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Resource curse or darling

Rethinking EU energy interests in Kazakhstan

With its abundant natural resources and potential for renewable energy production, Kazakhstan – one of world's most important fossil fuel producers – will play an increasingly prominent role in EU energy security. In the Central Asian Republic, geopolitical players like Russia and China have long-standing security and economic interests and compete with the EU for access to resources. To build a sustainable energy partnership with Kazakhstan that moves beyond a fossil fuel-interdependent relationship, the EU needs to further operationalise its green energy diplomacy based on local needs. This policy brief highlights two key areas of mutually beneficial cooperation: green hydrogen and critical raw materials. The EU could support Kazakhstan with developing its own clean industry locally, which would facilitate domestic decarbonisation and socioeconomic development rather than simply the export of raw materials. Moreover, investments in the Kazakh renewable energy sector need to go hand in hand with a gradual phase-out of oil and gas investments from European energy companies. This would reduce the security risks of continued fossil fuel dependency on the stability of the country.

Geopolitical momentum for energy security cooperation

At the crossroads of Europe, Russia and China, Kazakhstan's role in strengthening EU energy security is gaining new geopolitical prominence. The EU is determined to combat climate change and reduce its dependence on fossil fuels.

It has an elaborate emission reduction policy and has stimulated renewable energy production at home and abroad. With its External Energy Engagement Strategy (EEES) and REPowerEU, the EU is committed to reducing its dependency on Russian fossil fuels, establishing sustainable energy partnerships and promoting a global green energy transition.¹ Kazakhstan is one of the main suppliers of oil and gas to the EU.

While this relationship will decline as the EU moves towards net zero, other opportunities are rapidly emerging. Aligned with its green energy ambitions, the EU sees Kazakhstan as a strategic partner in the field of critical raw materials (CRM), batteries and renewable hydrogen, as signalled in the Memorandum of Understanding (MoU) signed in November 2022.²

This policy brief looks at how the EU could further strengthen its green energy diplomacy towards Kazakhstan, considering the geopolitical power competition, a changing understanding of energy security, and climate commitments. The research gathers the insights collected through a literature review, field research and

1 The European Commission, "[EU external energy engagement in a changing world](#)", 18 May 2022.

2 European Commission, "[Strategic Partnership between the European Union and Kazakhstan on sustainable raw materials, batteries and renewable hydrogen value chains](#)", 8 November 2022.

interviews with officials, policy makers and experts during a research visit to Astana and Almaty conducted in July and August 2023. It also builds on previous research conducted by the Clingendael Institute.³

Kazakhstan's turbulent energy landscape

The economy of Kazakhstan is largely based on the exploration, refinement and distribution of oil and natural gas, as well as on the extraction of raw materials, particularly coal and uranium. Crude oil exports serve as the main source of government income, accounting for 32% of total state revenue.⁴ This high dependency is a symptom of the so-called 'resource curse' and exposes the country to the impact of volatile global energy prices. Since the Russian invasion of Ukraine, Kazakhstan has benefited temporarily from high crude oil prices, which reached an average of USD 94.53 in 2022.⁵ However, large fluctuations in the price of oil are the rule rather than an exception. In 2020, during the Covid-19 pandemic, the average oil price dropped dramatically to as low as USD 39.68, resulting in a 20% loss of government revenues.⁶ Such volatility means that revenues flowing into the state budget are not consistent, thus affecting the government's ability to provide basic social services to the population.

An example of a social service is an energy subsidy. According to a World Bank report, Kazakhstan was among the 20 largest providers of implicit fossil fuel subsidies in 2020, allocating roughly 6% of its annual GDP.⁷

However, soaring oil prices turned fuel subsidies into an unsustainable financial burden for the government, culminating in the decision to gradually end the subsidising of prices for domestic fuel starting in January 2022. This policy led to a rapid rise in the cost of fuel – from 60 tenge (USD 0.14) to 120 tenge (USD 0.28) per litre. The price spike sparked unprecedented protests that spread across the country and led to the involvement of paramilitaries of the Russia-led Collective Security Treaty Organization (CSTO).⁸ While other areas of public discontent, such as corruption and low standards of living, were behind the violent protests, it was very clear that removing fuel subsidies is controversial and can lead to social instability. Yet, keeping the price of fossil fuels artificially low is not financially sustainable and makes it less attractive to invest in renewable energy sources.

Security problems related to fossil energy production will intensify as more and more countries move towards a greener economy. In fact, middle-income fossil fuel exporters such as Kazakhstan will be the most impacted by a reduced demand for fossil fuel. The European Bank for Reconstruction and Development (EBRD) expects Kazakh export revenues to fall by up to 40% in the next 20 years, putting pressure on the state budget and the stability of the country.⁹ To reduce this vulnerability, Kazakhstan needs to diversify its economy and invest in business models other than fossil fuel, such as CRM and renewable energy. Lithium, for instance, could become Kazakhstan's second oil, according to Kazakh Invest.¹⁰

In February 2023, the president of Kazakhstan, Kassym-Jomart Tokayev approved the country's strategy to achieve carbon neutrality by 2060, setting the tone for 'a growth model that is driven

3 Louise van Schaik, Roman Vakulchuk and Akash Ramnath, "[Seizing the momentum. EU Green Energy Diplomacy towards Kazakhstan](#)", Clingendael, October 2021.

4 Mike Coffin and Andrew Grant, "[Beyond Petrostates: The burning need to cut oil dependence in the energy transition](#)", Carbon Tracker, February 2021.

5 Macrotrends, "[Crude Oil Prices - 70 Year Historical Chart](#)", accessed 10 December 2023.

6 Louise van Schaik, Roman Vakulchuk and Akash Ramnath, "[Seizing the momentum. EU Green Energy Diplomacy towards Kazakhstan](#)", Clingendael, October 2021.

7 Damania, Richard, Esteban Balseca, Charlotte de Fontaubert, Joshua Gill, Kichan Kim, Jun Rentschler, Jason Russ and Esha Zaveri, "[Detox Development: Repurposing Environmentally Harmful Subsidies](#)", World Bank, 2023.

8 Almaz Kumenov and Joanna Lillis, "[Kazakhstan explainer: Why did fuel prices spike, bringing protesters out onto the streets?](#)" Eurasianet, 4 January 2022.

9 European Bank for Reconstruction and Development, "[The fiscal implications for Kazakhstan of worldwide transition to a greener global economy](#)", November 2018.

10 Roman Vakulchuk, Indra Overland, "[Central Asia is a missing link in analyses of critical materials for the global clean energy transition](#)", One Earth, Volume 4, Issue 12, 17 December 2021.

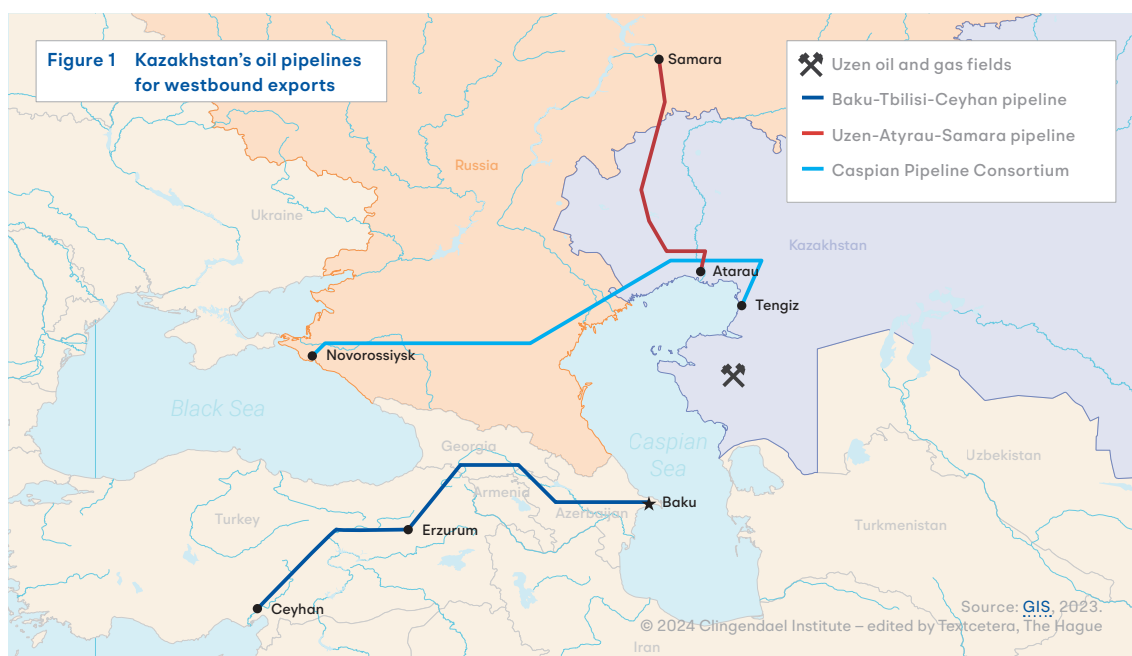
less by fossil fuels¹¹. Moreover, he committed to reaching 50% of renewable-generated electricity by 2050 to reduce dependency on coal. Currently 70% of electricity produced in Kazakhstan is based on coal while renewables generate only 4% of power.¹² However, the government is simultaneously committed to increasing oil, gas and coal production, a risky policy that will deepen the state's dependency on fossil revenues and make the country more vulnerable to the volatility of fossil fuel prices.

With the introduction of the EU's Carbon Border Adjustment Mechanism (CBAM) – a carbon tariff covering cement, aluminium, fertilisers, electricity, iron and steel, and hydrogen – the Kazakh government has an additional economic incentive to shift to greener energy sources. The World Bank estimates that CBAM would mainly affect the aluminium, iron and steel sectors, meaning a loss of around USD 250 million a year in export earnings. These losses could rise to USD 1.5 billion if CBAM were to include oil in the future.¹³

Given the carbon intensity and export-oriented nature of the Kazakh economy, financial incentives to decarbonise are mounting

Balancing energy with geopolitics in the Kazakh neighbourhood

Kazakhstan's foreign policy distinguishes itself for balancing good relationships with all states that play a significant role in world affairs, without overly depending on any of them. The so-called multi-vector diplomacy has allowed Kazakhstan to remain close to its neighbour with whom it shares a Soviet legacy, Russia, while expanding relationships with neighbouring China, Türkiye, Iran and the Gulf countries as well as the EU, especially in the realm of energy.¹⁴ Kazakhstan is Europe's third largest oil supplier and a valuable partner in diversifying away from Russian fossil fuels. However, Kazakhstan is highly dependent on Moscow for its exports route, as 94% of its oil exports transits through Russia via the CPC (Caspian Pipeline Consortium) pipeline, as shown in Figure 1.¹⁵ This means that Europe remains exposed to Russian leverage.



11 World Bank, “[Kazakhstan Discusses Ways for Achieving Carbon Neutrality and Building Resilience](#)”, 28 February 2023.

12 IEA, “[Kazakhstan has set out ambitious and welcome clean energy transition plans but must overcome historical reliance on fossil fuels, IEA review says](#)”, 30 June 2022.

13 World Bank, “[Climate Action Can Help Kazakhstan Diversify its Economy Away from Oil and Create New Drivers of Growth: World Bank](#)”, 3 November 2022.

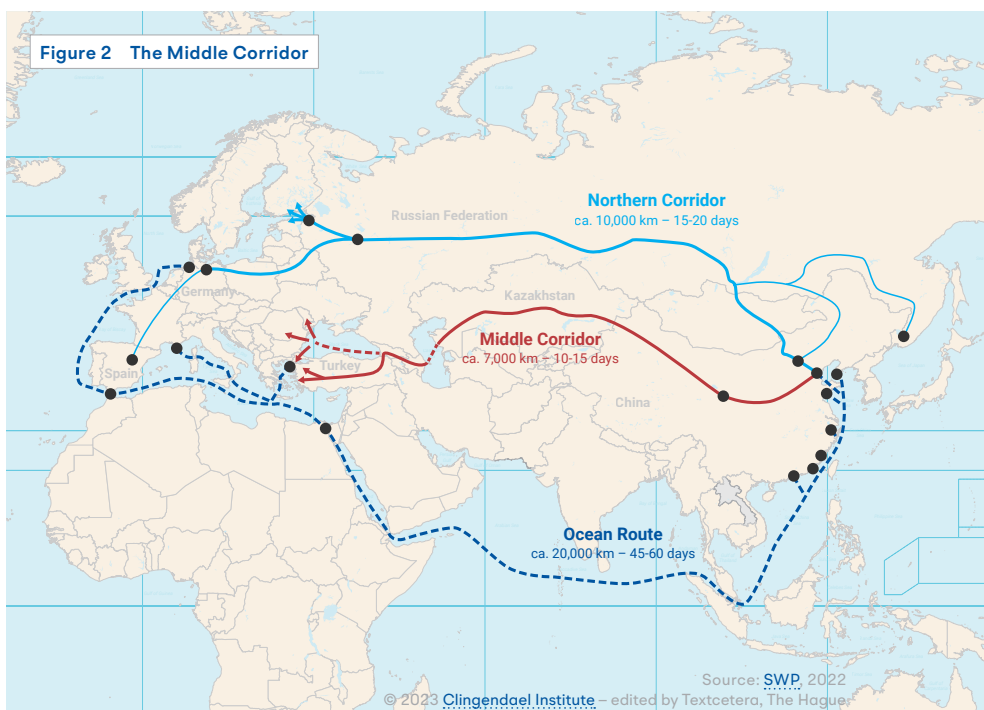
14 Rachel Vanderhill, Sandra F Joireman, Roza Tulepbayeva, “[Between the bear and the dragon: multivectorism in Kazakhstan as a model strategy for secondary powers](#)”, *International Affairs*, Volume 96, Issue 4, July 2020.

15 Carole Nakhle, “[Kazakhstan and the EU: Common interest in energy security](#)”, GIS, June 2023.

The weaponisation of energy supply by Russia, as Europe experienced with the curtailment of gas supplies, is not new to Kazakhstan. Since Astana refused to support Putin’s war in Ukraine, the CPC pipeline has run into repeated ‘problems’ – from storm damage to the discovery of World War II mines – and stopped operations four times in 2022. It was no coincidence that the first decision to suspend CPC functions came two days after the Kazakh government promised to increase oil exports to stabilise the EU’s energy market. In this regard, the Minister of Energy, Almasadam Satkaliyev, admitted that depending on Russian transport infrastructure is Kazakhstan’s ‘number one problem’.¹⁶ To reduce the influence of Moscow, the government is now looking at expanding its export routes. The diversification of transport routes is essential for securing the flow of oil and gas, which is a vital source of revenue for the Kazakh treasury, but also for the export of other goods, including CRM and hydrogen.

One of the geopolitical consequences of Russia’s invasion of Ukraine is a renewed

interest in developing the Trans-Caspian International Transport Route (TITR), or Middle Corridor, as an alternative to the Northern Corridor through Russia (see Figure 2). More recently, shipping disruptions caused by the Houti attacks in the Red Sea also increased the relevance of alternative trade routes.¹⁷ The Middle Corridor entails a rail freight and ferry system starting from China and crossing Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, Türkiye and finally reaching Europe. A study conducted by the EBRD identifies this route as the most sustainable transport connection between Europe and Central Asia and estimates that investment of around 18.5 billion euros would be needed to operationalise it.¹⁸ In January 2024, the European Commission hosted the Global Gateway Investors Forum for EU-Central Asia Transport Connectivity. At that forum, it made a commitment to raise investments for the Middle Corridor to the sum of 10 billion euros – coming from financial institutions including the European Investment Bank (EIB) and EBRD. Moreover, it announced an EU-funded Regional Transport Programme for 2025 to offer technical assistance.¹⁹



16 Joanna Lillis, “Kazakhstan bullish on oil exports despite fallout of war”, Eurasianet, 9 March 2023.

17 Spencer Feingold, “Red Sea attacks: What trade experts are saying about the shipping disruptions”, World Economic Forum, 20 February 2024.

18 European Bank for Reconstruction and Development, “Sustainable transport connections between Europe and Central Asia”, June 2023.

19 European Commission, “Key Outcomes of the Global Gateway Investors Forum for EU-Central Asia Transport Connectivity”, January 2024.

Yet, in times of regional tensions, several concerns worry investors, including tensions between Azerbaijan and Armenia, the EU-Türkiye relationship and, ultimately, the lack of long-term perspective due to uncertainty about the future of EU-Russia relationships in the aftermath of the war in Ukraine. At the moment, the Northern Corridor remains the most efficient and economically viable option to reach Europe by land. To realise the full potential of the Middle Corridor, new public and private investments in infrastructure and transport routes are needed as well as the political will and alignment of all countries involved.

The other big neighbour of Kazakhstan – China – exercises an increasingly economic and political influence through its Belt and Road Initiative (BRI) and the Shanghai Cooperation Organisation. The Kazakh oil and gas industry has a strong Chinese presence as it has been the foundation for the bilateral relations. The two neighbours are committed to strengthening fossil fuels cooperation as signalled by plans to expand the Kazakhstan-China oil pipeline and increase production of existing oilfields and gas processing capacity.²⁰ Beijing is also expanding its presence in the Kazakh renewable energy sector, where its companies invest in auctioning, technology and equipment. Chinese producers already dominate the market, as they are cost competitive and they share a border, making it logistically straightforward to import.

China is also the largest importer of CRM from Central Asia, where the BRI facilitated large-scale Chinese expansion into international mining markets.²¹ Beyond extraction, China and Kazakhstan are also strengthening industrial cooperation, allowing Kazakh companies to boost their processing capacity. Kazakhstan has extensive reserves of rare earth metals, while

China dominates the CRM supply chain, making it an attractive partner able to share technology and expertise. In May 2023, for instance, they agreed on a joint project to construct a copper smelter so that local companies could process and sell a purer metal. President Tokayev also sees potential cooperation in lithium mining, considering China's leading role in producing electric vehicles.²²

China is one of Europe's main competitors for influence in the energy and CRM sectors of Kazakhstan. On 18 and 19 May 2023, the EU hosted the Second EU-Central Asia Economic Forum in Almaty with Commission Vice-President Dombrovskis. On the same dates, China held the third China-Central Asia summit in Xi'an, attended by Xi Jinping and Central Asia leaders, including Tokayev.²³ On that occasion, the EU announced the new EU-Kazakhstan Cooperation Facility worth 9.7 million euros.²⁴ At the same time, Kazakhstan and China signed 47 agreements worth 20.2 billion euros,²⁵ showcasing a stronger political and financial commitment.

That being said, Kazakhstan is also cautious in its relationship with China, not wanting to become one of its cronies. Among the Kazakh population, China is not popular because of the way the Uyghurs are treated in Xinyang, where a large number of ethnic Kazakhs reside.²⁶ Other factors add complexity to the relationship, including a rise in anti-China protest movements against a possible transfer of land to China and against Chinese companies, largely due to environmental pollution.²⁷

20 Dana Omirgazy, "[Kazakhstan and China Sign 47 Agreements Worth \\$ 22 Billion, as Tokayev Outlines Key Areas for Partnership](#)", The Astana Times, 18 May 2023.

21 Roman Vakulchuk, Indra Overland, "[Central Asia is a missing link in analyses of critical materials for the global clean energy transition](#)", One Earth, Volume 4, Issue 12, 17 December 2021.

22 Dana Omirgazy, "[Kazakhstan and China Sign 47 Agreements Worth \\$ 22 Billion, as Tokayev Outlines Key Areas for Partnership](#)", The Astana Times, 18 May 2023.

23 Catherine Putz, "[In Xi'an, China's Xi Calls for a 'Shared Future' With Central Asia](#)", The Diplomat, 19 May 2023.

24 Saniya Sakenova, "[Kazakhstan and EU to Implement Projects Worth \\$9.7 Million](#)", The Astana Times, 20 May 2023.

25 Dana Omirgazy, "[Kazakhstan and China Sign 47 Agreements Worth \\$ 22 Billion, as Tokayev Outlines Key Areas for Partnership](#)", The Astana Times, 18 May 2023.

26 Dante Schulz, "[Anti-China Protests Held in Several Kazakhstani Cities](#)", Caspian Policy Centre, 7 April 2021.

27 Reuters, "[Dozens protest against Chinese influence in Kazakhstan](#)" 4 September 2019.

How a sustainable EU-Kazakhstan energy partnership might look

Despite the strong presence of its neighbours, the EU is Kazakhstan's biggest trading partner and foreign investor, accounting for almost 30% of its external trade and 48% of total gross Foreign Direct Investment flows in 2021.²⁸ This makes the EU an important counterweight to the influence of Russia and China, key to the Kazakh multi-vector foreign policy. With the signature of the 2022 MoU on a strategic partnership on CRM and renewable hydrogen, as well as the 2023 EU-Kazakhstan Cooperation Facility (as part of the 2020 Enhanced Partnership and Cooperation Agreement), the EU stepped up its bilateral engagement with the republic on green energy and sustainable economic growth.

Traditionally, the bloc has favoured a regional over bilateral approach, as signalled by several regional Global Gateway programmes, for example: Sustainable Energy Connectivity in Central Asia (SECCA);²⁹ two Team Europe Initiatives (TEIs) with Central Asia on Water, Energy, Climate; and Digital Connectivity.³⁰ Through the Global Gateway initiatives, the EU is promoting green and digital infrastructures around the world, bringing together its member states and financial and development institutions to facilitate private sector investments. Yet so far there is no dedicated TEI with Kazakhstan.

Europe is currently the largest investor and technical supporter in renewable projects, championed by the EBRD, which up until 2021 had invested 8 billion euros in over 281 projects in Kazakhstan.³¹ Yet, EU energy cooperation with Kazakhstan is dominated by the member states and centred around oil and gas. In fact, major

European companies like Shell, Eni and Total, hold significant investments in the Kazakh fossil industry and are still active in the exploration and excavation of fields. Some of these companies have recently shown interest in investing in renewable energy projects. However, this is not combined with a reduction of fossil fuels investments, creating a paradoxical situation in which the EU advocates for clean energy while European companies continue to advance their polluting interests.

However, as the security of supply is essential for EU energy security, so is the security of demand for a country whose economic and political stability largely depends on oil exports. In this respect, the EU and Kazakhstan have a mutual interest in investing in alternative export products. Yet, if the relationship is too instrumentally focused on the EU obtaining the resources it needs, there is a risk of Kazakhstan not reaching its own climate objectives and potential for sustainable growth. This could moreover resemble imperialistic practices of the past, which the EU aims to overcome. Therefore, it is imperative that the EU does not simply import raw materials, but rather enables the development of a local clean industry based on renewable energy sources and sound environmental standards. This would add economic value to the resources that Kazakhstan naturally possesses, and facilitate a local decarbonisation and socioeconomic development of the country.

Failing to do so risks undermining the EU's geopolitical position in Central Asia, leaving more space for China, Russia and other powers to advance their influence. At the same time, establishing a more encompassing partnership with Kazakhstan would counter the narrative that the EU is pursuing climate colonialism by extracting resources in third countries with a negative environmental impact, in order to advance its own green transition.³² In this framework, green hydrogen and CRM are two promising areas where the EU and Kazakhstan could step up strategic and mutually beneficial cooperation, as outlined below.

28 European External Action Service, "[EU-Kazakhstan Relations](#)", accessed 10 January 2024.

29 Sustainable Energy Connectivity in Central Asia, European External Action Service, "[European Union's new project to boost sustainable energy in Central Asia](#)", 17 November 2022.

30 European External Action Service, "[EU Projects with Kazakhstan](#)", 19 October 2023.

31 Louise van Schaik, Roman Vakulchuk and Akash Ramnath, "[Seizing the momentum. EU Green Energy Diplomacy towards Kazakhstan](#)", Clingendael, October 2021.

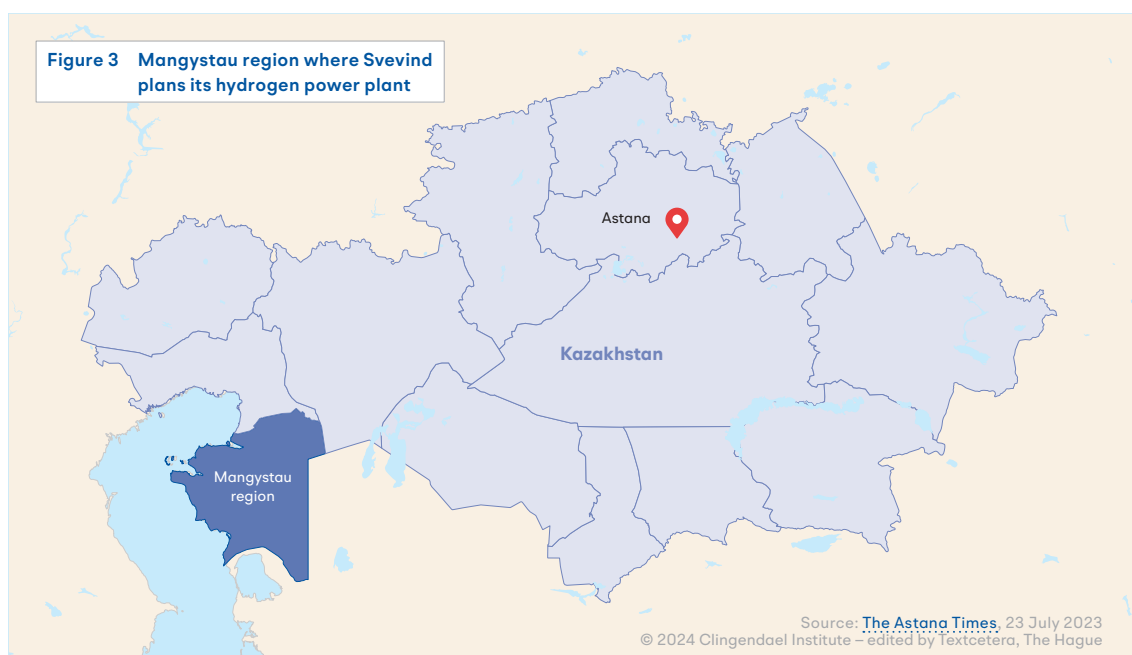
32 Myriam Douo, "[Climate colonialism and the EU's Green Deal](#)", Al Jazeera, 23 June 2021.

1. Green hydrogen for the export market and decarbonisation of local industry

With its diverse applications from heavy industry to power generation, green hydrogen is potentially a key pillar of the net zero transition and of the EU's green energy diplomacy. The EU is a frontrunner with its innovative electrolyzers technology and its hydrogen bank worth €3 billion for incentivising investments.³³ At the same time, Astana is politically committed to developing a hydrogen industry aimed at both domestic decarbonisation and exports. Its wide steppe landscape with high winds and consistent solar radiation, as well as its proximity to the Caspian Sea, make Kazakhstan a good candidate to produce green hydrogen. European countries are already betting on its potential and currently looking at options to export it to Europe. The German-Swedish group Svevind signed an agreement with the Kazakh government to build one of the world's largest

green hydrogen plants in the Mangystau region near the Caspian Sea (see Figure 3). The plant aims to generate 40 GW of electricity from wind and solar to produce 2 million tons of hydrogen or 11 million tons of ammonia per year.³⁴

This project is one of the key steps in the implementation of the MoU signed in 2022 on establishing value chains of green hydrogen. It would allow Kazakhstan to become a hydrogen exporter and speed up the country's renewable transition. Green hydrogen, in fact, could be used to decarbonise the Kazakh industry (e.g., steel and aluminium), which currently runs on polluting coal. With the introduction of CBAM, there is now a higher economic incentive to reduce industrial carbon emissions to avoid paying the carbon tariff and enhance the competitiveness of Kazakh industries. However, several challenges undermine the development and export potential of the green hydrogen project.



33 European Commission, “[Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Hydrogen Bank](#)”, 16 March 2022.

34 Forbes Kazakhstan, “[Проект на \\$50 миллиардов: как в Казахстане будут производить «зелёный» водород](#)”, 31 March 2023.

First, water is an essential ingredient of hydrogen production. However, there are serious problems with the availability of water – problems that are expected to be aggravated by the operations of the new hydrogen plant. The disappearance of the Aral Sea in Kazakhstan, which is both an environmental disaster and a public health issue,³⁵ leads to concerns that the Caspian Sea will face the same fate, as its water level is going down at the rate of 7 cm per year.³⁶ The EU is already investing in water security, with 7 million euros for the Central Asia Water and Energy Programme (CAWEP) as well as the TEI on Water, Energy, Climate.³⁷ However, a targeted initiative for the water security of the Caspian Sea is needed to offset the negative impact of the hydrogen project.

Second, the modality of export to Europe is subject to geopolitical and economic considerations. The most viable option would have been to repurpose the gas pipeline crossing Russia; but after February 2022 this is no longer a reliable transit route. A study commissioned by the German Federal Foreign Office shows that a hydrogen pipeline along the Middle Corridor would be the cheapest option.³⁸ However, such a pipeline would cross countries like Azerbaijan, Georgia and Türkiye and potentially expose Europe to coercion should there be any deterioration in political relationships. Furthermore, Russia is likely to object the pipeline on environmental grounds, as happened with the proposed Trans-Caspian gas pipeline.³⁹ Another option that would bypass Türkiye, although with a higher transport cost, is a combination of pipeline and shipping (in

the Caspian and Black seas). Yet, for this option, hydrogen needs to be converted into ammonia, causing energy loss and requiring significant investments in port infrastructure and special tankers.

Finally, the question remains about who will pay for the transport infrastructure, considering the estimated 18.5 billion euros needed to operationalise the Middle Corridor.⁴⁰ The recent commitment of 10 billion euros promised by the EU is a good signal, particularly with the MoUs signed by the government of Kazakhstan with the EIB (1.47 billion euros loans in the form of guarantees) and EBRD (1.5 billion euros for projects already under preparation).⁴¹ Yet, a massive investment gap still needs to be filled.

2. A green CRM supply chain in Kazakhstan

Critical raw materials, like rare earth metals and minerals, are key components of clean energy technologies, crucial for the EU to achieve net zero. As demand for fossil fuels decreases, the demand for CRM will rise, leading to new supply chain challenges. Ensuring access to CRM while reducing dependency on Chinese imports is a key pillar of EU energy diplomacy. To achieve that, the Commission is currently establishing raw material value-chain partnerships, including the 2022 MoU with Kazakhstan.⁴² Out of 30 rare earth materials needed by the EU, Kazakhstan currently produces 16, making the republic a potential key supplier for the EU green transition and a precious alternative to diversify away from China.⁴³ Kazakhstan, moreover, was included in the CRM Club, a recent initiative launched by the EU where resource-hungry and resource-rich countries work together to diversify CRM value chains.⁴⁴

35 Elena Gordillo, [“Is the Aral Sea a Lost Cause?”](#), The Diplomat, 1 February 2023.

36 Eurasian Research Institute, [“The Caspian Sea Level Changes: Causes and Consequences”](#), 2017.

37 European External Action Service, [“EU Projects with Kazakhstan”](#), 19 October 2023.

38 Achim Stuible, Sebastian Huber and Lars Stemmler, [“Study Findings Report. Green Hydrogen Transport Scenarios: From Kazakhstan to Europe”](#), GIZ, August 2023.

39 Yana Zabanova, Sam Williams, Manuel Andresh, Yury Melnikov and Ainur Tumysheva, [“EU-Kazakhstan Green Hydrogen Partnership: Mapping Barriers and Establishing a Roadmap”](#), EPICO Klimainnovation and Konrad Adenauer Stiftung, 2023.

40 European Bank for Reconstruction and Development. [“Sustainable transport connections between Europe and Central Asia”](#), June 2023.

41 European Commission, [“Key Outcomes of the Global Gateway Investors Forum for EU-Central Asia Transport Connectivity”](#), January 2024.

42 The European Commission, [“EU external energy engagement in a changing world”](#), 18 May 2022.

43 Euractiv, [“Kazakhstan tells EU: We can supply all 30 critical raw materials you need”](#) 18 November 2022.

44 Francesco Findeisen, [“The Club Approach. Towards Successful EU Critical Raw Materials Diplomacy”](#), Jacques Delors Centre, October 2023.

The Kazakh government has an ambition to expand both CRM extraction and processing capacity, creating value chains and domestic production of green technologies. While exporting the raw materials gives little added value to the economy of a country, investing in processing creates new jobs and fosters socioeconomic development. Moreover, for transport logistics, exporting semi-finished products reduces the volume and makes transportation over long distances more agile.⁴⁵ Kazakhstan has the resources but it needs the technologies to develop its local industry.

A balanced partnership with the EU in the field of CRM could be 'raw materials in exchange for technology and competence', as desired by the government in Astana.⁴⁶ The 2023 Roadmap of the MoU between the EU and Kazakhstan sets concrete areas of action to operationalise the strategic partnership in the raw materials value chain.⁴⁷ Government and business representatives note that the modernisation and decarbonisation of the Kazakh mining industry is a key area for cooperation, which highlights the need for technology transfer and renewable energy development. To achieve that, various avenues are possible.

First, joint ventures between European and Kazakh companies could allow companies with strong track records in recycling, circularity and renewable energy to exchange technologies. Joint projects in technological adaptation such as local research centres and assembly facilities would make European equipment more accessible, affordable and competitive vis-à-vis China. Second, building technical capacity and sharing knowledge could be realised through instruments such as the EU-Kazakhstan Cooperation Facility or by bringing together EU member states efforts.

Germany, for instance, offers local capacity development programmes to policy makers and cooperates with universities, such as the German-Kazakh Institute of Sustainable Engineering in Almaty and Aktau.⁴⁸

Working together with local associations could facilitate cooperation between industrial stakeholders to identify joint investment projects. For instance, Qazaq Green is active in promoting renewable energy in Kazakhstan by bringing together investors, developers, equipment manufacturers, international financial institutions, and universities. In May 2023, Qazaq Green organised an international business festival on renewable energy sources which was attended by various representatives from the EU and member states.⁴⁹

Yet, there are challenges that need to be addressed to realise the full potential of the CRM partnership. On the one hand, there are issues related to transport infrastructures, as the Middle Corridor requires significant investments to be operationalised. Both sides are interested and need to work towards a sanctions-free secure transportation route. On the other hand, the business climate in Kazakhstan needs to be improved as some companies are still hesitant to invest and transfer their technology. It is crucial to ensure a transparent and predictable business climate to attract investments from European companies and facilitate the transfer of technology. The EU Delegation to Kazakhstan is already working with Astana to improve its business climate and intellectual property framework.

Conclusions: Stepping up EU green energy diplomacy towards Kazakhstan

As the EU is operationalising its energy diplomacy strategy – the EEES – energy relations with

45 Charles Szumski, "[EU, Kazakhstan vow to 'go beyond' raw materials-based relationship](#)", Euractiv, 28 November 2023.

46 Dana Omirgazy, "[Kazakhstan, EU Explore Opportunities for Critical Minerals Cooperation](#)", The Astana Times, 5 July 2023.

47 European Commission, "[EU-Kazakhstan strategic partnership becomes operational](#)", 19 May 2023.

48 Official Information Source of the Prime Minister of the Republic of Kazakhstan, "[President of Germany and Prime Minister of Kazakhstan put down time capsule in Aktau](#)", 21 June 2023.

49 Qazaq Green, "[Kazakhstan hosted II International Business Festival on RES "Qazaq Green" Fest](#)", 28 May 2023.

its traditional partners need to reflect new geopolitical and climate ambitions. Kazakhstan is one of the EU's most important energy partners, especially in the realm of oil. As such, the Central Asian republic will be negatively impacted by a reduction of European fossil demand, which is expected with the acceleration of the path towards net zero. To ensure that Kazakhstan is not exposed to the volatility of fossil prices – which could exacerbate economic and security risks – it is essential to explore other business models to diversify the country's economy away from fossil fuels. At the same time, with the introduction of CBAM, the country has an economic incentive to decarbonise and promote green production processes for hydrogen and CRM, among others.

This policy brief presents two key opportunities for the EU and Kazakhstan to strengthen their energy security interests in the century of decarbonisation: one would be the production of green hydrogen for export to Europe and decarbonisation of domestic industries; the second would be the expansion of a green CRM supply chain with investments in green mining and processing. As a frontrunner of the green transition, the EU is well placed to support Kazakhstan with technology, capacity building and technical assistance, together with partners like the US, Canada and Australia. Between the political leverage of Russia and the economic presence of China, the EU needs to build a mutually beneficial partnership with Kazakhstan based on local needs and aimed at the decarbonisation and socioeconomic development of both partners. More specifically, the EU could consider the following:

- Environmental and green energy standards need to be at the core of EU engagement with Kazakhstan. The European Commission and EU Delegation to Kazakhstan could support Kazakh companies in setting standards for green mining practices and in adopting technologies that allow greater use of renewable energy and circularity in the extraction and processing of CRM. This could be possible by building technical capacity, supporting local research activities on CRM

and facilitating EU-Kazakh joint ventures, for instance by working closely with local associations like Qazaq Green.

- To offer a credible alternative to China and Russia, the EU needs to act in unity. The European Commission and EU Delegation to Kazakhstan could facilitate the launch of a Team Europe Initiative on green hydrogen with Kazakhstan to mobilise public and private finance and de-risk investments. Only by bringing together the various projects funded by EU member states like Germany, France and the Netherlands, could the EU step up its engagement and become a valuable partner.
- Green hydrogen plants will heighten the stress on water availability, heightening the urgency to invest in Kazakhstan's water security. The European Commission could propose a targeted initiative aimed at improving water resource management and water efficiency in the Caspian Sea. Moreover, the impact of green hydrogen production on water capacity needs to be constantly assessed to ensure plants respect environmental standards.
- As part of the Global Gateway strategy, the European Commission could consider creating a dedicated initiative on the Middle Corridor bringing together public and private sector representatives from the EU as well as Kazakhstan, Azerbaijan, Georgia and Türkiye to facilitate joint investments in infrastructures and transport routes. To prove the political commitment needed to de-risk investments, the EU and its member states need to invest soon.
- As part of the new EU-Kazakhstan Cooperation Facility, the European Commission needs to continue its engagement with the Kazakh government to help prepare the country for CBAM with capacity building and technical assistance. This could involve the establishment of a carbon-pricing instrument similar to the EU Emission Trading System as well as support for clean industrial production processes using green hydrogen and renewable energy.

About the Clingendael Institute

Clingendael – the Netherlands Institute of International Relations – is a leading think tank and academy on international affairs. Through our analyses, training and public debate we aim to inspire and equip governments, businesses, and civil society in order to contribute to a secure, sustainable and just world.

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