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EU-Kazakhstan Green Hydrogen Partnership

Mapping Barriers and Establishing a Roadmap

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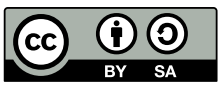

DESCRIPTION

"EU-Kazakhstan Green Hydrogen Partnership: Mapping Barriers and Establishing a Roadmap" is a policy brief resulting from EPICO KlimaInnovation's and the Konrad-Adenauer-Stiftung's first sprint of the 2023 Policy Accelerator, a two-day long workshop that took place in Brussels on 12 and 13 June 2023.

Since 2021, EPICO and the Konrad-Adenauer-Stiftung run yearly two-day long workshops (policy accelerators) bringing together a team of five experts from different sectors, to tackle challenges that top the agenda to decarbonise the economy. The project also involves a few experts that provide input to the chosen topic, challenging ideas that the cohort produces.

Ms Ainur Tumysheva, Investment Director, Hyrasia Energy (SVEVIND), Mr Manuel Andresh, Head of the H2-Diplo Office (Astana), Dr Yury Melnikov, Independent Hydrogen Policy Consultant, Member of UNECE Hydrogen Task Force, and Mr Sam Williams, EU Policy Manager, EPICO KlimaInnovation, developed ideas to plan a roadmap to boost a green hydrogen partnership between the EU and Kazakhstan.

In the role of content partner, Ms Yana Zabanova (Research Associate at the Research Institute for Sustainability – Helmholtz Centre Potsdam) worked on the idealisation of the concept, aim and structure of the policy accelerator. Ms Zabanova's contribution to the policy brief was funded by the German Federal Foreign Office within the framework of the project "Geopolitics of the Energy Transformation: Implications of an International Hydrogen Economy" (GET Hydrogen). The Konrad-Adenauer-Stiftung funded the remainder of the expenses.

In their role of "challengers, Dr Saule Zholdayakova, Acting Director, KMG Engineering, Mr Nicholas Pomeroy, Founder & General Director, Anglo-Kazakh, Mr Andris Piebalgs, former EU Commissioner for Energy, and Luisa Keßler, Policy Advisor, BELLONA, each joined for a 60-minute slot to provide new ideas and feedback to work developed by the core team.

Authors presented this publication at closed-door roundtable discussion to gather useful input and feedback by the following high-level stakeholders: Ms **Assem Ungarsynova**, First Secretary, Mission of Kazakhstan to the EU; Ms **Heleen Gonnord**, Desk Officer for Kazakhstan, EEAS; Mr **Johannes Baur**, Head of Cooperation Section, EU Delegation to Kazakhstan; **Ambassador Kestutis Jankauskas**, Head of Delegation, EU Delegation to Kazakhstan; Ms **Luisa Keßler**, Policy Advisor, BELLONA; Mr **Nicholas Pomeroy**, Founder & General Director, AngloKazakh; Mr **Pau Ruiz Guix**, Officer, Trade and Industrial Policy, HydrogenEurope; Mr **Robert Stüwe**, Senior consultant for international hydrogen markets, DENA; Ms **Sabina Wölkner**, Head of Department Agenda 2030, Konrad-Adenauer-Stiftung; Ms **Sunyoung Kim**, Central Asia Secretariat, European Parliament; Mr **Tibor Stelbaczky**, Principal Adviser on Energy Diplomacy, EEAS; and **MEP Tomáš Zdechovský**, (EPP, CZ), DCAS Committee Chair, European Parliament.

AT A GLANCE

On 7 November 2022, the European Union (EU) signed a Memorandum of Understanding (MoU) with Kazakhstan, inter alia to develop renewable hydrogen supply chains. The European Commission's Executive Vice-President Valdis Dombrovskis and Prime Minister of Kazakhstan Alikhan Smailov met on 19 May 2023 to set an implementation plan of the MoU.

Following Russia's unlawful invasion of Ukraine, Central Asia, and Kazakhstan in particular, acquired a new geopolitical significance for Europe. Enhanced cooperation between the EU and Kazakhstan could support the decarbonisation of traded goods to the EU, and potentially trade of green hydrogen (or derivatives). Astana has announced plans to develop a hydrogen industry in the country, aiming both at domestic decarbonisation and future exports. The country has significant potential for developing renewable hydrogen, due to its abundant solar and wind resources. Astana has also set a target of generating 50 per cent of its electricity from renewable sources by 2050.

But significant obstacles remain a challenge for EU-Kazakhstan cooperation, including lack of incentives to decarbonise the economy, lack of local R&D&D, and international transport infrastructure, as well as water scarcity.

POLICY RECOMMENDATIONS

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1. Regional cooperation

a. Establish a regional inclusive hub based on a sectorial approach
b. Focus on levelling the regulatory playing field
c. Enhance regional water security

2

2. An EU-Kazakhstan Hydrogen Incubator

a. Mobilise public and private finance to de-risk investment in hydrogen production and use
b. Earmark funding for technical assistance and pilot projects
c. Support regulatory exchange and hydrogen-related education, training, and capacity building in Kazakhstan

3

3. Explore infrastructure options

a. Fund a feasibility study on hydrogen transport infrastructure to Europe through the Middle Corridor

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CONTEXT 1.

Following Russia's unlawful invasion of Ukraine, Central Asia has acquired a new geostrategic importance for the European Union (EU), with a growing emphasis placed on the green transition. Other global players like the United States, China, and the Gulf countries have also stepped up their engagement in the region.

As part of the European Commission's REPowerEU package of proposals presented in May 2022, the EU has greatly increased its hydrogen ambitions. It now targets a 20 million tons green hydrogen consumption by 2030, with half of this amount expected to come from imports. At COP27 in Egypt, the EU signed a memorandum of understanding with Kazakhstan on cooperation on green hydrogen and critical raw materials.

Rich in fossil fuels, Kazakhstan has a deeply energy and CO_2-intensive economy. In 2020, 95 per cent of its domestic energy production came from hydrocarbons (IEA, 2022): oil (50 per cent), coal (28 per cent), and natural gas (17 per cent). The carbon intensity of Kazakhstan's GDP exceeds the world average – by some 70 per cent in 2021 (Ibid.). The highly polluting domestically mined coal remains the dominant fuel in the Kazakh power generation mix, with a share of some 70 to 75 per cent. Kazakhstan also has an enormous renewable energy potential and was the first Central Asian country to develop wind and solar power. As of 2022, it had 2.5 gigawatt of renewable energy capacity installed, with many more projects in the pipeline.

The EU as a key trading partner. Kazakhstan is an export-oriented economy, and its biggest trading partner is the EU, which accounted for 39 per cent of Kazakhstan's exports in 2021. Mineral fuels make up the bulk of the country's exports, followed by iron and steel, non-ferrous metals, and inorganic chemicals. The carbon-intensive nature of the Kazakh economy and its trade underscores the importance of pursuing decarbonisation and the urgence of complying with the EU's Carbon Border Adjustment Mechanism (CBAM), which entered its transitional stage on 1 October 2023.

Kazakhstan may emerge as a hydrogen producer and exporter. Kazakhstan is only taking its first steps and is unlikely to become an early supplier of hydrogen to the EU. There are countries that are better positioned to take on this role thanks to the combination of resource endowments, infrastructural links to Europe, existing know-how and expertise in conventional hydrogen production and use, the presence of economically related activities, or access to lower-cost capital (for a list of key factors, see Eicke, Laima, and Nicola De Blasio, 2022). Nevertheless, Kazakhstan does belong to a group of potential future producers with a high renewable hydrogen potential – which can be used both for decarbonising the domestic economy and for exports, once the infrastructure is in place. Yet, it lacks the supporting factors that the first group benefits from. Such countries are likely to join the international hydrogen economy at a later stage.

CHALLENGES 2.

Lack of domestic demand for green hydrogen. Today, unabated hydrogen in Kazakhstan is mainly used in its three refineries (in Atyrau, Pavlodar, and Shymkent), as well as a feedstock for ammonia production in the fertiliser industry. With its large renewable energy potential and the availability of vast stretches of land, Kazakhstan has a significant green hydrogen production potential. However, there is currently no domestic demand for renewable or low-carbon hydrogen in Kazakhstan, nor are there any policy instruments aimed at stimulating its production and consumption.

While Kazakhstan has adopted a 2060 net-zero target, and the Strategy on Achieving Carbon Neutrality by 2060 (February 2023) mentions hydrogen as important for decarbonising hard-to-abate sectors (e. g. industry or heavy-duty transport), there are no sectoral targets or a roadmap for hydrogen development. A hydrogen strategy is currently being developed by the Ministry of Energy and is expected to be made public by the end of 2023, and President Kassym-Jomart Tokayev mentioned the importance of hydrogen development in his State of the Nation speech (President of the Republic of Kazakhstan, 2023), yet uncertainty remains.

Similarly, carbon pricing has not yet lived upto its potential. While the country launched a national emission trading system in 2013, it experienced multiple periods of inactivity and a significant overallocation of free allowances, resulting in very low CO_2 prices – as little as 1.2 Euro per ton of CO_2 in May 2023 (Inform.kz 2023), compared to circa 90 Euro in the EU. There are some hopes that the introduction of the EU's CBAM, covering aluminium, cement, electricity, fertilisers, iron and steel, and hydrogen, might help incentivise a shift to greener energy sources.

On 1 October 2023, the CBAM entered its pilot stage mandating EU importers to report embedded CO_2 emissions in the goods they source from third countries. Full implementation – which entails imposing the EU-level CO_2 price on eligible imports – is expected to begin in 2026. These changes may potentially motivate Kazakh policy-makers to implement reforms of the national ETS to closer align it with the EU's system.

The readiness to invest in green hydrogen technologies remains low currently. Switching to green hydrogen in the direct reduction of iron or to green ammonia in the fertiliser industry requires large capital-intensive investments that are unlikely to take place in the short run. This is especially true of the sectors that cater primarily to the domestic market and are less exposed to international decarbonisation pressures, such as the fertiliser industry. Yet even Kazakh export-oriented companies like the Eurasian Resources Group (ERG), a major mining and metals holding, are hesitant due to the lack of incentives and uncertainty regarding future demand.

However, some business players may potentially embrace green hydrogen sooner than others. One group represents subsidiaries of international companies, which have their own corporate decarbonisation strategies. For instance, Air Liquide Munay Tech Gases LLP (ALMTG), a joint venture between Kazakhstan's national oil and gas company and a leading European industrial gases company, is a key supplier of grey hydrogen to refineries and is interested in decarbonising its operations.

Lack of local R&D&D and transport infrastructure. Whether intended for local consumption or international trade, green hydrogen finds strong local hurdles. At the domestic level, there is a widespread lack of awareness in Kazakhstan about green hydrogen's transformative potential or potential use cases that would make sense for local communities. Electrolysers remain largely unfamiliar as well,

with only one experimental alkaline unit in the entire country. There are some fledgling efforts in the area of research, development, and demonstration (R&D&D) on green hydrogen, such as the launch of the Competence Centre for Hydrogen Energy by KMG Engineering (KMG, 2022). There is also a limited number of small-scale ongoing demonstration projects, including the "First Molecule" project implemented by the Kazakh company Green Spark Limited, aiming at producing green hydrogen to decarbonise mobility uses in the oil and gas sector.

Kazakhstan attracted the attention of hydrogen investors looking for renewables-rich production sites globally. The large-scale pioneering project, HyrasiaOne, launched by the German-Swedish company Svevind in western Kazakhstan, is currently in the pre-FEED stage (Front End Engineering Design). By contrast, another previously announced project – by the Fortescue Future Industries (FFI) – failed to materialise. Despite signing a framework agreement with the Kazakh government on exploring renewable hydrogen production opportunities in November 2022, FFI eventually decided to prioritise other locations globally.

Yet, even if Kazakhstan succeeds in launching large-scale hydrogen production in the country, there will still be the question of how to bring these green molecules to Europe. Before 2022, it was conceivable to look for ways to do so using the (repurposed) gas pipeline infrastructure crossing the Russian territory, which is the main route for Kazakhstan's westward-bound gas exports. However, following the Russian invasion of Ukraine, this is no longer an option for the EU.

There are several alternative options for exporting green hydrogen or ammonia from Kazakhstan to Europe. One option involves constructing hydrogen pipelines across the Caspian Sea, the Caucasus, and Turkey to transport hydrogen to southern Europe, which is likely to be the cheapest alternative for large export volumes. Other options are multimodal. One could transport green ammonia by tanker from the Kazakh port of Kuryk over the Caspian Sea to Azerbaijan, then by ammonia pipeline (to be constructed) to the Black Sea, and then to Romania or Bulgaria. This route involves higher costs but compared to pipelines, offers the important advantage of flexibility. Moreover, adding distance would not significantly raise the costs, as the main cost factor is ammonia conversion, not shipping itself (Stuible et al., 2023).

A complicating factor in scenarios involving pipeline construction across the Caspian Sea is that Russia as a littoral state is likely to raise objections on environmental grounds, as it was the case with regard to a proposed Trans-Caspian gas pipeline.

Finally, although complicated, it would also be possible to transport green ammonia by rail and ship/tanker, which could be more suitable for the early upscaling stage, when the export volumes are still limited (whereas pipeline options would require certain minimum volumes of hydrogen or ammonia to be economically viable). Also, unlike the pipelines, the rail and ship links already exist, with plans for further expansion. Of course, this option would still require significant amounts of investment to adapt the ports' infrastructure for ammonia exports and the use of special tankers. Like in all options, it would also be necessary to secure the consent of the governments of transit states.

Transport infrastructure should also consider the findings of an EBRD study (June 2023), examining sustainable transport corridors connecting Central Asian countries among themselves and the region on the whole with the EU's Trans-European Transport Network (TEN-T). The study, which was implemented in the framework of the EU's Global Gateway initiative, covers such transport modes as rail, road, and ship (but not pipelines). It highlights the growing significance of the "Middle Corridor" (that is, a Trans-Caspian route from Central Asia to Europe) in the new geopolitical realities.

No H_2 without H_2O. Electrolytic hydrogen requires approximately nine litres of water per kilogram of hydrogen produced. The figure may go up if we consider additional storage or transport of hydrogen. Intrinsically, kick-starting a green hydrogen economy in Kazakhstan will inevitably increase water consumption. Kazakhstan is the ninth-largest country globally and has a diverse geography that includes deserts, steppe regions, and mountain ranges. Around 60 per cent of its territory consists of arid and semi-arid areas, and significant challenges in terms of water resources and management. Water scarcity is a major concern in Kazakhstan, particularly in the southern and western regions, where the population heavily relies on irrigation for agriculture.

The Aral Sea crisis, a significant ecological disaster that resulted from the diversion of rivers for irrigation purposes, had a severe impact on the country's water resources. Rural areas face challenges in terms of accessing clean water and adequate sanitation facilities. In addition, the Ural River's levels have been decreasing since the 1970s. According to some estimates, this could lead to a 9-to-18 meters reduction of the Caspian Sea levels (Weiss et al., 2019; Prange et al., 2020).

Agriculture is the largest consumer of water. Heavy irrigation is essential for crop cultivation because of the vast arid and semi-arid regions. The industrial sector also requires substantial water resources for manufacturing processes, cooling, and energy production, including electricity generation and thermal power plants. Water is used in thermoelectric power plants to cool the turbines and maintain operational efficiency.

The Kazakh government has implemented various initiatives and programs aimed at improving water resource management, increasing water efficiency, and ensuring access to safe drinking water. These efforts were recently topped with increased water supply coverage of urban and rural settlements, the introduction of water-saving technologies in agriculture, and the implementation of policies to promote sustainable water management practices (Republic of Kazakhstan, 2023; Republic of Kazakhstan, 2020). The recent announcement of the establishment of a Ministry of Water Resources and Irrigation is also a positive sign (Omirgazi, 2023). The EU also proactively worked on water management programmes. The EU-Central Asia Water Nexus Program and the Regional Environmental Programme for Central Asia (CAREC) aim at enhancing water governance and management, improving water infrastructure, and strengthening cooperation among the Central Asian countries (Delegation of the European Union to the Republic of Kazakhstan, 2021). The Aral Sea Basin Programme focuses on restoring the ecological balance and improving sustainable water consumption practices.

The EU also provides financial support and technical expertise. The EU-funded Central Asia Investment Facility (IFCA), a blending mechanism using primarily grant funding to leverage loans from finance institutions, inter alia includes initiatives related to water management. It provides financing and technical assistance for infrastructure projects, including those focused on irrigation systems and water resource management (European Union, 2019). Nonetheless, the dropping Caspian Sea levels are a sign of a critical situation that requires immediate action. Looking at the future, population growth, expanding industrial activities, and agricultural demands will place additional pressure on water resources in Kazakhstan. A green hydrogen economy will exert further stress on water capacity, highlighting the need to prioritise water Kazakhstan's management.

The Icebreaker: HyrasiaOne

The most prominent green hydrogen project in Kazakhstan is currently developed by HyrasiaOne, a subsidiary of the German-Swedish energy company Svevind. If implemented, the project would be one of the world's largest, aiming at an annual production of up to two million tons (Mt) of green hydrogen, or eleven Mt of green ammonia, based on 40 gigawatt of dedicated wind and solar power plants to be installed in the Mangystau Region in western Kazakhstan. The project envisions hydrogen production both for exports and to supply domestic demand. Currently, it is still in the pre-FEED (Front End Engineering Design) phase and aims at achieving financial close by 2026. In case of the positive final investment decision, the first production of green hydrogen is expected by 2030 and full capacity is expected to be reached by 2032.

Land availability and the renewable energy potential have played a key role in attracting Svevind to Kazakhstan. However, water availability in the water stressed Mangystau region remains an issue. On the other hand, as the project is planning to use desalination technologies to obtain water for electrolysis, there is a chance to supply the needs of the local community as well. Presently, Mangystau residents rely on outdated technologies in producing desalinated water. The project also aims at processing the brine resulting from electrolysis in a sustainable way. This would help increase local acceptance for this large-scale undertaking.

POLICY RECOMMENDATIONS 3.

It is strategically important for the EU to engage with countries like Kazakhstan that are only making their first steps in developing a hydrogen economy. This would help the EU not only to diversify its hydrogen supply chains in the future, but also to promote green technology transfer and encourage the adoption of high sustainability standards globally. As a hydrogen frontrunner, the EU is well-placed to provide support with "technology, education, regulatory-technological exchange, and political dialogue" (Ansari and Pepe, 2023).

The EU should prioritise building forward-looking green industrial partnerships which focus not only on sourcing green hydrogen but also on promoting broader-based socioeconomic development locally around the emerging hydrogen industry (Quitzow et al. 2023), and possibly exports of green products such as green steel, green fertilisers, or hydrogen-based synthetic aviation fuels. Such products are also much easier to transport over long distances.

Whatever the direction, "Team Europe" needs to be an efficient and functioning body that can leverage best practices and successes of the EU, its Member States, and key European and national development banks. Such alignment should consist in Member States and the EU adopting the same logic when dealing with bilateral energy relations with Kazakhstan. In the long term, taking this direction and approach can spur further integration in the region through socialisation and market interdependence.

3.1 Regional cooperation

Whether it is to decarbonise Kazakhstan's industry or to export green hydrogen (or derivatives) to the EU, Kazakhstan would benefit from cooperating with neighbouring countries. Central Asian countries can be complementary in many ways. Kazakhstan's hydrogen potential is mostly rooted in its renewable energy resources, including wind and solar, as well as the availability of land and rare earth metals. Uzbekistan, with hydrogen ambitions of its own, is rich in solar power which can also be used for electrolysis. Kyrgyzstan – the "Water Tower of Central Asia" – has the highest amount of water resources in the region, including glaciers, rivers, and lakes. Together with Tajikistan, Kyrgyzstan has an enormous hydropower potential. Turkmenistan could join the hub too, contributing its technical expertise in the gas industry, as well as its still untapped renewable energy potential.

Creating **a regional inclusive hub based on a sectorial approach** allows for gradual further integration in the longer term and raises the region's attractiveness and visibility as an investment destination. The EU can support the creation of such a cooperative model based on its own integration experience. The regional hub model also fits in well with Kazakhstan's increased engagement with the fellow Central Asian countries, and its strong interest, together with Uzbekistan, in developing renewable energy and hydrogen.

The proposed format should start by **aligning green hydrogen certification rules** in the region, which is currently quasi-absent. Levelling the playing field with EU's newly adopted definition of renewable hydrogen would also allow for increased investment opportunities from international organisations and increased green exports. It can also help to scale-up regional trade in essential technologies, resources, and renewable energy, e. g., through the integration of power grids. As part of its engagement with prospective hydrogen exporters, the EU should support Kazakhstan in developing hydrogen standards and a **voluntary certification scheme** for green hydrogen and derivatives that is aligned with the EU requirements as set out in the delegated acts to the Renewable Energy Directive Recast

(RED II). In the future, further certification schemes can also be developed for industrial intermediary products produced with renewable energy and/or green hydrogen (e. g., green fertiliser or green steel).

Through a more holistic approach considering integrated planning, and the interrelation between energy consumption, energy efficiency, availability of land and water in an energy-justice optic, the EU could also implement a package of measures to **enhance regional water security**. First, there needs to be a **mapping of water availability and usage**, locating the specific sectorial and geographical need for water. A related **impact assessment** of green hydrogen production would allow a more targeted action to reduce water demand and consumption in specific sectors of the economy. It would also provide additional information on the geographical areas best suited for establishing "green hydrogen valleys" and increase energy efficiency.

There are already efforts in this direction, such as an ongoing study funded by the German Energy Agency (dena). EU-Kazakhstan cooperation should also target **desalination of water** from the Caspian Sea, which is needed for electrolysis but could also be an important co-benefit for local communities. In doing so, the EU should insist on implementing sound environmental practices for brine disposal (Panagopoulos et al., 2019), so as not to endanger the Caspian Sea's fragile ecosystem. More research is needed to identify possible ways to commercialise desalination brine, for example, by extracting various critical raw materials. The EU could offer technical support and knowledge transfer to facilitate the implementation of desalination projects in Kazakhstan's Caspian Sea shores.

3.2 An EU-Kazakhstan Hydrogen Incubator

As the global frontrunner on hydrogen and a future importer, the EU is well positioned to support a hydrogen economy incubator in Kazakhstan, to be expanded later to the rest of the region. Such an incubator would need to include de-risking investment into green hydrogen, a regulatory dialogue, R&D&D support, and capacity building and information and knowledge-sharing.

Given the high cost of capital in Kazakhstan, the EU should help mobilise public and private finance to **de-risk investment in hydrogen production and use**. The European Investment Bank's participation in the India Hydrogen Alliance (IH2A) sets a promising precedent for the EU's engagement in a key partner country (EIB, 2023a). Another example is the recently launched Team Europe Renewable Hydrogen Funding Platform in Chile (EIB, 2023b), with 216.5 million Euro allocated to finance renewable hydrogen projects. Applying this approach to Central Asia could mean structurally upgrading the EU's existing strategic partnership with Kazakhstan on raw materials, batteries, and renewable hydrogen by complementing it with funding from the EIB and national development banks like KfW (German reconstruction loan corporation) to support hydrogen projects and promote regional cooperation on green hydrogen.

The EU should also support pilot hydrogen projects in Kazakhstan. Smaller-scale projects function as demonstration cases, developing local capacity and facilitating local acceptance. This would also build the momentum to promote green hydrogen use in key sectors, such oil refining, fertiliser or steel production. The EU can provide support on hardware, too. As a leader in electrolysers manufacturing, a strengthened partnership should focus on developing facilitated sustainable corridors for cleantech exports to the region.

The EU's experience in supporting hydrogen R&D&D through the Horizon Europe framework and the Innovation Fund can spur Kazakhstan's research centres – such as the one set up by KMG Engineering – to participate in hydrogen-related projects together with institutions from Member States. Horizon Europe nonetheless maintains a rather broad scope, and at the time of writing has only three calls open (European Commission, 2023a). A solution would be to launch hydrogen-dedicated calls for Central Asia.

As part of the Incubator, the EU should also share **knowledge and regulatory expertise** on key factors that can facilitate the development of a regional green hydrogen market. For example, it should include guidance on the CBAM implementation. In addition, the EU and Member States can share expertise on developing national-level support schemes for hydrogen, such as carbon contracts for differences or setting up a national intermediary connecting hydrogen suppliers and offtakers (e. g., Hint.co in Germany).

Finally, the EU should promote hydrogen-related education, training, and capacity building. This may include scholarship programmes for Kazakh students, curriculum development at leading Kazakh universities, and professional qualification programmes for teaching staff. Thereis also an acute need for re-training workers and specialists from the fossil fuel industry to prepare Kazakhstan for the transition to net zero. Finally, it is important to educate policymakers, researchers, and representatives of civil society and the business community in Kazakhstan on the potential of green hydrogen to contribute to the country's industrial development and export potential.

3.3 Explore infrastructure options

The EU has shown an increased interest in the geostrategically important Middle Corridor (European Commission, 2023; see also Eldem, 2022). Developed in stages, this corridor could potentially bring green hydrogen or derivatives from Central Asia and Azerbaijan to southern Europe. With the revision of the TEN-E Regulation in 2022, the EU is now open to co-funding cross-border infrastructure projects with third countries, recognised as "Projects of Mutual Interest", out of the means of the Connecting Europe Facility – Energy (CEF-E). In this spirit, it could be possible to fund a feasibility study on hydrogen transport infrastructure to Europe through the Middle Corridor. In addition, the European Fund for Sustainable Development Plus (EFSD+) and the EBRD allocated over one billion Euro for green projects. Yet, the Commission could consider a dedicated programme to facilitate private investment and to create an infrastructure link between Europe and Central Asia.

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