Central Asia has fallen from 8,400 m<sup>3</sup> per inhabitant to just 2,500 m<sup>3</sup>. If it continues to see annual demographic growth of 1.5%—with a peak of 1.6 % in 2020—,

43. Figures produced for the year 2018 by AQUASTAT, the UN's global information system on food and farming.

Central Asia risks dropping below the water stress threshold from 2030.<sup>44</sup> The disrepair of local water infrastructure, which mostly dates back to the Soviet period and has not been sufficiently well maintained by the new authorities since 1991, makes it unfit to respond effectively to this increased demand for water. For example, in the farming sector, 70% of the water intended for irrigated land in lower Central Asia is believed to be lost en route<sup>45</sup>, with additional explanatory factors including aridity and climate change, for which the region is already paying a high price. The rise in temperatures in Central Asia, which has been two times greater than the global average since the 1970s, is causing glaciers to melt in Kyrgyzstan and Tajikistan<sup>46</sup>, resulting in reduced river flows. The World Bank, in its most pessimistic predictions, forecasts a drop of 5% in the level of the Syr Darya basin and of 15% in that of the Amu Darya. A consequence of the emptying of industrial waste water and agricultural drainage water into the region's major rivers, but also of the intensive salinization practiced by the USSR (particularly around the Aral Sea, which now occupies just 10% of its original surface area), the pollution of local water systems only makes this situation worse, although improvements are being made.

At the regional level, while initiatives aimed at the integrated management of water resources had been doomed to failure since 1991<sup>47</sup>, the appointment of Shavkat Mirziyoyev as President of Uzbekistan in 2016 breathed new life into this issue. Having been opposed to hydropower projects in upstream countries under Islam Karimov<sup>48</sup>, Uzbekistan is now making a concerted effort in this area: in 2018 it created a working group for the joint management of water with Tajikistan<sup>49</sup>, and it has even proposed to fund the Kambar-Ata project in Kyrgyzstan and the Rogun project in Tajikistan. Moreover, on 6 August 2021 in Turkmenbashi, the third edition of the Consultative Meeting of the Heads of States of Central

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44. "Central Asia. Water & Energy Program. Working for Energy and Water Security", World Bank, 6 September 2019, p. 3, available at: <https://documents.worldbank.org>.

45. R. Sidos, "L'eau en Asie centrale : un dialogue difficile" [Water in Central Asia: a difficult conversation], *Regard sur l'Est*, 22 April 2019, available at: <https://regard-est.com>. The Karakum Canal, which is supposed to supply half of the arable land in Turkmenistan, is believed to be losing one third of its resources. "Water in Central Asia. An Increasingly Scarce Resource", European Parliament Think Tank, 12 September 2018, p. 9, available at: [www.europarl.europa.eu](http://www.europarl.europa.eu).

46. The glaciers of the Zeravshan mountains could reduce by between 25 and 30 km<sup>2</sup> over the next 50 years, which would halve their water flow. "2019 Water Yearbook: Central Asia and Around the Globe", *op. cit.*, p. 84.

47. The cooperation agreement signed in Almaty in 1992 for the common management of water resources was not respected by the countries of Central Asia in practice. The Interstate Commission for the Coordination of Water Management in Central Asia, which was set up that same year to regulate consumption of the diverted water from the Amu Darya and the Syr Darya, rapidly proved to be ineffective.

48. The first Uzbek president took a firm approach: for example, in 2016, in response to Kyrgyzstan's desire to assert its control over the water infrastructure located near the border with Uzbekistan, Islam Karimov deployed troops on the other side of the border.

49. Kazakhstan itself signed agreements with Kyrgyzstan concerning the management of the Chu and Talas rivers.

Asia (another initiative of President Mirziyoyev) led to the adoption of a joint declaration focused on water-related issues. At that meeting, the five Central Asian leaders stressed the importance of agreeing on common positions concerning glacier preservation and water purification and drinkability, whilst also supporting the actions of the International Fund for Saving the Aral Sea, an organisation that Kyrgyzstan had turned its back on in 2016. For its part, Kazakhstan is expressing greater interest in water management: after setting up a Water Council in March 2022, the government in Astana is seeking to relaunch the abandoned Central Asia Hydropower Consortium project.<sup>50</sup>

At the national level, unlike Turkmenistan, which remains by far the biggest water consumer of Central Asia<sup>51</sup>, Kazakhstan and Uzbekistan are working to combat the waste of this resource. Kazakhstan has announced the renovation of 120 irrigation channels by 2025, with the aim of reducing water losses by 800 million m<sup>3</sup> each year.<sup>52</sup> Uzbekistan has chosen to construct infrastructure aimed at smart water management: for example, it intends to make greater use of water-saving technologies (planned to be implemented for 2 million hectares of arable land) and micro-irrigation technologies (600,000 hectares).<sup>53</sup> The drop in Uzbek cotton exports between 2000 (40%) and today (10%) shows how Uzbekistan has changed its focus to other agricultural products. In this respect it took its lead from Kazakhstan, which quickly replaced cotton with wheat, a crop that consumes half as much water. The remodeling of its agriculture industry has enabled Kazakhstan to position itself as a major cereal producer that is better placed to deal with the food insecurity brought about by the war in Ukraine. The fact remains that the major challenge that the countries of Central Asia must face if they wish to boost their water productivity is ending the practices they inherited from the Soviet Union, involving extensive irrigation of arid and semi-arid areas in order to reorient river flows towards naturally fertile land.

50. S. Lapteva, “V Kazakhstane obsuzhdaiut vodno-energeticheskij konsortsium TsA” [Kazakhstan starts work on the creation of a Central Asian hydropower consortium], *Večernij Biškeek*, 28 July 2022, available at: [www.vb.kg](http://www.vb.kg).

51. Turkmenistan’s high water consumption, which stands at around 6,000 m<sup>3</sup> per year per inhabitant (no less than triple that of Uzbekistan), can once again be explained primarily by the high level of evaporation of the water transported via the Karakum desert via the eponymous canal (see note 45).

52. “V Kazakhstane do 2030 ploshchad’ oroshaemykh zemel’ budet dovedena do 3 mln ga – S. Brekeshev” [By 2030, the surface area covered by irrigated land in Kazakhstan will be 3 million hectares, according to the Minister of Ecology, Geology and Natural Resources, Serikkali Brekeshev], Prime Minister of the Republic of Kazakhstan, 5 October 2021, available at: <https://primeminister.kz>.

53. Objectives announced by the Programme for the Development of the Hydropower Sector in the Republic of Uzbekistan for the 2022-2030 period. “Rethinking the Nexus of Climate Change, Development and Discourse of Danger in Central Asia”, University of Central Asia (UCA), 29 September 2020, p. 3, available at: <https://ucentralasia.org>.

# Conclusion

The cross-over study of connectivity in the transport, energy and water sectors shines a light on the conflicting realities in Central Asia. In addition to this diversity in the use of their land and the exploitation of their resources since they declared independence in 1991, the republics of Central Asia have, as a whole, long shown signs of division.

In 2022, the major crises they face, from the war in Ukraine to the chaos in Afghanistan, not forgetting climate change, are leading the countries of Central Asia to rethink matters related to transport, energy and water in a way that is less solitary and less antagonistic. On top of the unprecedented shared desire of these states to become more involved in globalization, these crises are posing challenges that complicate their quest to open up: blockades by Moscow of the transit of Kazakh oil; the slowdown of the TAPI gas project and the CASA-1000 hydropower project due to the uncertainty that reigns in Afghanistan; and the persistence in Central Asia of Soviet networks and methods for managing water resources.

While extraordinary in terms of its severity and potential, the current context is nevertheless rather typical, since it places Central Asia—as at many times throughout its history—in a situation where it is dependent on the actions of foreign powers. Russia seems to be in retreat from the geoeconomic reconfiguration of a region where China, Iran and the Caucasian duopoly of Turkey and Azerbaijan are calling the shots. The initiatives of the US and the EU also make them actors worth watching. USAID dedicated the twelfth edition of the Central Asia Trade Forum, held in Astana on 12 and 13 October 2022, to the digitalization of services.<sup>54</sup> As regards the EU, on 1 December 2021 the European Commission announced the Global Gateway, a connectivity project concerning the international development of transport, energy and digital networks. The regional conference co-organised by the EU in Samarkand on 17 and 18 November 2022 proves that Central Asia plays a key role in this mechanism.<sup>55</sup>

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54. “USAID’s 12<sup>th</sup> Central Asia Trade Forum Seeks to Advance Connectivity and Trade in Region”, The Astana Times, 7 October 2022, available at: <https://astanatimes.com>.

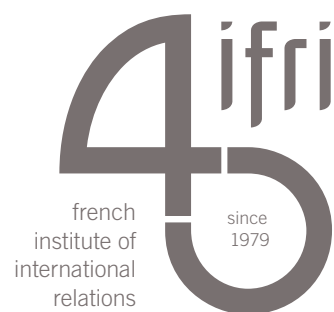
55. “European Union and Central Asia Will Hold the First Regional Conference on Connectivity in November 2022”, News Central Asia, 18 July 2022, available at: [www.newscentralasia.net](http://www.newscentralasia.net).



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