

## Green Financing to Promote Sustainable Development in Central Asia

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**Abstract:** The green economy can easily be called the latest fashion in global politics. Most countries, to one degree or another, strive to build it at home. The so-called green economy must replace the paradigm of a consumer society. Its peculiarity is respect for the environment and rational use of resources. Central Asia is home to the Belt and Road Initiative. In 2013, the concept of the “Silk Road Economic Belt” proposed by President Xi Jinping in Kazakhstan went from a “spark of stars” to a “steppe fire.” The year 2022 marks the 30<sup>th</sup> anniversary of the establishment of diplomatic relations between China and five Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan). China’s Central Asian relations have entered a new era of sustainable and high-quality development. As emphasized in the “Joint Statement” on the occasion of the 30<sup>th</sup> anniversary of the establishment of

diplomatic relations between Central Asia, China and the five Central Asian countries should actively expand cooperation in the fields of green energy, green technologies, and digital finance. As an emerging economy connecting Eurasia and the key region of the Belt and Road Initiative, Central Asia is of great importance for accelerating low-carbon transformation and development of the global economy. It is necessary to develop green finance in Central Asia, where 80% of all greenhouse gas emissions come from the production and consumption of fossil energy. The intensity of carbon dioxide emissions in Central Asia is generally higher than in OECD countries. In recent years, excessive greenhouse gas emissions have led to frequent extreme weather conditions and natural disasters (e.g., heat and drought, soil degradation, melting icebergs in Central Asia, declining sea levels in the Aral Sea, and loss of biodiversity).

**Keywords:** One Belt One Road, green finance, green infrastructure

**JEL codes:** F01, F02, F21, O11, O13

Central Asia is the birthplace of the Belt and Road Initiative. In 2013, the concept of the “Silk Road Economic Belt,” proposed by President Xi Jinping in Kazakhstan, evolved from a “spark of stars” into a “steppe fire.” The year 2022 marks the 30th anniversary of the establishment of diplomatic relations between China and five Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan). China’s Central Asian relations have entered a new era of sustainable and high-quality development. As emphasized in the “Joint Statement” on the occasion of the 30<sup>th</sup> anniversary of the establishment of diplomatic relations between Central Asia, China and the five Central Asian countries should actively expand cooperation in the fields of green energy, green technologies, and digital finance (Bobylev et al., 2017). As an emerging economy connecting Eurasia and the key region of the Belt and Road Initiative, Central Asia is of great importance for accelerating low-carbon transformation and development of the global economy.

## **Methodology**

### ***The need to develop green finance in Central Asia***

It should be noted that 80% of the total greenhouse gas emissions in Central Asia are attributed to the production and consumption of fossil energy. The intensity of carbon dioxide emissions in Central Asia is generally higher than in OECD countries. In recent years, excessive greenhouse gas emissions have led to frequent extreme weather conditions and natural disasters, including heat, droughts, soil degradation, the melting of icebergs in Central Asia, the decline in the sea level of the Aral Sea, and the loss of biodiversity. According to estimates from the Global Facility for Disaster Reduction and Recovery (GFDRR), the economic losses caused by natural disasters in Central Asia average around \$110 billion annually (Bobylev et al., 2018). Simultaneously, Central Asian countries are rich in renewable energy sources, such as hydroelectric power, wind energy, solar energy, and geothermal energy. However, these resources are not fully utilized. The development of the renewable energy sector is progressing slowly, and fossil energy still dominates the energy structure. To address serious challenges related to climate change and break free from dependence on traditional energy sources, Central Asian countries are accelerating the development of renewable energy sources (Arkhipova, 2019). However, the green transformation of the Central Asian economy faces a

significant funding deficit. For instance, the Government of Kazakhstan forecasts that private sector funds will amount to approximately \$33.4 billion annually until the completion of the green transformation in 2049. The development of green financing and the full mobilization of social capital are the only ways for Central Asia to develop a green economy.

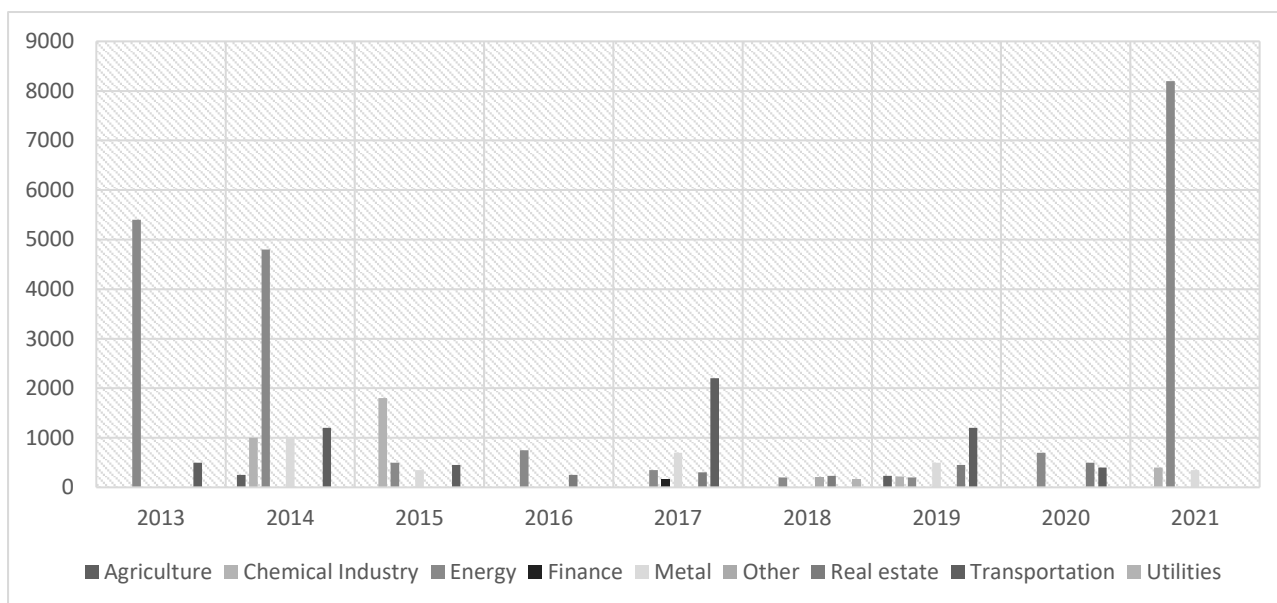
### ***Prerequisites of the policy of green financial cooperation between China and Central Asia***

The governments of the five Central Asian countries have formulated a series of measures to mitigate the consequences of climate change and adapt to them to develop a green economy. Kazakhstan's "Strategy 2050" and "Concept of Transition towards Green Economy until 2050" propose increasing the share of alternative energy to 30% by 2030 and 50% by 2050 (President of the Republic of Kazakhstan, n.d., 2013). In December 2020, the Government of Kazakhstan proposed achieving carbon neutrality by 2060. The "Program for the Development of a Green Economy in the Kyrgyz Republic for 2019–2023" released by the Government of Kyrgyzstan focuses on seven key areas, including green energy, green agriculture, and green industry, to support the society's transition to green economic development (Government of the Kyrgyz Republic, 2019). Turkmenistan's "Law on renewable energy," published in 2021, aims to emphasize the efficient use of renewable energy sources, energy diversification, and sustainable development (Vigriyanova et al., 2019).

The "Green economic strategy of Uzbekistan for 2019–2030" plans to increase the share of electricity production from renewable sources to 25% by 2030, reduce carbon dioxide emissions intensity by 10% compared to the level of 2010 by 2030, and double energy efficiency to reduce greenhouse gas emissions in the oil and gas industry and losses in oil and gas transportation (Dvoretzkaya, 2017). This Central Asian policy related to sustainable development aligns well with China's policy of jointly building the green "Belt and Road." In addition to energy, other environmental areas such as desertification, water scarcity, and biodiversity in Central Asia also urgently need financial support for green technologies. The prospects for cooperation with China are very broad.

### ***China's investments in Central Asia and other Belt and Road countries***

Since 2019, renewable energy sources have become the focus of investments by China's energy sector under the Belt and Road Initiative. After China committed to returning to coal abroad in 2021, there were no new overseas investment projects in coal and electricity in China throughout the year. In recent years, small-scale wind, photovoltaic, and other projects with the only necessary capital have gradually become China's leading investments in energy in Central Asia. The 100 MW wind power project in Zhanatas, Kazakhstan, is the largest wind power project in Central Asia, jointly built by Kazakhstani and Chinese companies.

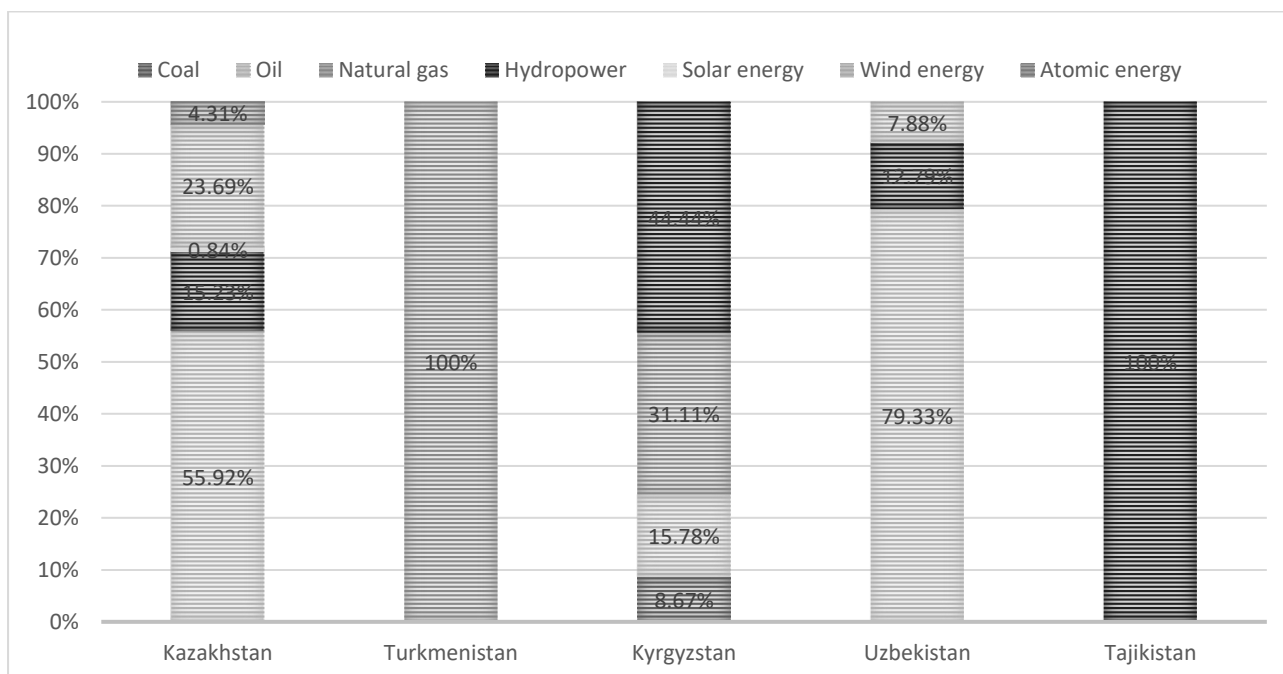


**Figure 1**

Investment turnover by Central Asia

Source: Compiled by the authors based on the research results

China's investments in the five Central Asian countries are primarily concentrated in the energy sector, as shown in Figure 2. Among them, investments in renewable energy focus mainly on wind and hydro energy. Figure 2 uses data from the American Enterprise Institute (AEI), the Central University of Finance and Economics, and the International Institute of Green Finance.



**Figure 2**

China's energy investments in the five Central Asian countries from 2013 to 2021

Source: Compiled by the authors based on the research results

## Results

### *Status of green finance development in five Central Asian countries*

The five Central Asian countries attach great importance to developing the green economy. Nevertheless, their green financial development is still in the preliminary stage. This section presents the status of green financial development in Central Asia from the perspective of five aspects: (1) green financial standards, (2) ESG disclosure requirements, (3) incentive mechanisms, (4) green financial products, and (5) international cooperation.

The first aspect is green financial standards. Clear green financial standards are the foundation for the development of green finance. Kazakhstan is a leading country in the development of green financing in Central Asia. The Astana International Financial Centre (AIFC) in Kazakhstan is a major driver of the development of green finance in the country. Since its establishment in 2018, the AIFC has been working on designing Kazakhstan's green financial system (Evdokimova, 2019).

The second aspect is related to the disclosure of ESG information. ESG information disclosed by a company helps investors and rating agencies assess whether financial instruments meet ESG standards, serving as a basis for their inclusion in investment portfolios.

The third aspect includes green financial products and markets. The development of green financial markets in Central Asian countries is still in its infancy. One important reason is that financial market development lags behind (Korynyi & Potapova, 2020). According to the Global Competitiveness Report 2019 published by the World Economic Forum (Schwab, 2019), Kazakhstan, Kyrgyzstan, and Tajikistan ranked 104<sup>th</sup>, 112<sup>th</sup>, and 117<sup>th</sup> in the "Financial Market Development Index" among 141 economies worldwide, significantly below the global average. This has led to a low level of development of market-based financing methods, such as green funds and green insurance, in Central Asian countries.

The primary green financial products in Central Asian countries mainly include green loans and green bonds. As of the end of 2021, the total amount of loans labeled green in Kazakhstan reached 28.5 billion tenge (\$66 million), with commercial banks (People's Bank) and policy banks (Development Bank of Kazakhstan) among the issuing institutions. The first green bond in Kazakhstan was issued in August 2020. The Astana International Financial Centre Green Finance Center (AIFC GFC) provided a "Second Opinion" on it. The bond issuance follows the "Green Bond Framework" developed by AIX and the "Green Bond Principles" (GBP) developed by ICMA. The raised funds will primarily be used by secondary banks and small financial institutions to provide loans to small and medium enterprises and implement small-scale investment projects in renewable energy. The United Nations Development Programme (UNDP) partially discounts the bonds and provides technical support in project assessment and selection. With the support of the AIFC, Kyrgyzstan is exploring the possibility of developing financial products (e.g., green bonds) and conducting joint training for green financial talents. Uzbekistan, with the assistance of UNDP and the Islamic Development Bank, is exploring the possibility of issuing green Islamic bonds (Lyapuntsova, 2018).

Kazakhstan's green industry funds include the Eurasian Environmental Fund for greening cities and the Biodiversity Conservation Fund, which provides long-term financing for projects to preserve wildlife. Uzbekistan also has a similar fund for green industry to enhance energy efficiency.

The fourth aspect is the environmental mechanism of financial incentives. Financial incentives include (1) discounts and financial support, (2) green public-private partnerships, and (3) carbon pricing mechanisms.

The Kazakhstani "Corporate Roadmap for 2025" mentions that discounts of up to 50% should be provided for green bonds and green loans. While other Central Asian countries have not yet implemented a policy of subsidizing green financing, they have already introduced financial incentives to support green industrial sectors. For example, Kyrgyzstan has adopted a new energy subsidy policy (preferential tariff) to increase the profitability of renewable energy sources. The Ministry of Finance of Uzbekistan, with the support of a 150-million-euro loan from the French Development Agency (AFD), provides financial subsidies for developing environmentally friendly transport and government green procurement (Marshinin, 2020).

Green Public-Private Partnerships (PPP), involving collaboration between the government and social capital, play a crucial role in addressing the characteristics of public goods, limited profitability, and long-term cycles associated with green infrastructure projects. Green PPP can mobilize and motivate more social capital to invest in the green sector, thus contributing to addressing the financing challenges of green infrastructure projects and expediting economic transformations. It also promotes technological progress in environmental protection, new energy, energy conservation, and other areas.

For example, in 2021, the Government of Kazakhstan and the multilateral development bank, the Eurasian Development Bank (EDB), engaged in international cooperation on green PPP. They secured a green loan of 3.6 billion tenge (\$88.28 million) from the EDB to implement a project for installing energy-efficient streetlights in the city of Atyrau, Kazakhstan. The project, currently under construction by Batys Transit JSC, has resulted in an 80% reduction in energy consumption for streetlights in the city of Atyrau. Uzbekistan has proposed the development of green GPPP in the "Green economic strategy of Uzbekistan for 2019–2030."

The carbon pricing mechanism is a significant initiative. Kazakhstan stands out as the first Asian country to launch a national carbon market. Currently, Kazakhstan's carbon market covers 46% of the country's energy production, including eight sectors such as power generation, oil and gas, metallurgy, chemical industry, and construction material manufacturing. According to the National Allocation Plan for 2022, Kazakhstan's carbon emissions trading system has entered its fifth stage, with a set carbon emissions cap of 1403 million metric tons of carbon dioxide in 2022.

Simultaneously, Kazakhstan is exploring the possibility of establishing its carbon tax collection system to avoid full payment of the "border carbon adjustment" tax in the EU. The revenue generated will be used for Kazakhstan's green projects. Tajikistan and Turkmenistan

plan to create carbon pricing mechanisms by 2030 and 2025, respectively. Other Central Asian countries have not yet established a clear schedule for such mechanisms.

The fifth aspect is international cooperation on green finance. This aspect includes multilateral development banks and climate funds, multilateral organizations on environmental finance, and multilateral and bilateral cooperation between governments.

Let us first consider multilateral development banks and climate funds. Multilateral development banks (e.g., the World Bank, the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank (ADB), etc.) and climate funds (e.g., the Green Climate Fund (GCF), the Climate Investment Funds (CIF), etc.) have provided significant funds to support energy efficiency and renewable energy projects in Central Asian countries. They also offer technical support to financial institutions for selecting green projects. For example, the EBRD is a key multilateral development bank supporting the green transformation of Central Asia. From 2013 to 2021, the EBRD provided \$11 billion in financing for renewable energy projects in Kazakhstan. From 2019 to 2022, the EBRD extended green credits totaling \$6.6 billion to banks and microfinance institutions in Uzbekistan to support private sector investments in green technologies and services. The goal is to develop a demand-driven and self-sufficient market for investments in green technologies. Over the past decade, Kyrgyzstan received around \$3.3 billion in climate financing from the Climate Fund and multilateral banks for improving energy efficiency and modernizing hydropower.

The Sustainable Banking and Finance Network (SBFN) aims to assist banking regulators and industry associations in developing markets to adopt the best international practices and improve the sustainability performance of the financial industry. Among the five Central Asian countries, the financial market authorities of Kazakhstan and Kyrgyzstan are members of the SBFN. The “Global Progress Report of the Sustainable Banking and Finance Network for 2021 assesses the maturity of sustainable financial systems in 43 developing markets based on ESG analysis, climate risk management, and sustainable financing. According to the scoring results, Kazakhstan and Kyrgyzstan are at the initial stage – the “readiness” stage (IFC, 2021). In 2018, the Green Finance Committee of the Chinese Finance Society and the City of London jointly published the “Green Investment Principles” (GIP). The initiative aims to increase the number of green investment projects in countries along the Belt and Road and enhance the management of climate and environmental risks within the Belt and Road projects (UKCGFC, n.d.). As one of the early signatories of GIP, the Astana International Financial Centre (AIFC) in Kazakhstan, in collaboration with GIP, established the first regional GIP office in Central Asia in 2021. The office actively explores regional resources, deepens the concept of green financing in Central Asia, and promotes low-carbon transformation and green investments in the region.

Let us consider Multilateral and bilateral cooperation between governments. The five Central Asian countries are actively engaged in intergovernmental cooperation in the field of green economy. For example, they have established the “Central Asia Pavilion” at the 2021 United Nations Climate Change Conference (COP26). This marks the first occasion where the five Central Asian countries have created independent platforms at the United Nations Climate Change Conference to jointly present the “Voice of Central Asia” on climate change issues.

## Discussion

The authors provide the following recommendations in terms of the policy of green financial cooperation in Central Asia.

First, it is necessary to improve the wording of green standards. Regarding green classification standards, the relevant government departments in Kazakhstan should continue to refine their “Green Project Classification,” for example, by adding the principle of “No significant harm” and incorporating themes such as biodiversity and the circular economy. They should also promote comparability, compatibility, and consistency with international standards. Other Central Asian countries that have not established green classification standards can learn from Kazakhstan’s practices and even from the “ASEAN Sustainable Finance Taxonomy Plan” and the “Common Ground Taxonomy” jointly developed by China and the EU. This collaboration can facilitate the development of green classification standards tailored to the specific characteristics of Central Asia. China and Central Asia should actively participate in developing international green standards and strengthen the alignment of green standards along the Belt and Road Initiative. This will help eliminate barriers to cross-border green transactions and optimize the integration of green capital markets.

Second, it is necessary to enrich environmentally friendly financial products. The relevant government agencies in Central Asia should support leading companies in the energy sector to prioritize the issuance of green bonds. The energy sector is a key industry in the low-carbon transformation of Central Asian countries. The successful issuance of green bonds by leading energy companies can play a demonstrative and leading role for other companies. Relevant Chinese institutions should actively participate in building the capacity of financial institutions in Central Asian countries to issue green bonds and contribute to this effort.

Third, it is recommended to facilitate the bilateral opening of green financial markets. The bilateral opening of the green financial market requires that green investments and financial activities steadily advance in two directions: going global and attraction. From the perspective of going global, enterprises financed by China are recommended to effectively utilize the green financial and tax incentive policies of Central Asian countries and actively support local green and low-carbon projects in Central Asia.

Finally, it is necessary to develop and transform the financial system. The economy of Central Asia is heavily dependent on traditional fossil fuel sources. In addition to green financing, China should also collaborate with Central Asia in establishing a transformative financial system for China and Central Asia. By actively developing green industries, China should leverage current high oil prices and significant starting points to accelerate the low-carbon transformation of high-carbon industries and corporate structures. China has been conducting preliminary research on transformation financing since 2020. The People’s Bank of China has indicated that it will achieve effective convergence between green financing and transformation financing in 2022. Cooperation between China and Central Asia in the development of transformation financing may include the development of transformation financing principles and classification standards, improvement of incentive mechanisms, strengthening supervision of financial system risks associated with transformations,

development of financial products such as bonds and loans linked to sustainable development, and the implementation of fair transformation policies and support measures.

## Conclusion

Relations between China and the countries of Central Asia have been elevated to the level of a strategic partnership. In the future, both sides need to actively expand the scope of green financial cooperation, with special attention to providing financial support to facilitate the transformation of local renewable energy sources. It is crucial to explore green financial innovations for various types of projects and encourage more flexible models of financial cooperation based on bilateral and multilateral frameworks. Green financial cooperation between the two sides will contribute to joint efforts in combating climate change, enhancing environmental protection and biodiversity, and collaboratively building the green Silk Road.

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