



# THE OXUS SOCIETY FOR CENTRAL ASIAN AFFAIRS



## DIALOGUE SUMMARY: KAZAKHSTAN FUTURES

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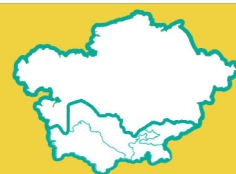


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## SUMMARY

In January 2023, Oxus Society launched the Kazakhstan Futures program in partnership with funding from the Public Affairs Section of the U.S. Embassy in Kazakhstan, a year-long program and workshops exploring how Kazakhstan's future socio-economic challenges and opportunities may evolve by 2050. Topics included infrastructure development, climate resilience, human capital development, and foreign direct investment climate. The program brought together 26 experts from Kazakhstan and the United States. Program activities, including a series of reports, news briefings, public events, and presentations, involved a diverse group of over 100 experts, private-sector, and government stakeholders in Kazakhstan. The program was implemented in two phases culminating in public events starting in Phase One in September 2023 and then in April 2024 for Phase Two.

Participants addressed the following questions:

- What are the prospects for decarbonization in Kazakhstan? What factors are inhibiting this?
- What is the potential for a transition to green energy?
- How can we ensure the green transition provides benefits to all Kazakhs?
- What role might critical minerals play in Kazakhstan's future economy?
- How can the benefits of economic growth be more evenly distributed throughout society and in different regions of the country?
- How can Kazakhstan improve its investment climate?
- How can Kazakhstan provide jobs for its growing population?
- How can human capital be improved? What role can education play in this?
- How can Kazakhstan harness the AI revolution?

This report below is a summary of major themes and points of discussion over the course of the program.



## BACKGROUND

The economy of Kazakhstan is the largest in Central Asia in both absolute and per capita terms. Kazakhstan has emerged as a middle income country with a GDP of \$296 billion in 2024.<sup>1</sup> Its GDP per capita ranks ahead of Russia, China and Turkey. But Kazakhstan's reliance on the extractive industries (oil, gas, minerals), which make up over one third of the economy, and landlocked status make it vulnerable to exogenous shocks such as price fluctuations and geopolitical developments like the invasion of Ukraine. Oil, gas and other resources make up three quarters of exports and over one-third of tax revenues.<sup>2</sup> But as resources are depleted and climate change necessitates a move towards renewables, this dependence on hydrocarbon resources is becoming less tenable. Since coming to power in 2019, President Kassym-Jomart Tokayev has prioritized economic diversification, stating in his 2023 State of the Nation address that "The urgency for economic diversification has never been greater".<sup>3</sup> His government has made efforts to develop sectors such as manufacturing and tourism, and boosted initiatives such as Digital Kazakhstan, which was first introduced in 2017 to develop the digital economy.<sup>4</sup> As Kazakhstan attempts to shift its economic focus away from dependence on fossil fuels and extractive industries there will be a growing need to understand the social and political impacts for the wider economy and society. President Tokayev has stressed the need for diversification to be based on the principles of "fairness, inclusiveness, and pragmatism".<sup>5</sup> For this to happen, there is a need for knowledge and understanding of how economic changes are affecting everyday people.

<sup>1</sup> "World Economic Outlook Database: Kazakhstan," International Monetary Fund, April 2024 <https://www.imf.org/en/Publications/WEO/weo-database/2024/April/>

<sup>2</sup> "Reforming Kazakhstan: Progress, Challenges, and Opportunities," OECD, January 2024, <https://www.oecd.org/eurasia/countries/OECD-Eurasia-Reforming-Kazakhstan-EN.pdf>

<sup>3</sup> "President Kassym-Jomart Tokayev State of the Nation Address on Economic Course for a Just Kazakhstan," Akorda.kz, 2023, <https://www.akorda.kz/en/president-kassym-jomart-tokayevs-state-of-the-nation-address-economic-course-of-a-just-kazakhstan-283243>

<sup>4</sup> "State Program 'Digital Kazakhstan'," KMGE, 2023, [https://www.kmge.kz/en/state\\_program\\_en/](https://www.kmge.kz/en/state_program_en/)

<sup>5</sup> Ibid

## CLIMATE CHANGE AND THE GREEN ENERGY TRANSITION

Kazakhstan is grappling with the global climate crisis. Temperatures are rising faster in Kazakhstan than in other parts of the world and could increase by 5.3°C over the next 70 years.<sup>6</sup> Severe droughts, flooding and dust storms will occur with increasing frequency, representing a major threat to the lives and livelihoods of the poorest and most marginalized communities in Kazakhstan.

Our fellows noted that Kazakhstan has several favorable indicators for decarbonization:

1. **Renewable energy development:** Kazakhstan has substantial renewable energy resources, particularly in wind and solar power. The country's vast steppes and sunny climate provide strong conditions for the development of the renewable sector. Experts estimate the potential of wind energy in Kazakhstan at 920 billion kWh per year, which is five times greater than domestic energy consumption.<sup>7</sup> Around half of the country's territory is suited to solar panel installation, with potential estimated at 2.5 billion kWh per year.<sup>8</sup>
2. **International cooperation:** Kazakhstan is involved in international efforts to combat climate change, including the Paris Agreement and the COP process. This involvement has led to technical and financial support from international organizations and countries to aid in the transition to a low-carbon economy.

<sup>6</sup> "Climate Risk Country Profile: Kazakhstan," World Bank, 2021, [https://climateknowledgeportal.worldbank.org/sites/default/files/2021-06/15834-WB\\_Kazakhstan%20Country%20Profile-WEB.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2021-06/15834-WB_Kazakhstan%20Country%20Profile-WEB.pdf)

<sup>7</sup> "Kazakhstan Seeks to Tap Huge Wind Power Potential," Times of Central Asia, February 2024, <https://timesca.com/kazakhstan-seeks-to-tap-huge-wind-power-potential/>

<sup>8</sup> "A Promising Green energy Resource in Kazakhstan: Solar Panels," Eurasian Research Institute, 2023, <https://www.eurasian-research.org/publication/a-promising-green-energy-resource-in-kazakhstan-solar-power/>



To mitigate the negative impact of climate change and achieve sustainable development (i.e., improving ecology and health as well as expanding business competitiveness in foreign markets), Kazakhstan is joining the global decarbonization movement. Varied iterations of policy highlight this effort. In 2013, the country's then-President Nursultan Nazarbayev approved the "Concept of Transition to a Green Economy," and by 2016, Kazakhstan ratified the Paris Agreement on climate change. In 2023, current-President Kassym-Jomart Tokayev approved the "Strategy for Achieving Carbon Neutrality by 2060" (hereafter referred to as the decarbonization strategy), which states that "the extraction of fossil fuels will need to be significantly reduced." The strategy aims to decrease coal mining, broadly considered among the more ecologically damaging extractive energy resources, and is a primary target of Kazakhstan's decarbonization policy. However, the implementation of the strategy includes replacing coal with natural gas, which requires continued or even increased mining. Yet to do so will require significant investments in infrastructure and a transition away from fossil fuels. Kazakhstan aims to generate 15 percent of its electricity from renewables by 2030 and 50 percent by 2050.<sup>9</sup> At present, the figure stands at just over 3%.<sup>10</sup>

Other research teams under Kazakhstan Futures addressed sustainability and its impact on the country's growing renewable energy sector. Kazakhstan is also home to extensive land for wind and solar projects and its mines, though currently under unsustainable mining practices, contain metals essential for low-carbon technology, and there are more yet to be tapped for their resources.<sup>11</sup> With the right policies, Kazakhstan, and Central Asia more broadly, could improve its own ecology and become a supplier for rare earth elements essential for the transition to a low-carbon future. Hopeful onlookers see these opportunities as

<sup>9</sup> "Green New Wave; How China Adapts to Central Asia's Renewable Energy Landscape," Carnegie Endowment, 2024, <https://carnegieendowment.org/posts/2024/04/green-new-wave-how-china-adapts-to-central-asias-renewable-energy-landscape?lang=en&center=global>

<sup>10</sup> "Kazakhstan's Renewable Energy Sector Gains Momentum With 146 Facilities in Operation," Astana Times, March 2024, <https://astanatimes.com/2024/03/kazakhstans-renewable-energy-sector-gains-momentum-with-146-facilities-in-operation/>

<sup>11</sup> "Zhanatas: A Test Case for International Financing in Kazakhstan's Green Development," Oxus Society, 2024, <https://oxusociety.org/zhanatas-a-test-case-for-international-financing-in-kazakhstans-green-development/>

a pathway to other benefits: technology spillovers, human capital growth, and institutional build-up – including better rule-of-law and improved bureaucratic efficiency.

There are a large number of inhibiting factors preventing Kazakhstan's overall growth in this area. First, Kazakhstan's economy is heavily reliant on oil and natural gas. Second, existing infrastructure in the country is outdated and not equipped to handle large-scale renewable energy integration. Third, government regulations continued to create significant barriers against investment in renewable energy. Moreover, subsidies for fossil fuels often undermine the economic competitiveness of the country's nascent renewable sector. Fourth, there is a need for an advanced workforce to transition toward green tech and current technological capacity in the country is primarily aligned with the fossil fuel industry. Finally, economic diversification away from oil is necessary to create alternative revenue streams and reduce risks associated with the global decline in fossil fuel.

## CRITICAL MINERALS

Kazakhstan has 15 registered rare earth deposits, and other critical minerals, including:

- Tungsten: 2.2 million tons of reserves.
- Molybdenum: 1 million tons of reserves.
- Lithium: 75,600 tons of reserves.
- Tantalum: 4,600 tons of reserves.
- Niobium: 28,100 tons of reserves.
- Beryllium: 58,000 tons of reserves.<sup>12</sup>

<sup>12</sup> "Kazakhstan Boasts 15 Rare Earth Deposits Earmarked for Deeper Exploration," Astana Times, 2024, <https://astanatimes.com/2024/01/kazakhstan-boasts-15-rare-earth-deposits-eyes-for-deeper-exploration/>



These deposits are sought after around the world as countries shift toward clean energy alternatives, positioning Kazakhstan to become a key global supplier and bolster its own diversification away from hydrocarbons. Firstly, Kazakhstan can position itself as a major supplier of lithium, cobalt, nickel, and other rare earths critical in electric vehicle and solar panel production, helping to raise investments for much needed critical infrastructure. Second, by developing its critical minerals sector, Kazakhstan can diversify its economy away from fossil fuels. This can create new revenue streams and employment opportunities. Third, growing global demand for critical minerals and diversifying supplies away from China create new opportunities for Kazakhstan to attract investment in its mining sector that can help spur green investments. According to Washington-based Benchmark Minerals Intelligence, China is the world's top miner and processor of rare earths. China is projected to be around 71% in mined praseodymium-neodymium (PrNd) and 86% in PrNd oxides in 2023, according to Benchmark data.<sup>13</sup> The U.S. and its allies have already raised this dependence as a national security concern and have been making efforts to find alternative suppliers.<sup>14</sup> Finally, by investing in research and development for mineral extraction, processing, and recycling, Kazakhstan can enhance its profile as a major green technology supplier.

Alongside critical minerals, Kazakhstan is a key player on the global uranium market, which looks set to expand as countries look to alternative energy supplies such as nuclear. Kazakhstan has approximately 316,000 metric tons of uranium reserves, making it the country with the largest reserves. It currently produces around 21,227 metric tons, accounting for 43 percent of the world's total production. In addition, Kazakhstan has more than 50 unexplored uranium deposits, with 17 mines currently contributing to production.<sup>15</sup> Kazakhstan could become a key player in the global nuclear supply chain, helping other countries transition toward nuclear power.

<sup>13</sup> Ibid.

<sup>14</sup> "Central Asia Could Help Break the West's Dependence on China's Critical Minerals," The Hill, 2024, <https://thehill.com/opinion/4434965-central-asia-could-help-the-west-break-its-dependence-on-chinas-critical-minerals/>

<sup>15</sup> "Country Nuclear Power Profiles: Kazakhstan," IAEA, 2021, <https://www-pub.iaea.org/mtcd/publications/pdf/cnpp-2021/countryprofiles/kazakhstan/Kazakhstan.htm>



Of course, substantial challenges remain with a potentially negative impact on environmental and social conditions should the mining sector grow to cater to growing demands for critical minerals. Kazakhstan will also have to upgrade its regulatory frameworks and skilled workforce if it is to meet growing global demand.

## ***DEVELOPING A JUST ECONOMY***

Kazakhstan experiences significant inequality and uneven development across different regions and demographic groups. There is a notable disparity in income levels across the country. For example, the top ten percent of income earners have significantly higher incomes compared to the bottom ten percent, contributing to a high Gini coefficient. Gender disparities are also prominent, with unemployment rates for women being higher than for men (5.7 percent versus 4.1 percent in 2022). The pandemic worsened existing inequality with growing unemployment and inflation, affecting lower-income households severely. Inflation rates surged to 20.3 percent in 2022, reducing purchasing power and living standards. Like much of Central Asia, Kazakhstan also has a severe urban-rural divide.<sup>16</sup> Despite these setbacks, Kazakhstan ranks 67th out of 193 countries in the Human Development Index, entering the “Very High” human development category, showing the huge potential for Kazakhstan to become a major world economy.

Corruption remains a pervasive challenge in Kazakhstan, affecting various economic sectors and public institutions. Kazakhstan ranks relatively low on the Corruption Perceptions Index (CPI) by Transparency International. Corruption causes significant damage to Kazakhstan’s economic health, with fluctuations in FDI inflows regularly attributed to corruption risks.<sup>17</sup> Corruption in public procurement

<sup>16</sup> “Kazakhstan Country Report 2024,” BTI Transformation Index, 2024, <https://bti-project.org/en/reports/country-report/KAZ>

<sup>17</sup> “Kazakhstan Economic Update: 2023-2024,” World Bank, 2024 <https://www.worldbank.org/en/country/kazakhstan/publication/economic-update-winter-2023-24>



leads to inflated project costs and inefficient allocation of resources. For example, it is estimated that corruption adds an extra 10-30 percent to the cost of public infrastructure projects in Kazakhstan, resulting in significant financial waste.<sup>18</sup> The government also loses revenue. For example, only 10-45 percent of goods are declared at customs, meaning there is a substantial shadow economy in which businesses avoid paying their fair share of taxes. This is often visible in trade data. Kazakhstan's GDP growth is often below potential according to the World Bank due to systemic issues around corruption.

Our fellows discussed the distribution of economic benefits in Kazakh society and how the country can become more just. First, experts noted that development programs should be tailored to the specific needs and potentials of the country's various regions, focusing on infrastructure, healthcare, education, and economic opportunities. Investment could be better balanced by encouraging investment in underdeveloped and rural areas using tax breaks, grants, and low-interest loans. Second, fellows raised the need for improvement in the workforce by improving access to and quality of education, and promoting lifelong learning so Kazakhstan can adapt to the needs of the modern global economy. Third, comprehensive transportation networks and connectivity need to be established including serious efforts to bridge the country's digital as well as physical divides. Fourth, healthcare access needs to be improved across the country with better social safety nets in place for pensioners, the unemployed, and other vulnerable groups to reduce poverty and inequality. Finally, our participants raised the importance of support for small and medium-sized enterprises using financing, training, and local market access to stimulate the economy in underdeveloped regions.

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<sup>18</sup> Ibid.

## MONOTOWN MARGINALITY

Of Kazakhstan's 89 cities, 27 are monotowns where the economy is reliant on one sector. These cities account for 40% of industrial output and are home to 1.4 million people.<sup>19</sup> Residents of the state's mining towns are already among the most disadvantaged as they grapple with the post-Soviet legacy of carbon-intensive industries and related environmental pollution. Monotown marginality came to a head in the 2011 unrest in Zhanaozen that saw dissatisfied residents clash with government forces.<sup>20</sup> The aftermath of this incident saw the government enact the Monotown Development and Regional Development Programs, but the efforts failed to address mining town marginality as evidenced by the 2022 protests in Zhanaozen that spread to other regions of the country and led to the events of Bloody January.

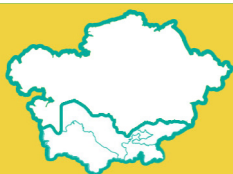
Our researchers have been addressing such dynamics as part of the Kazakhstan Futures program with a focus on the impact of the 2013 Concept of Transition to a Green Economy and its related 2020 Action Plan on monotowns dependent on the mining sector.<sup>21</sup> Growing regional disparities within Kazakhstan are likely to be exacerbated by deemphasizing the extractive components of the economy.

Stakeholders across the board – the Kazakh government, donors, civil society, investors, and local populations – want to benefit from economic diversification. But in shaping these initiatives, more input is needed from the expert community on opportunities for diversification as well as strategies to mitigate the negative effects on communities that rely on extraction.

<sup>19</sup> "Kazakhstan's Monotowns Account for Nearly 40 Percent of Industrial Production but Problems Remain," Astana Times, 2021, <https://astanatimes.com/2021/11/kazakhstans-monotowns-account-for-nearly-40-percent-of-industrial-production-but-problems-still-remain/>

<sup>20</sup> "What Happened in Zhanaozen?" The Diplomat, 2021, <https://thediplomat.com/2021/11/kazakhstan-what-happened-in-zhanaozen/>

<sup>21</sup> "Decarbonizing Kazakhstan: What Awaits Mining Regions and Towns?" Oxus Society, 2024 <https://oxussociety.org/decarbonizing-kazakhstan-what-future-awaits-mining-regions-and-towns/>



## IMPROVING THE INVESTMENT CLIMATE

As of March 2024, Kazakhstan recorded net FDI inflows of approximately 2.83 billion USD.<sup>22</sup> Historically, the FDI has been significant in Kazakhstan, with total FDI reaching over \$431 billion over the country's first three decades of independence.<sup>23</sup> The United States is one of its largest investors, contributing around \$36.5 billion.<sup>24</sup> In the first quarter of 2024, investments in fixed capital amounted to \$8 billion, the bulk of which went toward infrastructure and industrial projects.<sup>25</sup> Investments in fixed capital as a percentage of GDP were estimated at 11 percent for the first quarter of 2023.<sup>26</sup> The Asian Development Bank (ADB) projects Kazakhstan's GDP growth to be 3.8 percent in 2024, with an expected increase to 5.3 percent in 2025. This growth is anticipated to be driven by increased oil production and continued investments in mining and infrastructure.<sup>27</sup> The World Bank also forecasts steady economic growth, although at a slightly lower rate of 3.4 percent for 2024, before accelerating to 4.5-5 percent in subsequent years as production capacity grows.<sup>28</sup>

Significant investments are being directed towards renewable energy, with the government aiming to increase the share of renewables in the energy mix. Investments in this sector are expected to support long-term sustainability and economic diversification efforts.<sup>29</sup> The services sector, particularly trade, transport, and hospitality, is also expected to see substantial growth and investment, benefitting from Kazakhstan's strategic location.<sup>30</sup>

<sup>22</sup> "Kazakhstan's Foreign Direct Investment," CEIC Data, 2024, <https://www.ceicdata.com/en/indicator/kazakhstan/foreign-direct-investment>

<sup>23</sup> "Recent Developments in Kazakhstan's Investment Landscape," Astana Times, 2024, <https://astanatimes.com/2024/03/recent-developments-in-kazakhstans-investment-landscape/>

<sup>24</sup> "Investment Statistics," Stat.gov, 2024, <https://stat.gov.kz/en/industries/business-statistics/stat-invest/>

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

<sup>27</sup> "Kazakhstan Economic Forecast," Asian Development Bank, 2024, <https://www.adb.org/news/adb-forecasts-kazakhstan-economy-grow-3-8-2024-5-3-2025>

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.

Improving the country's overall investment climate will require a number of more substantial measures to take place. First, Kazakhstan must streamline regulatory procedures for starting and running businesses, reducing bureaucratic hurdles, and improving efficiency, in addition to improving overall transparency and predictability in enacting regulatory policies. Second, judicial reforms for a fair and effective system as well as strengthening property rights will be crucial. Other policies raised included: anti-corruption measures, investment incentives, infrastructure investments, human capital development, and strengthening institutions.

## BOOSTING CONNECTIVITY

Like the rest of Central Asia, Kazakhstan is landlocked in a difficult neighborhood. Kazakhstan has an export-oriented economy that is highly dependent on shipments of oil and related products (58 percent of total exports). Kazakhstan is also a key transit state. Kazakhstan's transit traffic is expected to jump to 35 million tons by 2029, and rail cargo will increase by 3% to 246 million tons.<sup>31</sup> Sustaining trade and economic growth is dependent on developing trade corridors via neighboring states.

To maintain current network performance in terms of trade volume-capacity ratios, Kazakhstan's road capacity must reach 151% of today's levels by 2030 and 350% by 2050.<sup>32</sup> This will require significant investments. In Kazakhstan, 75% of existing transport infrastructure requires replacement or rehabilitation, and \$292 billion (or 3.93% of GDP) on average needs to be spent on infrastructure until 2040 to support economic and demographic growth.<sup>33</sup> President Tokayev

<sup>31</sup> "Kazakhstan Redefines Global Trade Routes," Inco Docs, 2024, <https://incodocs.com/blog/kazakhstan-global-trade-routes/>

<sup>32</sup> "Trends in Kazakhstan's Sustainable Infrastructure Investments," OECD, 2023, <https://www.oecd-ilibrary.org/sites/a8bff43d-en/index.html?itemId=/content/component/a8bff43d-en>

<sup>33</sup> Ibid.



of Kazakhstan announced in November that he aims to increase the share of transport and logistics in its GDP to 9% within the next three years, instructing the responsible agencies to reconstruct over 4,000 kilometers of roads by 2029.<sup>34</sup> Kazakhstan is currently implementing investment projects in the road sector worth \$34 billion and \$4.4 billion in the railway sector, with 32% of funding coming from international financial institutions.<sup>35</sup>

Annually, the country invests an estimated 1-2% of its GDP in infrastructure, a significant portion of which goes towards repairs. With a GDP of approximately \$180 billion, this translates to roughly \$1.8 to \$3.6 billion spent annually on infrastructure upkeep, including road repairs, maintenance of public buildings, and utility networks.<sup>36</sup> Reports suggest that the country spends over \$300 million annually solely on road repairs. This figure is expected to rise as the government expands its road network and enhances connectivity under the 'Nurly Zhol' infrastructure development program. Kazakhstan's roads must endure sub-zero temperatures and heavy snowfall, leading to icy conditions and treacherous driving. The freeze-thaw cycle can cause significant damage to road surfaces, including cracking and potholing.

In order to take advantage of its geopolitical position at the heart of Eurasia, Kazakhstan will have to invest substantial resources into modernizing and expanding its railways, highways, and ports to facilitate smoother and faster trade routes. The government could also achieve this by developing logistics hubs and free trade zones to enhance trade efficiency and connectivity. Participants also noted that comprehensive economic partnerships with strategic regions such as the Middle East could help bolster the appeal of the region. Participants noted that Central Asian connectivity is lagging and that the region should work to coordinate infrastructure development to create a region-wide trade zone. Finally, Kazakhstan should promote e-commerce and

<sup>34</sup> "Kazakhstan to Strengthen Position as Key Transit Hub in Eurasia," Astana Times, 2023, <https://astanatimes.com/2023/09/kazakhstan-to-strengthen-position-as-key-transit-hub-in-eurasia/>

<sup>35</sup> Ibid.

<sup>36</sup> "Infrastructure Failure Tests Kazakhstan's Government," The Diplomat, 2022, <https://thediplomat.com/2022/12/infrastructure-failure-tests-kazakhstans-government/>

digital trade platforms to connect with international markets more efficiently. Digital solutions can also be harnessed for customs to reduce barriers and streamline cross-border exchanges.

At present, over three quarters of Kazakhstan's external trade transits Russia via the so-called Northern Route. As the viability of this route has been affected by Russia's invasion of Ukraine, an alternative route, the Middle Corridor via the Caucasus and Turkey, has emerged as a promising alternative. The Middle Corridor poses both challenges and opportunities for Astana. The route would advantage Kazakhstan in decoupling parts of its economy from Russia and allow for more partnerships with neighbors to its south. A key challenge will be finding multimodal solutions to integrate rail, road, and maritime transport across the region to make trade routes more competitive. The corridor provides a significant opportunity to stimulate regional development, create jobs, and attract increased foreign direct investment.

China's BRI will continue to benefit Kazakhstan, creating opportunities to boost trade volumes and enhance connectivity with its immediate neighbors. Kazakhstan has been a central player in China's BRI since the beginning and is often referred to as the "buckle" on the belt by Chinese officials. One of the most ambitious projects is the Khorgos Gateway, a "dry port" city located on the border between China and Kazakhstan. This project facilitates the transfer of goods from Chinese to Kazakh trains due to differences in railway gauges, enhancing the overland trade routes from China to Europe. The Khorgos Gateway has significantly increased cargo volumes and trade outputs since its inception.<sup>37</sup> Other key infrastructure projects include developments in transport, logistics, and industry, such as railways, highways, and ports, aimed at improving connectivity and trade efficiency across the Eurasian continent.<sup>38</sup> The Astana International Financial Center (AIFC) plays a pivotal role in promoting BRI projects by providing a stable and advanced marketplace with international

<sup>37</sup> "Kazakhstan: A Key Strategic Partner," Focus, 2024, <https://focus.world-exchanges.org/articles/kazakhstan-key-strategic-partner>

<sup>38</sup> Ibid.



standards and various financial instruments. This has enhanced Kazakhstan's attractiveness as a hub for BRI-related investments.

Kazakhstan's strategic position and proactive participation in the BRI have brought about substantial investments and development projects. These initiatives are transforming its infrastructure, enhancing trade routes, and contributing to economic growth. However, addressing challenges related to transparency and governance will be vital for maximizing the benefits of BRI investments in the long term.

## ***DEVELOPING ALTERNATIVE SECTORS***

Kazakhstan's population has been steadily increasing. As of 2024, the population is approximately 19.83 million, reflecting a growth rate of around 1.13 percent from the previous year.<sup>39</sup> This trend has been consistent over time. Urban migration is also contributing to population growth as people move to major cities like Almaty and Astana in search of better opportunities.<sup>40</sup> Overall, Kazakhstan's labor market participation rates remain high, with about 77 percent of the population aged 15-64 actively participating in the labor market in 2022.<sup>41</sup> Official unemployment rates hover around 5-6 percent, though there are concerns about the reliability of these statistics. Women face a higher unemployment rate than men. In terms of salaries, Kazakhstan has seen promising trends. As of 2023, the minimum wage was set at 85,000 tenge, while average salaries for specialists start at around 400,000 tenge and managers at 800,000 tenge. High-demand professions, such as IT specialists, data analysts, and finance professionals, often see starting salaries ranging from 700,000 to

<sup>39</sup> "Kazakhstan," Worldometer, 2024, <https://www.worldometers.info/world-population/kazakhstan-population/>

<sup>40</sup> Ibid.

<sup>41</sup> "Kazakhstan: Country Profile," World Bank, 2024 <https://www.worldbank.org/en/country/kazakhstan/overview>



800,000 tenge.<sup>42</sup> Despite growth, the labor market faces challenges such as skill mismatches and the need for modernization. There is a push for improved vocational training and education to meet the demands of a changing economy.

In order to create jobs for its growing population, Kazakhstan will have to develop beyond oil and gas and invest in renewable energy, manufacturing, IT, tourism, and agricultural sectors where Kazakhstan shows strong potential for growth. The government could also do more to encourage the growth of small and medium-sized enterprises through financing and training to create more jobs and spur local development. These businesses could also be part of a startup ecosystem of incubators, accelerators, and grant distributors to help foster innovation in the domestic economy. With smart policy design and clustering of technology parks, the country could pave the way toward high-tech job creation. At the macro-level, Kazakhstan's government should be investing in large-scale transport infrastructure and digital infrastructure to act as an engine of growth in the economy. Finally, Astana must improve ease of doing business and the local regulatory environment to signal that Kazakhstan is open to foreign investment.

Participants were interested in how AI could be used to boost growth in Kazakhstan. First, they suggested integrating AI and machine learning courses into university programs and technical schools, as well as offering upskilling and reskilling programs for the current workforce to adapt to AI technologies. Second, the government could develop local innovation for awarding grants for R&D. Supporting this, the government should aim to establish dedicated AI research centers to foster collaboration between academia, industry, and local governments. Third, to better integrate AI within existing industry, Kazakhstan should encourage public-private partnerships to facilitate the deployment of AI solutions. Finally, Kazakhstan should bolster its data infrastructure to support local AI development and leverage smart city design to more efficiently manage resources in urban areas.

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<sup>42</sup> "Labor Market Salaries in Kazakhstan: What to Expect in 2024," Smarthr.kz, 2024 <https://smarthr.kz/en/news-en/labor-market-salaries-in-kazakhstan-what-to-expect-in-2024/>



## CONCLUSION AND RECOMMENDATIONS

The Kazakhstan Futures program has provided a comprehensive platform to explore the multi-faceted challenges and opportunities facing Kazakhstan as it transitions towards a greener, more diversified economy. Through rigorous dialogue and collaboration among experts, private-sector leaders, and government stakeholders, several critical themes have emerged that highlight both the potential and obstacles in Kazakhstan's path to sustainable development.

Green Energy Transition: Kazakhstan's commitment to decarbonization and renewable energy development is evident through its substantial wind and solar resources and international cooperation efforts. The nation's ambitious targets to generate 50 percent of its electricity from renewables by 2050 are commendable, but achieving these goals will require overcoming significant barriers related to outdated infrastructure, regulatory hurdles, and a workforce predominantly skilled in fossil fuel industries.

Critical Minerals: With vast reserves of critical minerals like lithium, tungsten, and uranium, Kazakhstan is poised to become a key global supplier essential for the clean energy transition. Developing this sector can spur economic diversification, create jobs, and attract significant foreign investment. However, sustainable mining practices and regulatory enhancements will be crucial to mitigate environmental and social impacts.

Economic Diversification and Inclusivity: The discussions underscored the importance of tailored development programs to address regional disparities and ensure that the benefits of economic growth reach all segments of society. Improving education, healthcare, and infrastructure, especially in

underdeveloped regions, along with supporting SMEs, will be pivotal in creating a more just and equitable economy.

Investment Climate: To attract and sustain investment, Kazakhstan must streamline its regulatory framework, strengthen property rights, and enhance transparency. Judicial reforms and anti-corruption measures will further bolster investor confidence, while substantial investments in infrastructure and human capital will support long-term economic resilience and growth.

Harnessing AI and Technological Advancements: integrating AI into education and industry, fostering local innovation through dedicated research centers, and developing robust data infrastructure are critical steps for Kazakhstan to harness the AI revolution. Public-private partnerships and smart city initiatives will also play pivotal roles in leveraging AI for sustainable urban management and economic efficiency.

Kazakhstan stands at a pivotal juncture, with immense opportunities to transform its economy through strategic investments in green energy, critical minerals, and technological advancements. The insights and recommendations from the Kazakhstan Futures program offer a roadmap for navigating these transitions, emphasizing the need for inclusive policies, sustainable practices, and international collaboration. As Kazakhstan moves forward, continuous engagement with diverse stakeholders and adaptive policy-making will be essential in realizing a prosperous, resilient, and equitable future.

