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Between energy and connectivity: the strategic potential of the EU-Azerbaijan-Kazakhstan tripartite cooperation

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Abstract

The aim of this proposal is to evaluate and analyse the potential of the tripartite cooperation among EU, Kazakhstan and Azerbaijan to successfully implement EU priorities to promote a southern energy corridor and the Euro-Asian connectivity, benefiting of the geographic-geopolitical position of these Caspian countries as strategic transit hub for connectivity projects (such as the Middle Corridor) and both supplier-transit role in the energy field. Following the Russia-Ukraine war, the geopolitical relevance of this trilateral cooperation has further become relevant, pushing all the involved actors to work together in order to actively develop alternative transport and energy routes to bypass Russian territory and reach the EU, escaping from the negative effects of international sanctions on trade and Russian railways. We can observe a promising convergence between European goals and the strategic aspirations of some Caspian states, which are engaged to look for alternative energy and trade routes to reach the western markets: countries like Azerbaijan and Kazakhstan are actively working together to improve bilateral cooperation and good-neighbourly relations, a scenario which allow them to achieve their objectives as well as to support EU initiatives of energy diversification and promotion of the Euro-Asian connectivity.

The promotion of the Middle Corridor (as well as the implementation of the Southern Gas Corridor and the Green Energy corridor project) represent key priorities and strategic options to pave the way for a long-term and high-level tripartite cooperation. Among them, the Green Energy corridor project appears as a win-to-win option which will support both the EU attempts to successfully implement a decarbonisation process and energy transition thanks to the clean electricity supply coming from the Caspian Sea producers. According to the Azerbaijan and Kazakhstan perspective, the Green Energy corridor represents a key cornerstone to further promote and deep bilateral cooperation based on a sustainable energy mode also able to enhance their diversification strategy of exports, no more only based on hydrocarbons.

Introduction: the convergence of strategic interests on the basis of the tripartite format of cooperation

Following the outbreak of the Russia-Ukraine war, we can observe a strategic convergence of shared geopolitical interests and economic priorities among EU member states, Caspian and Central Asian states for deepening political dialogue and cooperation in order to downplay the negative impacts from the reshaped geopolitical landscape. All involved actors aim to promote alternative trade and energy routes to bypass transit on Russian territory, affected by international sanctions, engaging them in a profitable strategy of diversification which could boost their economic and energy security, thus reducing their reliance on Russia.

Kazakhstan and Azerbaijan have clearly emerged as the main and key leading actors engaged with the EU to promote and further enhance a mutual cooperation on energy security, connectivity, minerals and renewable energy sources, paving the way for a kind of tripartite format of cooperation and political dialogue: this convergence between EU goals with the strategic aspirations of some Caspian states – namely Azerbaijan and Kazakhstan, engaged to look for alternative energy and trade routes to reach the western markets - will support EU initiatives of energy diversification and promotion of the Euro-Asian connectivity.

In 2026, Iran-US conflict and the following instability in the Middle East have further emphasized the EU's vulnerabilities, given the disruptions affecting maritime trade and energy routes crossing the strategic chokepoint of Bab el Mandeb, but blatantly reinforcing at the same time the strategic role of the Caspian states as reliable partners to implement alternative trade and energy routes in order to preserve EU security

Building an Asia-Europe Connectivity Architecture: the key role of the Caspian region

Although the European Union has begun to consider - starting in 2018 with the EU-Asia Connectivity Strategy document - Central Asia and Caspian basin as a key corridor for strengthening the connectivity architecture between East and West,[1] only after the outbreak of the conflict between Russia and Ukraine in February 2022 all the involved actors agreed on the shared need to promote a trans-Caspian trade and energy route, as an alternative corridor to bypass Russian territory.

As a matter of fact, before February 2022 86 percent of land traffic between China and Europe took place through a northern corridor named New Eurasian Land Bridge (NELB), a network of rail corridors - conceived under the Belt and Road Initiative (BRI) promoted by Beijing - that shipped goods through Kazakhstan, Russia, Belarus, and Poland.[2] Following Western sanctions, this transport route has become economically vulnerable and less attractive, strengthening joint efforts to develop alternative corridors to avoid transit through Russia. From this perspective, a wider framework of cooperation among Caspian states, Central Asian countries and the EU - based on the common goal to promote a geographic diversification of the transport routes - emerges as a concrete option to implement an alternative east-west energy and trade corridor.

The Caspian basin emerges as the key strategic linchpin. Among potential Trans-Caspian corridors, the central route appears the most feasible to develop: the Middle Corridor - the Trans-Caspian International Transport Corridor (TITR) - is the flagship project along the East-West trade route, conceived to link the two shores of the Caspian Sea within an intermodal transport route, combining overland and maritime routes of transport.

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1 External Europe Action Service. 2018. "Connecting Europe & Asia: The EU Strategy." *The Diplomatic Service of the European Union*, September 19, 2018. https://www.eeas.europa.eu/eeas/connecting-europe-asia-eu-strategy_en.

2 World Bank, "Middle Trade and Transport Corridor". Washington, D.C.: World Bank Group, 2023. https://openknowledge.worldbank.org/server/api/core/bitstreams/7e6a216e-eb56-4783-ba1b-b7621abddcd9/content.

According to the current definition, the Middle Corridor runs from the Khorgos dryport (on the Sino-Kazakh border) through Kazakhstan to the ports of Aktau and Kuryk on the Kazakh shore of the Caspian Sea, from where goods are shipped by sea to the Alat International Port in Baku (Azerbaijan) and then delivered through the Baku-Tbilisi-Kars (BTK) railway line to Türkiye and finally to Europe. Compared to the traditional Northern Corridor, the Middle Corridor runs along a shorter route - 7,000 km compared to the 10,000 km of the NELB - while travel times are similar (two weeks), even if slow progress in harmonizing transit procedures among the involved nations could extend travel time to 40-60 days.[3]

According to the World Bank's estimates, the Middle Corridor would have a huge potential as alternative trade route, able to significantly increase the volume of transported goods from 2.3 million tons in 2023 to 11 million tons by 2030, if new infrastructures and connections of this intermodal project will be strengthened and developed.[4]

The EU strongly supports the Middle Corridor project as alternative trade route bypassing Russia, pledging to invest in the modernization and realisation of new related infrastructures: in January 2024 the EU Commission allocated €10 billion under the Global Gateway Initiative with the aim of developing an efficient alternative transport route based on multimodality, combining land and maritime transport, while a Global Gateway Investment Package worth €12 billion was announced during the first-ever EU-Central Asia summit in Samarkand (April 2025) when the parties decided to establish the Strategic Partnership as a political framework to provide a renewed impulse to the project.[5]

In this intermodal perspective which characterizes the Middle Corridor, an improved cooperation between the EU and the Caspian littoral countries (Kazakhstan, Azerbaijan, and Turkmenistan) represents a key strategic cornerstone, based on the development of seaports within an integrated synergy - as logistics hubs of the TITR project – as well as emphasizing the

[3] European Commission, "Sustainable transport connections between Europe and Central Asia." *European Commission and European Bank for Reconstruction and Development*, June 16, 2023. https://transport.ec.europa.eu/transport-themes/international-relations/study-sustainable-transport-connections-central-asia_en.

[4] World Bank, Middle Trade and Transport Corridor, 2023

[5] European Commission, "Global Gateway: €10 billion commitment to invest in Trans Caspian Transport Corridor connecting Europe and Central Asia announced at Investors Forum." *European Commission*, January 29, 2024, https://ec.europa.eu/commission/presscorner/detail/mt/ip_24_501; European Commission, "The European Union and Central Asia establish a Strategic Partnership during groundbreaking summit", April 4, 2025, https://ec.europa.eu/commission/presscorner/detail/en/ac_25_990 ,

geographic centrality of these countries as crossroads of the various rail and road corridors along the east-west route. The convergence of the strategic interests among the actors appears clearly evident: the EU purpose to develop an alternative trade corridor to avoid transit in Russia is combined with Kazakhstan and Azerbaijan ambition to reduce their dependence on Russian trade routes - as geographically and economically landlocked states - through a strategy of diversification which push them to actively support these international transport corridors, paving the way for an enhanced bilateral cooperation aimed at integrating their railroad and railway infrastructures and merging them in the realisation of the Trans-Caspian Corridor.

Kazakhstan's political and economic commitment to the concrete implementation of the TITR has significantly increased since February 2022, through a series of joint initiatives with the countries involved, but especially deepening cooperation with Azerbaijan, a key partner in the Trans-Caspian Corridor project. In March 2022, Kazakhstan, Azerbaijan and Georgia agreed on the development of the Trans-Caspian International Transport Route, also envisaging to establish a "Eurasian Rail Alliance".[6]

Strengthening connectivity has become a priority during several high-level summits between Kazakh President Tokayev and Azerbaijani President Aliyev, focusing coordinated efforts to modernize Caspian ports and to improve road and rail links increasing transport capacity, as essential steps to implement the Middle Corridor. For instance, the "Roadmap for 2022-2027 for the Development and Operation of the Middle Corridor"- adopted at the second trilateral meeting of the foreign and transport ministers of Kazakhstan, Azerbaijan, Georgia and Türkiye in November 2022 - includes these objectives, to be pursued through policies aimed at reducing travel and waiting times for goods, harmonizing tariffs, eliminating bottlenecks that slow down traffic, and reducing costs, thus making the Middle Corridor a more effective and attractive transport option.[7]

In this perspective, the main priority for Kazakhstan and Azerbaijan is to strengthen domestic transport infrastructures (ports, highways, railways)

6 Yunis Sharifli, "Middle Corridor: Potential Alternative to Russian Railways?", Eurasia Daily Monitor, vol.19, issue 56, April 19, 2022, https://jamestown.org/middle-corridor-potential-alternative-to-russian-railways/

7 The Middle Corridor, "Foreign Ministers of the four countries discussed the development of the TITR, 2022, https://middlecorridor.com/ru/press-tsentr/novosti/ministry-inostrannykh-del-chetyrekh-gosudarstv-obsudili-razvitie-tmtm

so expanding their capacity in order to become key logistic hubs within the TITR. According to President Tokayev, over the last 15 years the Central Asian nation invested $35 billion in transport infrastructure, and plans to build 1,300 km of additional railway lines by 2027, also including a new railway to China which will increase freight turnover between Kazakhstan and China from 28 million tons to approximately 48 million tons.[8]

The international ports of Aktau and Kuryk - Middle Corridor's maritime terminals on the eastern shore of the Caspian Sea - have a combined capacity of 24 million tons per year (respectively 18 million and 6 million), but their capacity is only one-third, considering that 50 percent of their traffic consists of oil exports, while container traffic accounts for only 15 percent.[9] The expansion of the merchant fleet is the precondition to legitimize Kazakh ambition to play a linchpin role in the Middle Corridor, moving from the existing 17 vessels to 24 including tankers, ferries and container ships to deliver goods and oil volumes along the two shores of the Caspian Sea.[10]

The "Comprehensive Maritime Infrastructure Development Plan for the Republic of Kazakhstan for the years 2024-2028" aims to develop and enhance transport and logistic capacity in the Caspian ports, also advancing digitalisations. The expected results of this initiative include achieving a threefold increase in container handling capacity, doubling the volume of transit cargo traffic, and enhancing export and import volumes by 1.5 times.[11] In April 2026 Kazakh Prime Minister Olzhas Bektenov announced the expansion of container hubs at the ports of Aktau and Kuryk accelerating its ambition to become a key logistics hub between

8 Assel Satubaldina, "Kazakhstan Capitalizes on Geopolitical Shifts to Emerge as Eurasia's Transport and Logistics Hub", The Astana Times, November 17, 2023, https://astanatimes.com/2023/11/kazakhstan-capitalizes-on-geopolitical-shifts-to-emerge-as-eurasias-transport-and-logistics-hub/ ;TASS, "Kazakhstan has begun construction of a new railway to China", December 21, 2023, https://tass.ru/ekonomika/19596475

9 World Bank, Middle Trade and Transport Corridor, 2023

10 Luca Urciolo, "The Middle Corridor's Reality Check: Advancements and Challenges in Port Infrastructure in the Greater Caspian Region", EIAS, February 28, 2025, https://eias.org/policy-briefs/the-middle-corridors-reality-check-advancements-and-challenges-in-port-infrastructure-in-the-greater-caspian-region/

11 "On approval of the Comprehensive Plan for the Development of Maritime Infrastructure of the Republic of Kazakhstan for 2024–2028", Information and legal system regulatory legal acts Republic of Kazakhstan, April 29, 2024, https://adilet.zan.kz/rus/docs/P2400000343#z13

Asia and Europe: indeed, transit volumes along the Middle Corridor have tripled over the past five years.[12]
Azerbaijan represents the strategic and obligatory gateway for the Middle Corridor, given its pivotal geographic location between East and West: in order to further increase its role in the regional connectivity architecture, Baku has been engaged to upgrade and to expand the capacity of the infrastructural backbones within the TITR, namely the port of Baku and the BTK railway corridor, which allow goods shipped along the Caspian Sea to be delivered from the Caspian coast to the Turkish markets and then to the EU.

In 2018 Azerbaijani President Alyiev inaugurated the new port of Baku in Alat (Baku International Sea Trade Port), with the purpose to expand the transport capacity along an east-west trade route focused on Azerbaijan's centrality: the ferry terminal at the port plays a pivotal role in the Middle Corridor, handling 80 percent of its operations as transit cargo primarily from Kazakhstan and Turkmenistan, while Azerbaijani government also opened a free economic zone to attract international investments and trade.[13]

Moreover, Alat is directly connected with the BTK railway link - operational since 2017 - a key component of the TITR corridor, which has increased transport capacity from 1 to 5 million tonnes, reaching an estimated 17 million tonnes of goods in the coming years.[14]

Following the reshaped connectivity architecture after 2022 events, Azerbaijan announced the second phase of expansion of Baku port, to increase its annual capacity from 15 to 25 million tons, which will require more than 10 million euro in investments.[15]

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12 "Kazakhstan Expands Container Hubs at Aktau, Kuryk to Boost Trans-Caspian Trade", The Caspian Post, April 23, 2026, https://caspianpost.com/kazakhstan/kazakhstan-expands-container-hubs-at-aktau-kuryk-to-boost-trans-caspian-trade

13 Urciolo, The Middle Corridor's Reality Check: Advancements and Challenges in Port Infrastructure in the Greater Caspian Region, 2025

14 "Baku-Tbilisi-Kars Railway Celebrates Seven Years of Transforming Regional Connectivity". *Caspian News*, October 31, 2024, https://caspiannews.com/news-detail/baku-tbilisi-kars-railway-celebrates-seven-years-of-transforming-regional-connectivity-2024-10-31-0/

15 European Council, "EU HR Kallas visits Azerbaijan", April 25, 2025, https://newsroom.consilium.europa.eu/events/20250425-eu-hr-kallas-visits-azerbaijan

In this Trans-Caspian corridor blueprint, also Turkmenistan - as Caspian state - would be potentially involved opening a southern branch of the Middle Corridor based on the Turkmenbashi port in the Caspian Sea as an alternative logistics hub (compared to the Kazakh ports) from which to send goods by sea to the port of Baku and then to European markets, following two different geographical routes, the BTK corridor or through the Caucasus to the Georgian ports on the Black Sea and subsequently towards the coasts of Bulgaria and Romania.[16] However, even if Ashgabat has expressed its support to the project, it appears too early to include Turkmenistan in a kind of quadripartite cooperation format, because its level of political and diplomatic commitment cannot be compared yet with Baku and Astana efforts to deeply work with the EU.

From the EU perspective, Kazakh-Azerbaijani bilateral cooperation aimed at promoting the Middle Corridor sounds promising because the EU Commission and the Council can benefit from the support of these regional leaders for the project implementation. For instance, Kazakhstan intends to sign an intergovernmental agreement with Azerbaijan on the Middle Corridor, moving to a needed institutionalisation of the Trans Caspian transport route to escape from the impact of escalating geopolitical tensions and ongoing disruptions to global logistics.[17]

In January 2026 the European Union and Azerbaijan agreed to deepen cooperation on investment and connectivity projects within the broader framework of the EU's Global Gateway strategy, while the European Bank for Reconstruction and Development (EBRD) envisages a feasibility study for the Nakhchivan railway project, as an additional alternative route within the Middle Corridor (not crossing Georgia) further achieving the strategic goal of geographically diversifying trade routes.[18] In June 2026, following the official visit of Kazakh President Tokayev in Brussels, EU and Kazakhstan signed deals to develop the Trans Caspian International

[16] Fabio Indeo, "Middle Corridor's implementation in the regional connectivity architecture", The Hague Research Institute, May 2026, https://hagueresearch.org/middle-corridors-implementation-in-the-regional-connectivity-architecture/

[17] Official Information Source of the Prime Minister of the Republic of Kazakhstan, "Olzhas Bektenov Participated in the Meeting of Heads of Government of the Member States of the Organization of Turkic States in Baku", April 2, 2026, https://primeminister.kz/en/news/olzhas-bektenov-participated-in-the-meeting-of-heads-of-government-of-the-member-states-of-the-organization-of-turkic-states-in-baku-31223 ,

[18] European Union External Action, "EU and Azerbaijan step up cooperation to boost investment and connectivity, European Commission Press Release, January 29, 2026, https://www.eeas.europa.eu/delegations/azerbaijan/eu-and-azerbaijan-boost-investment_en"

Transport Route within the context of the EU's Global Gateway program, reaffirming the strategic relevance of the Middle Corridor and the shared will to jointly cooperate in its enhancement.[19]

Trans-Caspian corridor, an alternative route for energy, minerals and clean electricity

In general terms, the construction of the Trans-Caspian corridor reflects the need to diversify transport routes to avoid transit through Russian territory following the events of February 2022. However, EU and Caspian states successfully reframe the same strategic reasons which characterize the Middle Corridor according to an energy dimension, allowing both parties to enhance their energy security, preserving the regularity of supply and boosting energy cooperation.

For the Caspian countries, the Middle "energy" corridor ensures their access to the European energy market, diversifying their exports mainly oriented to Russia and China. For the European states, the implementation of this east-west energy route would be geopolitically significant to reduce the dependence on Russian oil&gas imports, but also opening a profitable alternative route for importing clean electricity (produced from renewable sources) and green hydrogen - needed to support the EU ambitious target of climate neutrality and its energy transition - as well as for the transport of critical minerals and rare earths, in order to create an alternative supply chain escaping from the existent one under Chinese almost-total control.

Similarly to the trade routes, also in the energy sector Kazakhstan, EU and Azerbaijan share the same goals and strategic interests - namely diversification of supply routes and type of energy – a condition which pushes them to further cement their trilateral framework of cooperation.

Since July 2022, President Tokayev has officially declared that the Trans-Caspian route represents a priority within Kazakhstan's export

[19] Official Website. President of the Republic of Kazakhstan, "Joint Statement Strengthening the Strategic Partnership between Kazakhstan and the European Union", June 23, 2026, https://www.akorda.kz/ru/sovmestnoe-zayavlenie-ukreplyaya-strategicheskoe-partnerstvo-mezhdu-kazahstanom-i-evropeyskim-soyuzom-2351543

energy strategy:[20] following the temporary but frequent interruptions imposed by Russian company Transneft (alleging technical problems) on the transit of Kazakh oil through the Caspian Pipeline Consortium pipeline (CPC, which accounts for nearly 80 percent of Kazakh oil exports) Astana's government urgently needs to realize a westward export route, which must be based on the development of an enhanced energy cooperation partnership with Azerbaijan – as both key transit country and energy supplier - to coherently implement a diversification strategy for energy exports.[21]

Since its inauguration in 2006, the Baku-Tbilisi-Ceyhan pipeline (BTC, which has a nominal capacity of 1.2 million bbl/d) has represented a concrete option for Kazakhstan to deliver its energy supply through a westward oil export corridor. In spite of the original commitment to ship 500,000 bbl/d with tankers across the Caspian Sea, from the Kazakh port of Aktau to the Azerbaijani port of Baku - thanks to the expected growth of oil production in Kashagan and Tengiz - Kazakhstan was unable to reach this target, limiting its export. However, Russia's unreliability as a transit country has pushed Astana to increase its commitment to the Baku-Tbilisi-Ceyhan (BTC) pipeline. At the end of 2022, Kazakhstan's KazMunayGas and Azerbaijan's SOCAR energy companies agreed to ensure the transportation of up to 1.5 million tons of oil per year from the Tengiz field along the BTC route.[22]

Considering that the country could probably be able to export 20 million tons of oil per year after the peak of production from Kashagan giant oil field, Kazakhstan appears strongly interested on revitalize the "old" project to create the Trans-Caspian Oil Transport System (TCOTS) to export Kazakh oil not only by tankers (which have a limited capacity) but building an underwater oil pipeline in the Caspian Sea aimed at linking Kuryk oil terminal to Baku in Azerbaijan, and then shipping oil through the BTC

[20] "Tokayev orders search for alternative routes for oil amid problems with CPC", Forbes KZ, July 7, 2022, https://forbes.kz/articles/tokaev_poruchil_nayti_alternativnyie_puti_dlya_nefti_na_fone_problem_s_ktk

[21] Fabio Indeo, *Central Asia. Cooperation in hydrocarbons*, in J. Lemps, S. Mayer (eds.), "Central Asia in a multipolar world", Springer, 2024

[22] Almaz Kumenov, <2Kazakhstan starts exporting oil through Middle Corridor from New Year<2. *Eurasianet*. November 11, 2022,https://eurasianet.org/kazakhstan-starts-exporting-oil-through-middle-corridor-from-new-year; "Kazakhstan seeks alternative oil export routes due to increased production - Energy Ministry", Tengri News, August 25, 2022, https://tengrinews.kz/kazakhstan_news/kazahstan-ischet-alternativnyie-marshrutyi-eksporta-nefti-iz-476229/

pipeline to the European markets.[23] Even if Kazakhstan has started a promising energy partnership with Azerbaijan to make this project feasible, the veto expressed by two of the five Caspian littoral countries (Russia and Iran) could currently freeze its implementation.

With the launch of the Trans Adriatic Pipeline (TAP) in December 2020, Azerbaijan has further legitimised itself as a reliable energy partner for the EU, opening and fuelling a new and alternative energy route designed to deliver non-Russian gas to the EU. A cornerstone of the EU's diversification strategy to enhance energy security, TAP is the final segment of the Southern Gas Corridor (SGC) - an EU flagship project that also links the South Caucasus Pipeline to the Trans Anatolian Pipeline – to transport natural gas from the Caspian Sea through Georgia and Turkey to Greece, Bulgaria and Italy as final markets. Following the outbreak of the current energy crisis, the EU has turned its attention to Azerbaijan, with the aim of increasing gas imports from non-Russian suppliers.[24] In July 2022, European Commission President Ursula von der Leyen and Energy Commissioner Kadri Simpson met with Azerbaijani President Aliyev in Baku and signed a Memorandum of Understanding on the export of an additional 10 billion cubic metres (bcm/y) of gas from Azerbaijan to Europe from 2027.[25] In the meanwhile Azerbaijan has increased its gas volume shipped to the EU to 12 bcm/y also reaching Austria and Germany's energy markets.

However, the expansion of TAP's capacity will be influenced by several factors, such as concrete interest from potential European buyers and subsequent purchase agreements as a precondition for final investment decisions as well as Azerbaijan's ability to increase gas production from new fields (at present, the giant Shah Deniz gas field is the only source of gas for TAP, but it alone cannot provide the expected additional 10 bcm of gas required by the EU). Another relevant factor is Russia's influence in the

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23 "Diversification of Kazakhstan's Oil Export Routes: New Opportunities and Challenges", The Astana Times, October 14, 2025, https://astanatimes.com/2025/10/diversification-of-kazakhstans-oil-export-routes-new-opportunities-and-challenges/; "Oil transportation volumes through Aktau and Kuryk ports to be increased to 20 million tons per year – Tokayev," Vlast.kz, November 7, 2022, https://vlast.kz/novosti/52428-obem-transportirovki-nefti-cerez-porty-aktau-i-kuryk-budut-dovedeny-do-20-mln-tonn-v-god-tokaev.html

24 Fabio Indeo, *The vulnerability of the EU reshaped energy security: the unsolved knot of the imports' dependence,* in J. Fedin,"External Partners in the EU energy Transition: New Dependencies or Similar Challenges?", Natolin Nest Series vol.3, College of Europe, Warsaw (Poland), 2025; "Trans Adriatic Pipeline. The Big Picture", 2023, https://www.tap-ag.com/about-tap/the-big-picture

25 European Commission, "EU and Azerbaijan enhance bilateral relations, including energy cooperation", Press Release, July 18, 2022, https://ec.europa.eu/commission/presscorner/detail/en/ip_22_4550

Caspian basin as one of the five littoral states, together with Kazakhstan, Turkmenistan and Iran. Even if the Caspian Convention signed in 2018 would formally allow the realisation of the Trans-Caspian underwater gas pipeline[26] connecting Turkmenistan (which has the fourth largest gas reserves in the world) with Azerbaijan - representing the complete and successful implementation of the SGC project - Russia always opposes any project to realise energy transport infrastructure connecting the Central Asian shore with the Caucasian one, citing alleged environmental concerns on the Caspian Basin ecosystem.

However the new energy crisis in the Persian Gulf - with the Hormuz temporary closure and Qatar's incapacity to export liquefied natural gas for the combined effects of the damages to the export terminals and the lack of export routes - could revive the TCP project and the strategic relevance of the east-west gas corridor connecting Caspian countries to the EU.

Azerbaijan-EU energy cooperation based on Baku's reliability as alternative gas supplier for the European markets is only one of the aspects of this strategic partnership, which has been recently extended to the project of creating a green energy route to deliver clean electricity from the Caspian region to the EU. Interestingly, Kazakhstan's commitment to supply with clean electricity an underwater power line linking the two shores of the Caspian Sea (following the agreement with Azerbaijan and Uzbekistan in November 2024) further strengthens the multifaceted dimension of the Middle Corridor as well as highlighting the strategic relevance of the tripartite cooperation among Kazakhstan-EU-Azerbaijan.

The Green Energy Corridor project was launched in December 2022 when Azerbaijan, Georgia, Hungary and Romania's representatives together with the European Commission President Ursula von der Leyen signed the Strategic Partnership Agreement for the construction of an undersea power line between the two shores of the Black Sea (over 1,100 km long),

[26] The Convention on the Legal Status of the Caspian Sea, signed in August 2018, established that the Caspian Sea is a 'closed sea' (and not an 'international lake'). Furthermore, Article 14 recognises the right to build an underwater gas pipeline if there is an agreement between the countries involved in the route (a position that Azerbaijan and Turkmenistan jointly supported for years), but these projects must be in the accordance with internationally recognised ecological requirements and standards: this means that the implementation of this project could be influenced in case of potential and almost obvious negative observations on this matter from the Russian and Iranian sides. For the full text of the Convention, see e.g. Convention on the Legal Status of the Caspian Sea, International Legal Materials 58 (2), 2019, pp. 403–13, https://www.jstor.org/stable/26643935

with a transmission capacity of 1,000 MW, estimated to cover 15 percent of Romania's annual electricity consumption.[27] Although Azerbaijan has enormous potential for solar and wind energy production, it has not yet been fully exploited. According to Baku authorities, Azerbaijan has the renewable energy potential to generate 27 GW of onshore capacity and 135 GW of offshore capacity, estimates confirmed by the World Bank report "Offshore Wind Roadmap for Azerbaijan", concerning an estimated 122 GW of capacity for floating offshore wind farms in the Caspian Basin.[28]

The Trans-Caspian Electricity Interconnection Project represents another energy corridor that fits into the Middle Corridor's geopolitical concept of the. Significantly, the presidents of Uzbekistan, Kazakhstan, and Azerbaijan signed a strategic partnership agreement during COP 29 in Baku in November 2024. This agreement aims to develop and distribute green energy through the construction of an undersea power line to transport clean electricity (produced from renewable sources) between the two shores of the Caspian.[29]

The strategic impact of this project - which will strengthen the policy of diversifying export routes and the type of energy exported - is evident from the desire to connect it to the EU-supported Green Energy Corridor. Given the importance of the Trans-Caspian electricity connection, in April 2025 the three nations involved signed a declaration of intent with the Asian Development Bank and the Asian Infrastructure and Investment Bank (AIIB) to finance the project and prepare a feasibility study to make the construction of the clean energy power line between the two shores of the Caspian possible.[30]

Another interesting option to fuel an east-west energy corridor is represented by green hydrogen, a completely-renewable energy option

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27 Agha Bayramov, "The Green Energy Corridor between the EU and the Caspian Sea: Potential and Challenges", Caucasus Strategic Perspectives, vol.5, issue 1, 2024

28 Sadraddin Aghjayev, "Azerbaijan has potential to generate renewable energy up to 27 GW on land – official", *Trend News Agency*, May 30, 2023, https://www.trend.az/business/energy/3755265.html; World Bank, Offshore Wind Roadmap for Azerbaijan, June 3, 2022, https://documents1.worldbank.org/curated/en/099125006022242537/pdf/P1757160c9ba20078097880a6781b95d5eb.pdf

29 Vusala Abbasova, "Azerbaijan, Kazakhstan, Uzbekistan Enter Green Energy Partnership at COP29", Caspian News, November 18, 2024, https://caspiannews.com/news-detail/azerbaijan-kazakhstan-uzbekistan-enter-green-energy-partnership-at-cop29-2024-11-18-0/

30 Asian Development Bank, "ADB Signs MOU with AIIB, Azerbaijan, Kazakhstan, and Uzbekistan to Support Feasibility Study for Caspian Green Energy Corridor", April 5, 2025, https://www.adb.org/news/adb-signs-mou-aiib-azerbaijan-kazakhstan-and-uzbekistan-support-feasibility-study-caspian-green-energy

without polluting emissions, which represents a promising opportunity for both Caspian states and EU to diversify the domestic energy mix, increasing the share of clean electricity from renewable energy sources.

Astana would be able to use the planned Trans Caspian electricity project to deliver domestically-produced green hydrogen through an underwater power cable, along the Middle Corridor route, to the EU markets through Azerbaijan and the Green Energy Corridor. During COP27 (November 2022) EU and Kazakhstan signed a strategic partnership on green hydrogen and critical raw materials, while one month before President Tokayev and the European Council President Michel signed an agreement on green hydrogen with representatives of Svevind Energy Group (a German-Swedish company) to realize the Hyrasia One project: through the installation of thousands of solar panels and wind turbines in the steppes of the Mangistau region (southwestern Kazakhstan, near the Caspian basin) Hyrasia One will produce 40 GW of clean electricity. The energy produced will then be transported to the Kuryk Caspian port to produce 2 million tons of green hydrogen (or 11 million tons of green ammonia, in liquefied form) per year starting in 2030, and reaching its full production capacity in the mid-2030's.[31] From Kuryk green hydrogen could be shipped to Azerbaijani port.

The ambition to start exports of green hydrogen to the EU will depend on the availability of repurposed pipelines or transporting green hydrogen in liquefied form (ammonia) crossing the Caspian Sea, from the Kazakh ports of Kuryk and Aktau to the Azerbaijani port of Baku appears to be the most viable option.[32]
Similar to the trade of other goods, the Trans-Caspian transport route would become the main corridor to deliver critical minerals and rare earth elements to the EU, so partially reducing its dependence on the traditional supply chain controlled by China, promoting an alternative route which involved new suppliers as Kazakhstan and other Central Asian countries which hold significant mineral reserves.

The same route of the Middle Corridor (from the Kazakh ports of Kuryk and Aktau to Baku port and then using BTK railway corridor) is already operational to deliver uranium supply from Kazakhstan to France (affected

31 Hyrasia One, The Project, https://hyrasia.one/?page_id=23813270

32 Alyona Pavlenko, "Middle Corridor - green ammonia's best run from Kazakhstan to Europe – SVEVIND (Exclusive interview)". *Trend Az*. November 25, 2024, https://en.trend.az/azerbaijan/business/3973855.html

by Niger's unreliability as traditional supplier after the military coup), which is also useful for Kazakhstan's energy diversification - as the world's largest supplier (covering 40 percent of global demand) - because its exports have been damaged by international sanctions against Russia, which hit St. Petersburg port, from which Astana shipped all uranium exports.[33]

Also in this case, the convergence of strategic interests has allowed to implement a promising corridor to deliver critical minerals, based on the tripartite format of cooperation among a potentially big producer and exporter of critical minerals (Kazakhstan), Azerbaijan in the role of key hub between East and West and the EU which aims to promote an alternative critical minerals' supply chain.

In March 2023, the EU adopted the EU Critical Raw Materials (CRM) Act to address the existing challenges, strengthening strategic autonomy and economic resilience through the EU Net-Zero Industry Act, which sets ambitious manufacturing targets for selected strategic clean technologies. In this document, the EU has identified 34 critical raw materials, while 17 of them have been classified as strategic raw materials (SRM) - among them cobalt, REEs for permanent magnets, copper, gallium, as well as lithium, nickel, graphite battery grade - considering their relevance to the EU green economy and for the future developments in the defense and aero-spatial industry, digitalization and artificial intelligence.[34]

In this EU strategy of diversification, Central Asia represents a promising partner, benefiting from a huge endowment of critical mineral reserves and rare earth elements that could be used for the production of clean energy technology. Kazakhstan holds the largest and promising mineral reserves, considering that 160 deposits of rare earth metals (out of 384 discovered in the region) are located in this country. More significantly for the EU strategy of diversification, Kazakhstan holds reserves of 21 of the 34 critical minerals and metals defined as strategic on the CRM's EU List

[33] Fabio Indeo, "EU-Central Asia Cooperation on Critical Minerals within a Global Geopolitical Race", in Trends Research & Advisory, October 19, 2025, https://trendsresearch.org/insight/eu-central-asia-cooperation-on-critical-minerals-within-a-global-geopolitical-race/; Kazatomprom, "Kazatomprom Announces Trans-Caspian Delivery," December 20, 2022, https://www.kazatomprom.kz/en/media/view/kazatomprom_obyavlyaet_ob_osushchestvlenii_postavki_chere z_transkaspiiskii_marshrut

[34] European Commission, "Critical Raw Materials: ensuring secure and sustainable supply chains for EU's green and digital future," March 16, 2023, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661

(holding the world's largest reserves of chromium as well as important reserves of titanium, silver, lead, copper and uranium).[35]

Kazakhstan's President, Kassym-Jomart Tokayev, has defined critical minerals as the "new oil", calling on international companies and actors to invest in developing deposits of CRM and rare earth metals as a priority task. In 2023, the government adopted the "Comprehensive Plan for the Development of Rare and Rare Earth Metals for 2024-2028" and pledged to invest around $25 million to create a favourable setting for more foreign direct investment.[36]

Given the existing strategic convergence of shared interests, in November 2022—the EU and Kazakhstan signed a strategic partnership on critical raw materials, batteries and green hydrogen, an agreement that "aims to jointly develop and better integrate EU and Kazakh strategic value chains related to raw materials, to batteries and to renewable hydrogen…promoting the modernization and decarbonization of the Kazakh mining industry and includes technology transfer and the deployment of renewable energy".[37] Moreover, in June 2025, the EU Commission announced the first thirteen strategic projects located outside the EU to secure access to critical raw materials; among them, one will be realized in Kazakhstan (Sartyogan Project, for extracting and processing battery-grade graphite), which is also supported by the European Bank for Reconstruction and Development.[38]

Conclusion

[35] "Kazakhstan's critical materials potential ripe for EU supply chain resilience," Euractiv, December 13, 2024, https://www.euractiv.com/section/economy-jobs/news/kazakhstans-critical-materials-potential-ripe-for-eu-supply-chain-resilience/; Fabio Indeo, "EU-Central Asia Cooperation on Critical Minerals within a Global Geopolitical Race"

[36] Official website of the President of the Republic of Kazakhstan, "President Kassym-Jomart Tokayev`s State of the Nation Address "Economic course of a Just Kazakhstan", Akorda.kz, September 1, 2023, https://www.akorda.kz/en/president-kassym-jomart-tokayevs-state-of-the-nation-address-economic-course-of-a-just-kazakhstan-283243.; Nurbek Bekmurzaev, "Kazakhstan and the West Look to Strengthen Rare-Earth Cooperation," Eurasia Daily Monitor Volume: 21 Issue: 99, July 1, 2024, https://jamestown.org/program/kazakhstan-and-the-west-look-to-strengthen-rare-earth-cooperation/.

[37] European Commission, "Strategic Partnership between the European Union and Kazakhstan on Sustainable Raw Materials, Batteries and Renewable Hydrogen Value Chains," November 8, 2022, https://single-market-economy.ec.europa.eu/news/strategic-partnership-between-european-union-and-kazakhstan-sustainable-raw-materials-batteries-and-2022-11-08_en.

[38] European Commission, "Commission selects 13 Strategic Projects in third countries to secure access to raw materials and to support local value creation," Press Release, June 4, 2025, https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1419

Given the strategic relevance of the shared interests expressed by the involved actors, the tripartite format of cooperation and dialogue will be further enhanced in the coming years, as the above-mentioned areas of cooperation (connectivity, energy security, renewable, critical mineral and alternative supply chains) clearly show.

The project to enhance an east-west trade and energy route as alternative and reliable corridor to preserve the economic stability of the EU and Caspian/Central Asia countries remains a key cornerstone, which will become a priority following the energy disruptions from the Middle East as well as the growing awareness about the threats which affect the realisation of additional alternative corridors such as IMEC (India-Middle East- Europe Corridor): political stability in Kazakhstan and Azerbaijan emphasizes the reliability a feasibility of a transport routes linking the two shores of the Caspian Sea.

Baku and Astana are profoundly engaged in the Middle Corridor implementation, through massive investments to upgrade infrastructures as well as promoting political dialogue to enhance TITR's role as a concrete option of diversification. In this sense, Azerbaijani proposal to promote the Zangezur corridor (also known as the Trump Route for International Peace and Prosperity) - along the Iranian-Armenian border directly connecting Azerbaijan and Turkye but bypassing Georgia – has been openly supported by Kazakhstan and the EU, which conceives this route as an additional infrastructural leg within the Middle Corridor increasing diversification through an alternative transport route.

The establishment of the new Trans-Caspian Transport Corridor Coordination Platform demonstrates the EU's increasing engagement with Central Asia and the South Caucasus to strengthen Middle Corridor feasibility, offering coordination of investments which have to be focused on infrastructures' modernization (ports, railways, highways) and on enhancing logistic efficiency: given these main goals, Kazakhstan, Azerbaijan and Turkmenistan will be the privileged beneficiaries and key partners for the EU.[39]

[39] Delegation of the EU to Turkmenistan, European Union and Turkmenistan Host High-Level Launch for the Coordination Platform of the Trans-Caspian Transport Corridor, October 3, 2024, https://www.eeas.europa.eu/delegations/turkmenistan/european-union-and-turkmenistan-host-high-level-launch-coordination-platform-trans-caspian-transport_en?s=231; Urciolo, The Middle Corridor's Reality Check: Advancements and Challenges in Port Infrastructure in the Greater Caspian Region, 2025

Finally, the energy dimension of the Middle Corridor sounds intriguing for future developments, especially for delivering clean electricity and green hydrogen produced by renewable energy sources from the Caspian region. It could be a game changer in both geopolitical and energy terms, considering their role to support EU energy transition for achieving carbon neutrality as well as promoting a concrete option for these traditional oil&gas suppliers to be less reliant on hydrocarbon exports, benefiting from the diversification of their national economies.