



Eurasian
Development Bank

The Economy of Central Asia: A Fresh Perspective



Almaty, Bishkek, Moscow — 2022

A FRESH PERSPECTIVE ON THE ECONOMY OF CENTRAL ASIA

Central Asia — five republics in the centre of the Eurasian space



Central Asia — large and dynamically developing region

- ▶ Substantial progress in social and economic development
- ▶ Capacious sales market and expanding pool of labour resources
- ▶ Improving living standards
- ▶ Dynamic development of infrastructure and increasing mobility of the population
- ▶ Strategic role of the region in Eurasia: substantial growth prospects

The region's achievements and structural changes

Increase in 2000–2021

		2000	2010	2021
 1.4x	Population, millions	55	62	77
 7.5x	GDP, \$ billions	46	243	347
 1.8x	Share in global GDP (PPP), %	0.4	0.6	0.7
 17.2x	FDI stock, \$ billions	12.3	101.6	211.4
 6x	Turnover of foreign trade in goods, \$ billions	27.4	149.4	165.5
 3.1x	Mobility of the population, pkm/person	2,198	4,435	6,792 (2019)

↑ from 6.4% to 9.9%

increase in the share of mutual trade in goods among Central Asian countries in total foreign trade turnover over the last eight years

6.2%

average annual GDP growth rate in the Central Asian countries over the last 20 years

2x

FDI stock originating from the PRC exceeds FDI stock originating from the RF

\$52.8 billion

estimated aggregate value of proposed investment projects in the region's water and energy complex in 2021

Challenges

Lack of access to the sea

- ▶ Excessive transport costs
- ▶ Constrained growth of trade

Resource dependence and low level of financial development

- ▶ GDP growth volatility
- ▶ Constrained growth of household incomes

Lack of coordination in the water and energy complex

- ▶ Economic losses
- ▶ Increasing water shortage

Climate change and environmental damage

- ▶ Rising temperature
- ▶ Pollution of the biosphere

Region's growth points

Development of transit transport potential, creation of the Eurasian transport network

Attraction of private investment, diversification of production and exports, expansion of the range of financial services

Coordinated development of the water and energy complex

"Green" transformation of the economies

Vinokurov, E. (Editor), Ahunbaev, A., Babajanyan, V., Berdigulova, A., Fedorov, K., Kharitonchik, A., Kuznetsov, A., Malakhov, A., Pereboev, V., Usmanov, N., Zaboev, A. (2022) *The Economy of Central Asia: A Fresh Perspective*. Reports and Working Papers 22/3. Almaty, Bishkek, Moscow: Eurasian Development Bank.

The economic role and prospects of Central Asia are still not fully appreciated by the world. Over the last 20 years, the countries of the region have made significant progress in their development, and have far-reaching growth prospects. The region's GDP has been increasing at an average rate of 6.2% per year in real terms, reaching \$347 billion. The population of Central Asia is almost 77 million, and it keeps growing at the rate of 2% per year. Inward FDI stock is estimated at \$211 billion, with foreign trade turnover having increased sixfold since 2000. However, because of inertia, the international community still fails to perceive the region as a major player on the economic map of the world. The purpose of this report is to offer a fresh perspective on Central Asia as a large and dynamic region. The report provides an analysis of economic development outcomes for the countries of the region, an assessment of their successes and challenges, and defines points of further economic growth. The strategic role of Central Asia in the vast Eurasian space will be increasing: the region will become more important for its immediate neighbours, and for its key economic partners – Russia and China. The countries of the region received an historic chance to take advantage of their transit position, and of the opportunity to expand into external markets through emerging international transport corridors. A significant potential is offered by coordinated development of the water and energy complex, including “green” power engineering. To unlock the region's potential, it is important to overcome certain other challenges, such as the lack of access to the sea, resource dependence, low level of financial development, and impact of climate change.

Keywords: Central Asia, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan, Eurasian Economic Union, mutual trade, mutual investments, regional cooperation, economic development.

JEL: E60, F13, F15, F21, F43, F50, F64, O13, Q57.

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Source: EDB.

Legend

- State boundaries
- Capitals
- Cities
- ⚓ Ports
- Roads
- - - Railways
- ▬ Dams
- Oil production sites
- Oil and gas fields
- Glaciers

0 62.5 125 250 375 500 km

MAP OF CENTRAL ASIA



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SUMMARY

The economic role and prospects of Central Asia are still not fully appreciated by the world. Largely because of inertia, the international community still fails to perceive the region as a major player on the economic map of the world. However, the region is changing, and its role needs to be reassessed. Over the last 20 years, the countries of Central Asia have made significant progress in their development. The share of Central Asia in global GDP (PPP) has increased by a factor of 1.8 since 2000 (see Figure A). Its countries have established themselves economically, and have far-reaching growth prospects. The purpose of this report is to offer **a fresh perspective on Central Asia** as a large and dynamically developing region.

Central Asia had an aggregate GDP of \$347 billion in 2021. Over the last two decades, the GDP of Central Asia grew more than sevenfold (see Figure B) — fourfold in real terms. Inward FDI stock is estimated at \$211 billion, with foreign trade turnover having increased sixfold since 2000. Dynamic economic growth is the result of structural economic transformations in the 1990s, and favourable conditions in global commodity markets.

The region's growing population provides a capacious sales market, and generates an expanding pool of labour resources. The region's population of 77 million keeps growing at the rate of almost 2% per year. Over the last 20 years, it increased at an average annual rate of 1.6%. The region's population has increased by a factor of 1.4 since 2000. According to UN estimates, the average annual population growth rate in the region is projected at 1.1% until 2040. Demographics definitely favour economic growth in Central Asia. The current age distribution points to a future growth of labour resources.

↓ Figure A. The Region's Achievements and Structural Changes

Increase in 2000–2021	2000	2010	2021
 1.4x Population, millions	55	62	77
 7.5x GDP, \$ billions	46	243	347
 1.8x Share in global GDP (PPP), %	0.4	0.6	0.7
 17.2x FDI stock, \$ billions	12.3	101.6	211.4
 6x Turnover of foreign trade in goods, \$ billions	27.4	149.4	165.5
 3.1x Mobility of the population, pkm/person	2,198	4,435	6,792 (2019)

Source: EDB analysis based on national statistical agencies, central (national) banks, IMF, ADB, WB, Trade Map, CEIC.

The average annual economic growth rate in Central Asian countries over the last 20 years is 6.2%. During the same period, emerging countries and the world as a whole reported annual growth rates of 5.3% and 2.6%, respectively (see Figure C). Growth of export revenues, remittances by migrant workers, and foreign direct investment contributed to the rise of incomes and reduction of poverty.

That dynamic economic growth has facilitated a trend toward **convergence of income levels** in Central Asia with those of **developed countries**. In Kazakhstan, the GDP per capita (PPP)

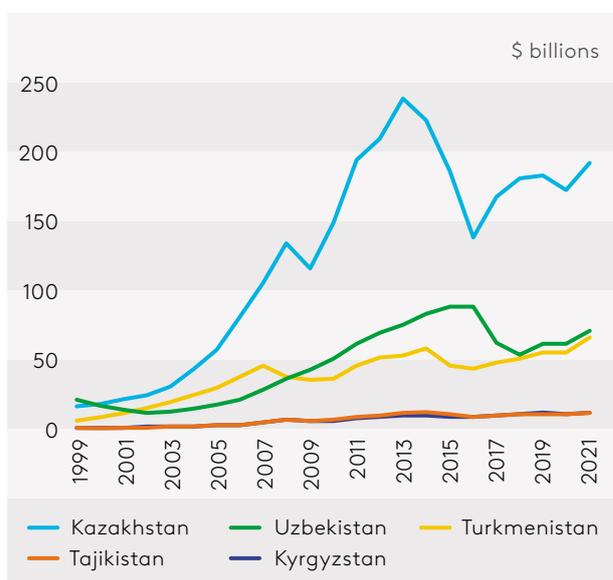
stands at half of that of developed countries, in Turkmenistan at one third, while the gap between the other Central Asian countries and developed economies is even wider, ranging from 7 to 14 times. Over the last 20 years, the situation has greatly improved. In most countries of the region, per capita GDP (PPP) increased threefold.

The strategies of the Central Asian countries rely on **taking advantage of the benefits offered by globalisation and regional economic integration**. Globalisation benefits are related to the international division of labour and the favourable geographic position of the region between China, Russia, and Turkey. Other critical factors include the strengthening of China, and involvement of Central Asian countries in the Belt and Road Initiative.

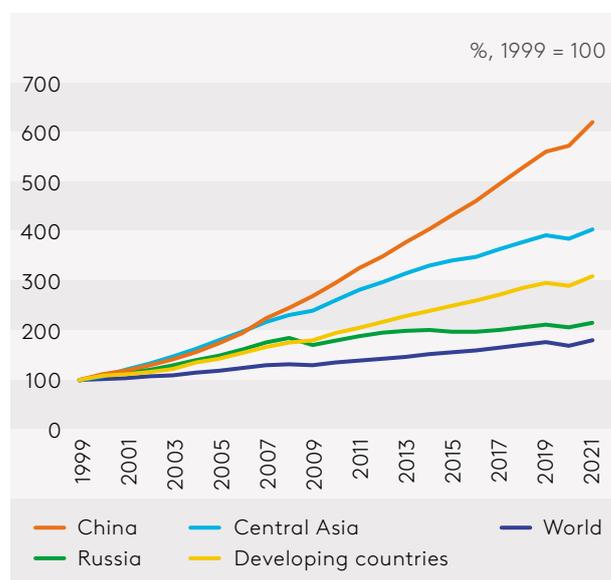
The **isolationist policies (including economic policy)** that some countries have been pursuing over the last several decades have **exhausted themselves**. Central Asian countries are trying to find their place in the world economy. Transformation of economic strategy in Uzbekistan is a good example. Turkmenistan is demonstrating increasing openness, stepping up its efforts to promote foreign investment and expanding its presence in large international and regional projects.

In 2021, the turnover of foreign trade in goods of the Central Asian countries reached \$165.5 billion, a sixfold increase over the last 20 years. The fact that Central Asian countries lie at the intersection of transport corridors creates opportunities for expanding their transit potential in terms of both transportation of goods and incorporation in cross-border production chains. The role of Asian states in the foreign trade of the Central Asian countries is increasing. The list of Russia’s trade competitors in the region now includes not only the PRC, but also Turkey, India, and South Korea. In addition, mutual trade among the countries of the region is developing at a faster rate than their foreign trade outside the region.

↓ Figure B. GDP of the Central Asian Countries



↓ Figure C. Real GDP



Source: EDB calculations based on IMF data.

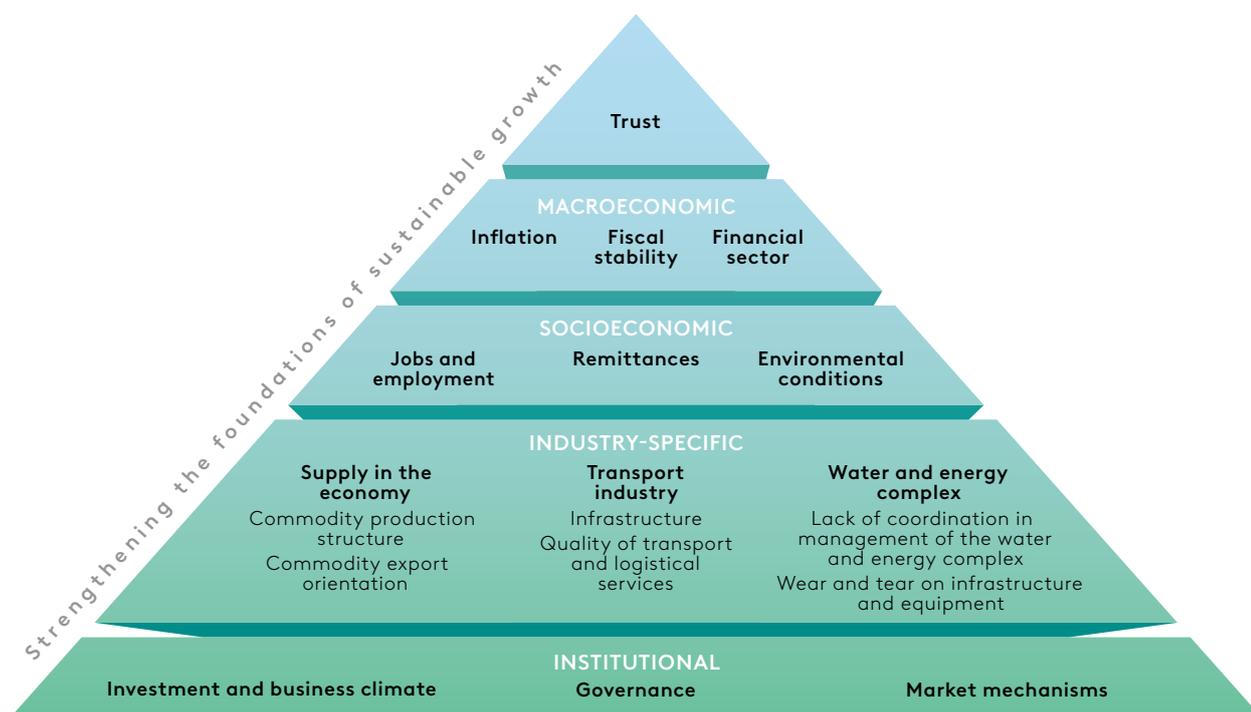
Inward FDI stock of Central Asia is estimated at \$211 billion. Over the last 20 years, that indicator has increased more than 17-fold. Despite the positive rate of growth of FDI in the region, its breakdown by countries and sectors remains rather distinctive. The fact that some countries of the region were closed to the world for a protracted period of time, as well as their remoteness from the main economic centres, lack of access to the sea, and proximity to Afghanistan, still have a negative effect on how the region is perceived by investors. The

share of FDI in the GDP is higher than the global average (2021: 61% vs. 47%), but lower when measured net of investments in the commodity sectors (Abdymomunova et al., 2018), which points to an overall **underinvestment** in the region.

Total private investment by the PRC in the region stands at about \$40 billion, which is about twice as much as that invested by Russia. Massive inflow of funding from China opens up new opportunities for the region, but it also creates long-term risks. Sustainable development of the Central Asian countries will be linked to a balanced approach to attracting external financial resources through strengthening and development of good-neighbourly relations within the other countries of the region, and implementation of regional programmes by international organisations and development banks. To ensure sustainable development, it will be necessary to attract FDI in non-commodity sectors, and use the potential offered by domestic saving.

The share of mutual trade between Central Asian countries in their total trade turnover is consistently increasing, having reached 9.9% by the end of 2021. Uzbekistan provided a powerful impetus to development and expansion of intra-regional trade after 2017. The bulk of trade in the Central Asian countries is linked to Kazakhstan, whose share in total mutual trade in the region is 80.9%. The rate of development of regional trade affects investment cooperation. Priority areas of economic cooperation among the countries of the region are infrastructural development and industrial cooperation. Intra-regional cooperation will help to boost industrial production and improve the food security of the region.

↓ Figure D. Constraining Factors and Conditions of Economic Development in Central Asia



Source: EDB.

Despite certain progress, there are **several systemic problems constraining** social and economic development of the Central Asian countries (see Figure D). The economic boom related to the rise in commodity prices was not used by them in full. Commodity exports and remittances by migrant workers still play a disproportionate role in the economies of the region. Other significant issues include the quality of the institutional environment, underdevelopment of regional transport networks, lack of coordination in management of the water and energy complex, low level of development of the financial sector, social problems, macroeconomic risks, and insufficient harmonisation of regional trade and

economic relations. Removal of structural development constraints remains a challenge for the Central Asian countries.

The factors listed above may become major **risks for the future economic development** of the Central Asian countries. If the landlocked Central Asian countries fail to create effective freight transit systems, they will fall behind countries that have access to the sea by 20% on the average (UN, 2014), and fail to be fully integrated into the world market. It is necessary to expand and improve the road and railway infrastructure, and to harmonise and simplify border crossing procedures. Another major risk is the increasing load on water resources. This global challenge is particularly dangerous for the Central Asian region, as its countries are heavily dependent on agricultural production and vulnerable to the climate-related problems caused by drying up of bodies of water and melting glaciers.

Working together, the Central Asian countries will be better equipped to overcome structural development issues. Because of the increased load on their energy systems due to active economic growth, and because of their connection through shared river basins, cooperation among the Central Asian countries in the water and energy complex has no alternative. Joint actions to improve the transport infrastructure and combat climate-related risks are equally important.

Eliminating bottlenecks in the **infrastructural sectors (transport, the water and energy complex) will make it possible to improve productivity of the economy**, expand trade and economic partnership with the neighbouring countries, and increase product diversification of production and exports. Improving the complementarity of the commodity structures of production will strengthen mutually beneficial cooperation among Central Asian countries and reduce their vulnerability to external shocks. Improvement of the institutional environment will enable an acceleration of structural economic transformation in the region.

The inadequate level of cooperation in the water and energy complex inflicts economic damage from year to year. The unrealised benefits are estimated at 0.6% of the region's aggregate GDP in agriculture, and 0.9% in the energy complex. The structure of the investment portfolio is far from optimal, as it fails to account for regional interests. Total investment proposals related to Central Asia's water and energy complex are estimated at \$52.8 billion, with the bulk of investment capital going to the generation segment. At the same time, water infrastructure facilities have used up their service lives and require upgrades and modernisation. The Central Asian countries have abundant energy resources and a high RES potential. Implementation of energy projects, including "green" power engineering projects, will make it possible to improve the energy mix and, at a later stage, export electricity.

Central Asia is characterised by **rapid development of transport infrastructure and increasing population mobility**. Efforts in that area have been hugely successful — the total length of railways and paved roads is growing; there are numerous new Caspian seaports, airports, transport and logistics centres, and border crossing points. Over the last several years, there has been a rapid increase in the volume of container transit using both the conventional route (China–Kazakhstan–Russia–EU) and the Trans-Caspian International Transport Route. New railway routes and container services will ensure a more effective integration in global supply chains. Considerable progress was achieved in improvement of road safety. During the period from 2000 to 2019, before the pandemic, transport mobility of the population more than tripled.

The Eurasian transport network should become the solution that will enable landlocked Central Asian countries to connect to each other and to their foreign trading partners. The network is already in place, and work is under way to improve its individual elements. It will be transformed into a network of routes that will join various international transport corridors traversing Central Asia, and contribute to the creation of new container services

and logistical chains. It will enable establishment of stable and safe transport and economic ties, and reduce transport costs incurred by Central Asia economies.

Central Asia is among the regions that are most vulnerable to climate change. Food supplies, water, and energy resources are particularly sensitive to climate challenges. Besides, climate change poses the problem of conservation of biodiversity for the countries of the region. Environmental problems degrade living conditions, inhibit economic development, primarily in agriculture, and diminish the investment and tourist appeal of the region. **“Green” transformation of the region’s economies is a necessity.** The region needs investment in low-carbon technologies and “green” projects, including RES, power- and resource-saving technologies, modernisation of the water and energy complex, land development projects, desertification control, and reforestation.

The opportunities opening before the countries of the region acquire special significance in the new geopolitical environment. Following a policy of openness, mutually beneficial cooperation and coordination of efforts will enable Central Asian countries to achieve a qualitative breakthrough in their development. Vulnerability to external factors can be reduced by fostering internal growth drivers. The countries of the region need to overcome four key structural challenges: lack of access to the sea, resource dependence and the low level of development of the financial sector, lack of coordination in management of the water and energy complex, climate change (see Figure E). Solving these problems will most effectively unlock the region’s economic potential. It is equally important to make use of the opportunities emerging in the global economy and to attract and adapt global technologies, in particular, digital and “green” technologies.

Structural challenges are primarily linked to infrastructural development. Infrastructure projects are highly capital intensive. The Central Asian countries need to modernize existing and create new infrastructure, and in these conditions an integration-based development path is the optimal solution. Geographic proximity creates conditions conducive to infrastructural integration. For example, the fact that West Africa has a shared power grid enables smaller countries to benefit from the economies of scale and risk-mitigating advantages of large power networks (Devarajan, 2017). The World Bank assesses the economic benefits received by the regional power market in West Africa due to lower production costs at \$5–8 billion per year (World Bank, 2018).

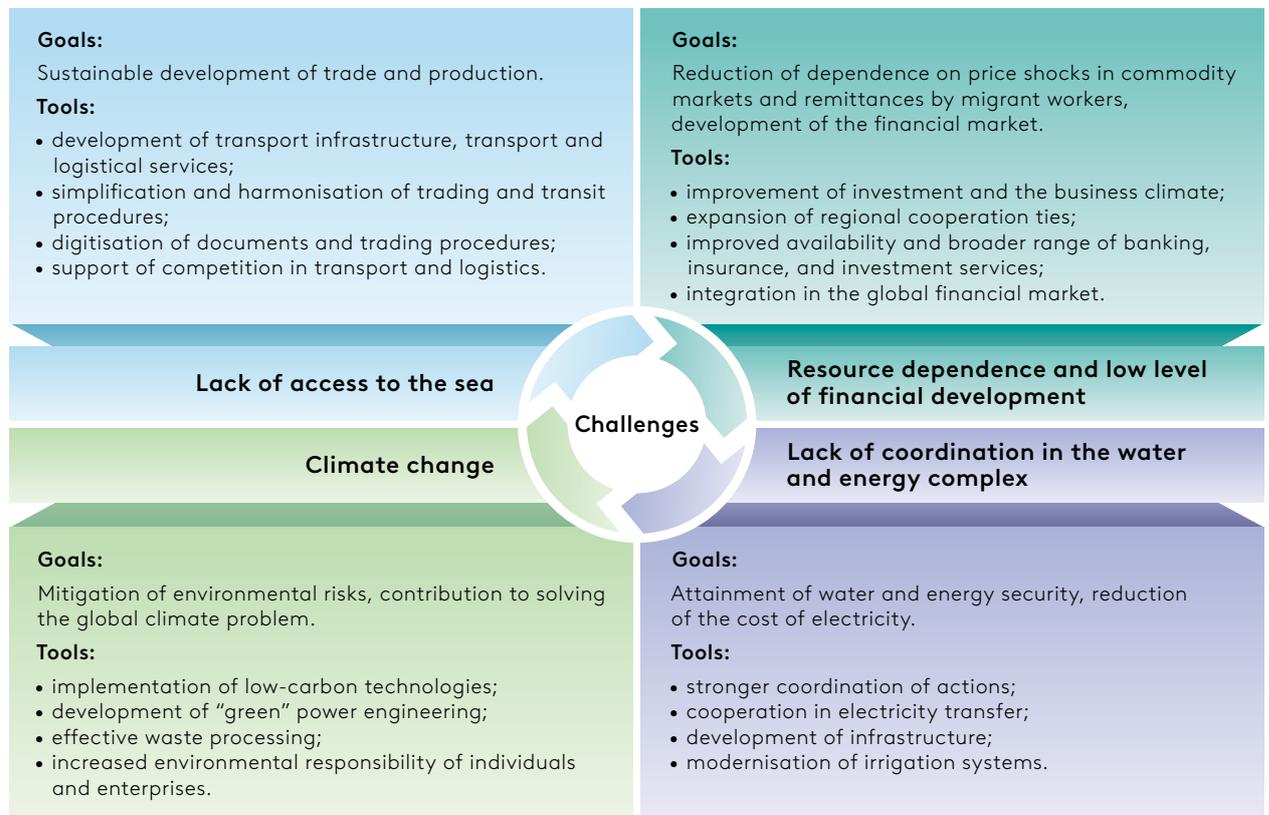
Coordinated development of the infrastructure makes it possible to maximize effects and save on costs. According to World Bank estimates based on infrastructural development indicators of African countries, investing in roads greatly influences sectoral changes, encouraging workers to move from agriculture (a low-productivity sector) to the manufacturing industry and services. Concurrent investment in roads and electricity increases the overall impact by a factor of 2.5 (Herrera Dappe, Lebrand, 2021).

The EAEU is the preferred format for expansion of economic integration of Central Asian countries. EAEU membership creates a single regulatory environment, provides access to an extensive common market for labour, capital, and services, eliminates barriers to mutual trade, and promotes industrial cooperation.

The strategic role of Central Asia on the economic map of the world will be increasing, particularly for Russia and China. Central Asia ceases to be the hinterlands relative to the large economic players in the vast Eurasian space. Transformation of the region largely depends on internal efforts, private investment, and large-scale multilateral programmes. Central Asia may become a financially stable and dynamically developing region of Greater Eurasia, employing effective regional cooperation mechanisms, and being actively involved in the operation of the value chains built by national businesses offering competitive goods and services to both domestic and foreign consumers. The emergence of Central Asia as a

flourishing region will facilitate resolution of other sensitive geopolitical issues in this part of the continent, in particular, by enabling involvement of Afghanistan in economic relations with the neighbouring countries.

↓ Figure E. Structural Challenges and Mitigation Tools



Source: EDB.

1. INTRODUCTION: WHY DO WE NEED A FRESH PERSPECTIVE ON THE CENTRAL ASIAN ECONOMY?

The five Central Asian countries — the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan — occupy more than 4 million km² in the very heart of the huge Eurasian continent. More than 30 years ago they became sovereign states. Since then, they have made a long and arduous journey to embed themselves in the system of global economic relations, and establish cooperative ties both within the region and with the neighbouring countries, including economic giants such as China and Russia (Vinokurov, 2021).

Even though none of the Central Asian countries has access to the world ocean, and the Republic of Uzbekistan is even “twice removed” from it, the geostrategic position of the region at the intersection of trade routes between Asia, the Middle East, and Europe has its advantages. Like the Great Silk Road which once joined all five great economic centres of Greater Eurasia — China, India, Persia, the Middle East, and Europe — modern transport routes not only play a transit role, but also contribute to development of industry, services, and trade in all countries of the region. Consistent efforts of Central Asian countries and the world community to shape the Eurasian transport network are aimed at solving problems related to the lack of access to the sea.

The region has a huge water and energy potential. It has not only very rich oil and gas fields, but also an enormous and still underutilised pool of renewable energy sources (RES). It includes, in particular, hydropower plants (mountains account for more than 17% of the region’s territory) and solar power plants (16% of the region is occupied by two deserts — the Kara-Kum and the Kyzyl-Kum). Modernisation of the irrigation and land development systems together with expansion of regional cooperation in the management of water and energy resources will make it possible to eliminate water shortages caused by the growth of population and economic activity over the last several decades. We must realise that development of the water and energy complex is not merely a potential growth area, but also a vital condition of economic and political stability.

Each state is unique in terms of its culture, economy, and place in the regional and global division of labour. Yet, taken together, they complement each other. Regional cooperation will help them make use of the existing opportunities and engage all participants in a positive-sum game.

Over the last two decades, Central Asia has been a focus of close attention of academic economists and political scientists, international governmental and non-governmental organisations, banks, and development agencies. They have made an in-depth analysis of the challenges and opportunities of the countries of the region, and defined economic, trade, and cooperation development targets. Most researchers traditionally view the region as a group of countries with emerging economies, which need assistance from the international community in social and economic development and institution building. Meanwhile, the “phase transition” in social and economic development of the region has already occurred: Central Asian countries are moving out of the shadow of their large neighbours, and becoming independent players in the regional and global arena, and their opinions can no longer be ignored.

That is why we need a fresh perspective on Central Asia. The role and significance of the region's countries are changing against the backdrop of massive geoeconomic and geopolitical upheavals occurring at the beginning of the third decade of the 21st century on two continents – Europe and Asia. The impact of these upheavals on the region is potentially huge, and their ultimate result is still far from certain.

A fresh perspective on the region is based on abandoning the previous approach, which involved a separate examination of the region's countries or related economic sectors: energy, transport, the labour market, etc. The study and development of Central Asia must be integrated and interrelated, and expansion of economic cooperation and interaction among all five countries will become one of the key tools.

The comprehensive analysis presented in this report will offer a broader look at the region's potential, including its capabilities in terms of economic diversification, creation of high-quality infrastructure, new service sectors, cooperation in "green" power engineering and rational utilisation of water resources, realisation of transport, logistical, and transit potential, contribution to attainment of the Sustainable Development Goals, combatting climate change, and transformation of Central Asia into a tourist destination.

The report consists of 15 chapters that describe various distinctive features of the region, and analyze its social and economic development potential. [Chapter 2](#) presents historical and geographic prerequisites of development of the region. [Chapter 3](#) presents the general macroeconomic situation in Central Asia. Chapters [4–8](#) feature macroeconomic analyses of each of the five Central Asian countries. [Chapter 9](#) gives an assessment of economic growth drivers and constraints. [Chapter 10](#) deals with trade and investment cooperation, and the role of government programmes in supporting that cooperation. [Chapter 11](#) reviews the region's financial sector. [Chapter 12](#) considers the prospects of interaction among the countries of the region in the water and energy complex and expansion of "green" power engineering. [Chapter 13](#) is dedicated to the region's transport connectivity. [Chapter 14](#) focuses on the key issues related to implementation of the international climate agenda and combatting environmental problems in Central Asia. Finally, [Chapter 15](#) makes an attempt to peek into the future and assess Central Asia's development prospects taking into consideration the outcome of the ongoing global transformation.

2. HISTORICAL AND GEOGRAPHIC PREREQUISITES FOR DEVELOPMENT

For many centuries, Central Asia has played a significant role in shaping the economic, historic, cultural, and intellectual character of the modern world.

Located in the centre of the Eurasian space, the region combines mountain and steppe landscapes with barkhan deserts and salty semi-deserts, hot and dry summers with frosty and windy winters, and, above all, suffers from scarcity of fresh water. River systems do not link the region to major trade centres: it is isolated from the ocean and maritime communications. As a result, economic activity historically centred around oases, intermountain valleys and foothills, while boundless stretches of steppes and deserts were populated by nomadic cattle-herders of Iranian and later Turkic origin.

The documented history of Central Asia goes back 3,000 years: the first urban settlements emerged during the second millennium BCE, but the region's past goes back several thousand years before that. It was home to flourishing ancient states and great cultural and historical provinces, such as Margiana, Bactria, Sogdiana, Fergana, and Khwarazm. A thousand years ago, the level of development of the region and the scale of its economic and cultural activities were so impressive, that the period was rightly called "The Golden Age of Central Asia" (Nag, Linn, Kohli, 2016).

The intensive approach to production and agriculture in Central Asia was all-embracing, and relied on irrigation. Almost all large cities were situated near isolated oases and were separated from other cities by deserts or steppes. Underground and surface canals, dams, and reservoirs were created to move water from one place to another. According to Frederick Starr, a renowned contemporary Central Asia scholar, no other civilisation surpassed those of Central Asia in the effectiveness and complexity of irrigation systems (Starr, 2013). Construction and operation of massive irrigation systems, like those that were built, for example, in the City of Merv (in the territory of modern Turkmenistan), required considerable human resources.

Central Asia lies at the intersection of the shortest routes linking all four great economic and cultural areas and the largest markets of Eurasia at that time: the Middle East, Europe, India, and China. Due to its geographical position, for three millennia Central Asia was the only region extensively used by trade caravans.

In the 19th century, those trade routes were called the Silk Road; later that name was complemented with the epithet "Great". It linked not only China and Europe, but also India and the Middle East. Almost a thousand years ago, areas along GSR routes were characterised by thriving crafts and technologies that were advanced for those times, such as weaving and papermaking.

A caravan could consist of up to 1,000 camels, and carry as many goods as a modern freight train. Trade was organised mostly by the people of Central Asia. Chinese merchants delivered the goods to the border in Xinjiang, and then transportation was handled by local residents. Indian merchants were more enterprising, and maintained a network of trading houses across the region. However, residents of Central Asia dominated the market, and opened their own trading houses throughout China, India, and the Middle East.

Creation of a business environment favourable for continent-wide commerce was one of the key business objectives along the main GSR routes. To do that, it was necessary to build and support huge caravanserais (trading centres) in the cities. This facilitated development of production and crafts along the GSR, and promoted the further increase of the region's wealth. Luxury items, knives, and swords were manufactured by skilled craftsmen. Other goods, such as milled broadcloth and printed calico, silk, and other fabrics were manufactured by large mills that operated almost on an industrial scale. Samarkand paper was prized for its quality, and enjoyed high demand in Europe and the Middle East.

In effect, the region already was, in the past, "...a determining force in shaping the economic, historic, cultural, and intellectual character of the modern world". However, it would not have risen so high had it not been for science and culture rapidly evolving around those oases. It was in those domains that ancient and medieval Central Asia reached the acme of its glory in the 6th-12th centuries, and was considered the most intellectually advanced and creative civilisation on Earth, especially as regards medicine, mathematics, and astronomy (Nag et al., 2016).

However, this unique region, which survived several transformations as part of the Arab Caliphate and, later, the empire of Genghis Khan, sustained a protracted economic and cultural crisis engendered by a series of internecine wars and the weakening of the role played by the Great Silk Road. There were several reasons that led to the decline of the GSR, one of them being commencement of sea trade between China, India, and Europe.

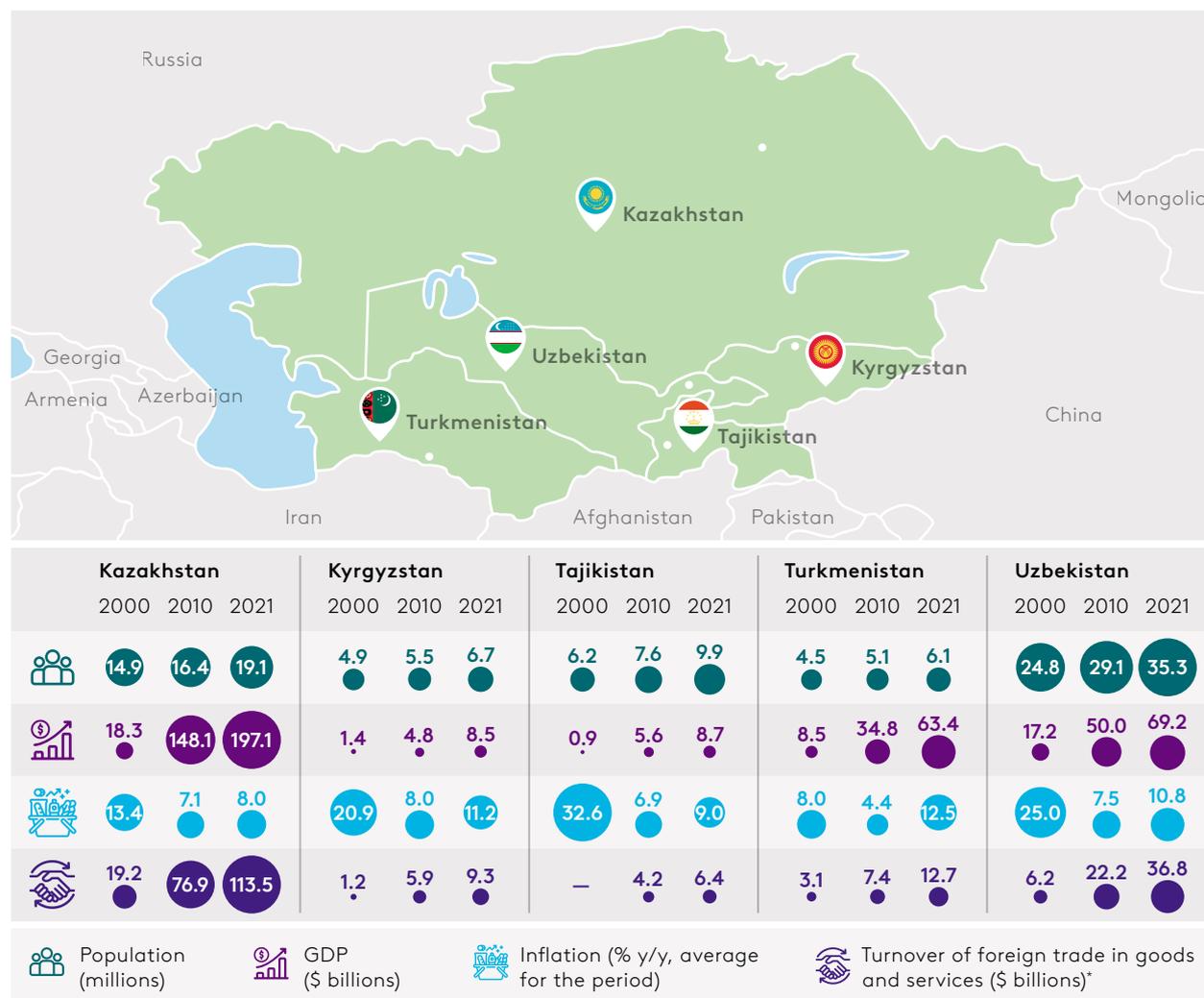
Development of the region received a certain impetus when it was a part of the Russian Empire and the USSR. It was then that the Central Asian countries, which regained sovereignty after the dissolution of the Soviet Union, assumed their current character.

The post-Soviet period of development of the newly independent Central Asian countries was (and still is) characterised by truly tectonic shifts in the structure of their national economies, caused by a broad range of internal and external political, historical, geographic, demographic, natural, climatic, and sociocultural factors. As the single national economic complex created in the USSR broke apart, the Central Asian countries became the owners of extensive infrastructure, a well-developed system of government institutions, numerous mineral deposits (ferrous, non-ferrous, and rare-earth metals, natural gas, oil, and coal) which had been developed or explored during the Soviet era, and potential hydropower resources for their irrigated lands. Those resources helped the five Central Asian countries to weather the difficult period of turbulence in the 1990s, and commence transition to a market economy.

Today, Central Asia remains the epicentre of interaction and collision of conflicting interests of global economic and political powers, and the five young republics have to deal with both unique geoeconomic opportunities and well-known grave geopolitical challenges. On the one hand, they can benefit from their partnership with China, Russia, India, Iran, and Turkey, and from their participation in certain bilateral and multilateral partnership programmes for Central Asia. Such programmes are proposed, in particular, by the USA, Japan, countries of Europe and the APAC. On the other hand, competition for regional influence and occasional periods of confrontation with neighbours, both inside and outside the region, have inevitably affected the social and economic situation in the Central Asian countries. Still, they manage to maintain balance, building and expanding mutually beneficial trade and economic relations with their key external partners.

3. CENTRAL ASIA — A REGION WITH HIGH DEVELOPMENT POTENTIAL

↓ Figure 1. Key Macroeconomic Indicators of Central Asia



Note: * — for Turkmenistan — turnover of foreign trade in goods.

Source: EDB analysis based on national statistical agencies, central (national) banks, IMF, ADB, WB, Trade Map, CEIC.

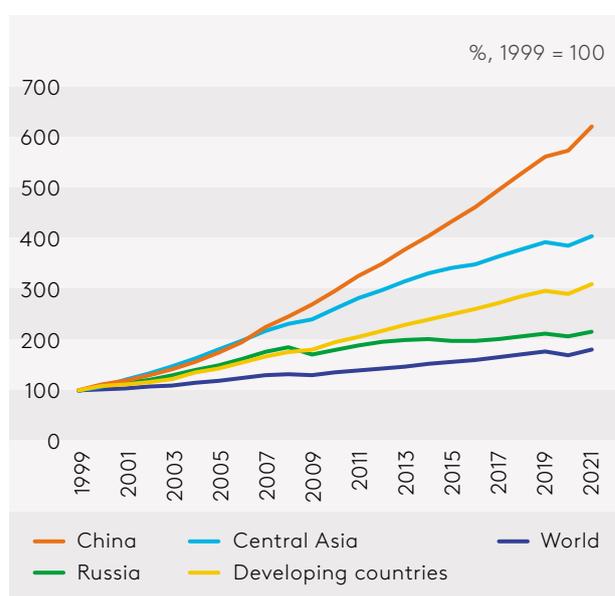
Central Asia is a region with a high development potential, which has an aggregate GDP of about \$347 billion and a population of 77 million (see Figure 1). Over the last two decades, Central Asia’s aggregate GDP increased fourfold in real terms. Since 2000, the population has increased by a factor of 1.4, and over the last several years it has been growing at 2% per year. According to UN estimates, the average annual population growth rate in the region is projected at 1.1% until 2040. Demographics definitely favour economic growth in Central Asia. The demographic outlook for the next 20 years is favourable, as the existing distribution of age categories will translate into a future growth of labour resources.

The region is rich in natural resources, and has an unrealised potential in many areas. Out of all Eurasian macroregions, Central Asia is the one most isolated from the main centres of global economic activity: North America, West Europe, East and Southeast Asia.

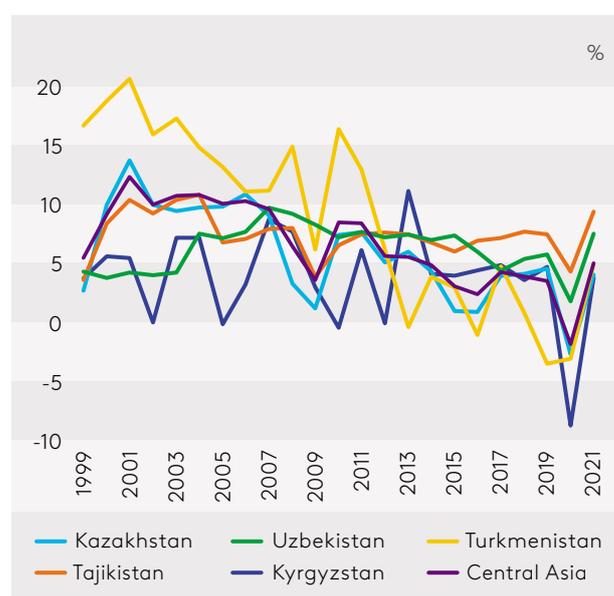
All countries of the region are landlocked. That significantly increases the price they have to pay for access to global markets. The transport and logistics infrastructure inherited by the Central Asian countries from the Soviet past makes them dependent on each other in many respects, which testifies to the need to expand regional cooperation, especially in the power industry and water use.

In the early 2000s, the Central Asian countries reported higher growth rates than developed and emerging countries, but after 2010 their economic growth slowed down (see Figure 2). Over the last ten years (2012–2021), the average annual GDP growth rate in Central Asia is estimated at 3.6%, while during the first decade of the 21st century that indicator exceeded 9% (see Figure 3). That slowdown can be partially explained by the slackening of economic activity in Russia, one of the region’s main development partners. Other key factors include the end of recovery that followed the transformation downturn in the 1990s, and natural growth constraints related to incomplete market reforms and insufficient inclusiveness of political and economic institutions.

↓ Figure 2. Real GDP



↓ Figure 3. GDP Growth

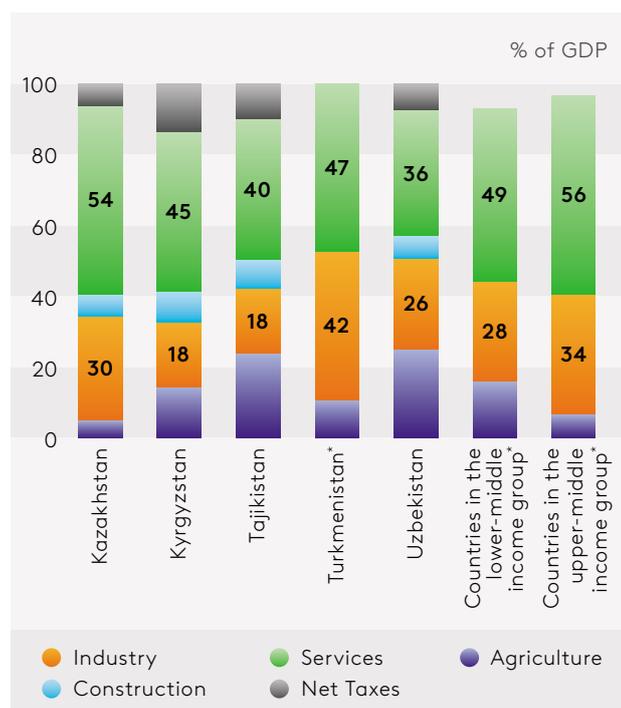


Source: EDB calculations based on IMF data.

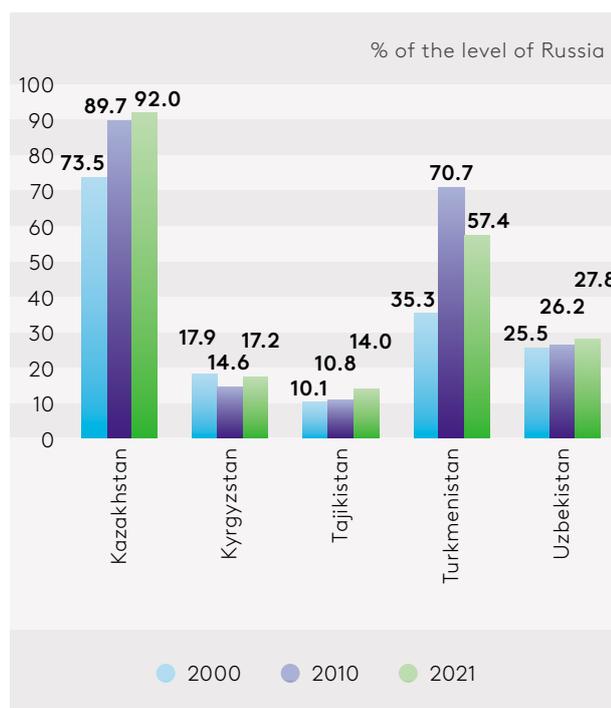
Economies of the Central Asian countries remain structurally different (see Figure 4). The structure of Kazakhstan’s GDP is typical for countries in the upper-middle income group: the economy is dominated by Services and Industry, while the share of Agriculture is insignificant. Turkmenistan’s economy is dominated by Industry, as the country specialises in extraction of mineral resources. The structure of the economy in Kyrgyzstan, Tajikistan, and Uzbekistan is typical for countries in the lower-middle income group, with Agriculture playing an important role.

The well-being of the population is growing. By 1999, all countries of the region, with the exception of Kazakhstan, descended into the low income group according to the World Bank classification. After the structural reorganisation of their economies, the well-being of the population of the Central Asian countries began to improve. Kazakhstan (since 2006) and Turkmenistan (since 2011) are firmly lodged in the upper-middle income group. Uzbekistan, Kyrgyzstan, Tajikistan joined the lower-middle income group in 2009, 2013, and 2014, respectively.

↓ Figure 4. GDP Structure in 2021



↓ Figure 5. Per Capita GDP (PPP)



Note: * – For Turkmenistan and countries assigned to the lower-middle/upper-middle income groups, Construction is included in Industry.

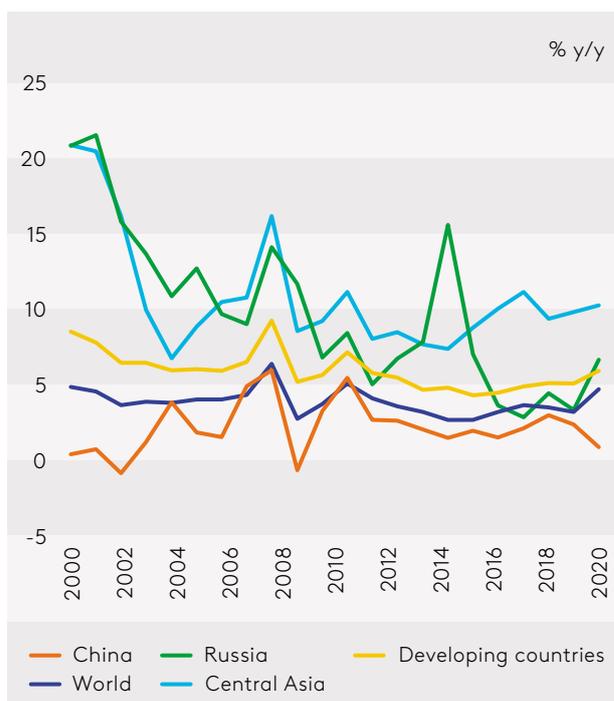
Source: EDB calculations based on data published by national agencies of Central Asian countries and the World Bank.

Per-capita income is still below that reported by Russia. Thus, by 2011 Kazakhstan's per capita GDP (PPP) reached 90% of Russia's (2000: 73.5%), but then the convergence slowed down, and by the end of 2021 the ratio was 92% (see Figure 5). In Turkmenistan, divergence has been the main trend over the last ten years: per capita GDP (PPP) decreased by 13 pp to 57.4% vs. Russia's GDP in 2021. Income levels in Uzbekistan, Kyrgyzstan, and Tajikistan have increased about 3 pp since 2012, and amount to 28%, 17%, and 14%, respectively, of the Russian level.

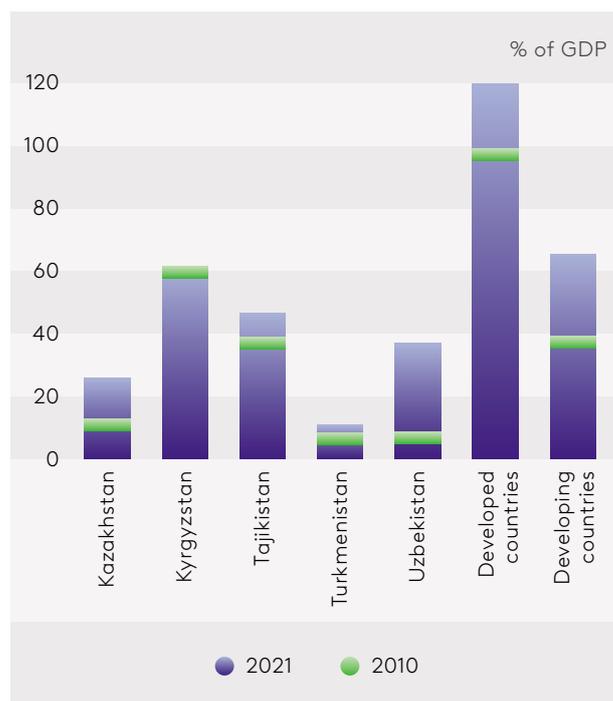
The main economic policy objective of the Central Asian countries is to switch from the current growth strategy, which is based on export of commodities and labour resources, to a strategy based on structural economic reforms designed to support sustainable development. The Central Asian countries are taking steps in that direction. In particular, Kazakhstan intends to join the world's Top 30 most developed countries by 2050. Uzbekistan has been implementing large-scale reforms to promote its manufacturing sector since 2017.

National banks of the Central Asian countries have become more independent in their monetary policy-making, and built up their technical expertise. Inflation went down from the highs of the early 2000s, and over the last five years, the average inflation rate in the region has been around 10% (see Figure 6). Deceleration of price growth was instrumental to reducing uncertainty and improving the functional efficiency of financial organisations. However, many Central Asian countries have still not completed the transfer to full-fledged inflation targeting, while inflation rates, despite the downward trend, remain above the average for emerging economies.

↓ Figure 6. Inflation



↓ Figure 7. Public Debt



Source: EDB calculations based on IMF data.

Fiscal burdens differ across Central Asia, with debt burdens in most countries of the region being moderate (see Figure 7). Reallocation of financial resources through the state budget is the most significant in Kyrgyzstan: public revenues and expenditures have accounted, on the average, for about one third of the GDP for the last five years (2017–2021), which is more than in most emerging economies. Tajikistan and Uzbekistan have a moderate fiscal burden, with a lower proportion of the national income reallocated through the budget; their parameters are consistent with those typical for emerging economies. In Kazakhstan and, to an even greater extent, in Turkmenistan, the size of the state budget is considerably smaller than in the other Central Asian countries and most emerging countries. That can be explained, among other things (particularly with respect to Turkmenistan), by the widespread use for the discharge of public functions of quasi-budgetary funds created by reallocation of rent income. Public debt is low in most countries of the region, with the exception of Kyrgyzstan and Tajikistan.

4. KAZAKHSTAN: LEADING ECONOMY OF THE REGION

↓ Table 1. Key Macroeconomic Indicators of Kazakhstan

Indicator	2000	2010	2019	2020	2021
Population, millions (end of the period)	14.9	16.4	18.6	18.9	19.1
Unemployment, % of workforce	12.8	5.8	4.8	4.9	4.9
GDP, \$ billions	18.3	148.1	181.7	169.8	197.1
GDP, increase % y/y	9.8	7.3	4.5	-2.5	4.3
Inflation, % y/y (average for the period)	13.4	7.1	5.2	6.8	8.0
Key rate, % (end of the period)	14.0	7.0	9.25	9.0	9.75
KZT/USD exchange rate (end of the period)	144.5	147.4	381.2	420.5	431.7
Government budget balance, + = surplus, % of GDP (IMF estimate)	1.9*	1.5	-0.6	-0.7	-4.1
Public debt, % of GDP (IMF estimate)	17.6*	10.7	19.9	26.4	25.9
Turnover of foreign trade in goods and services, \$ billions	19.2	76.9	117.4	97.5	113.5
Consolidated international reserves**, \$ billions (end of the period)	2.1	59.3	90.7	94.4	89.7

Notes: y/y – rate of increase relative to the relevant period of the previous year, * – 2002; ** – Consolidated international reserves include gross international reserves of the National Bank of the Republic of Kazakhstan and assets of the National Fund of the Republic of Kazakhstan.

Source: EDB calculations based on data published by the National Statistical Bureau of the Strategic Planning and Reforms Agency of the Republic of Kazakhstan, National Bank of the Republic of Kazakhstan, Ministry of Finance of the Republic of Kazakhstan, CEIC, IMF.

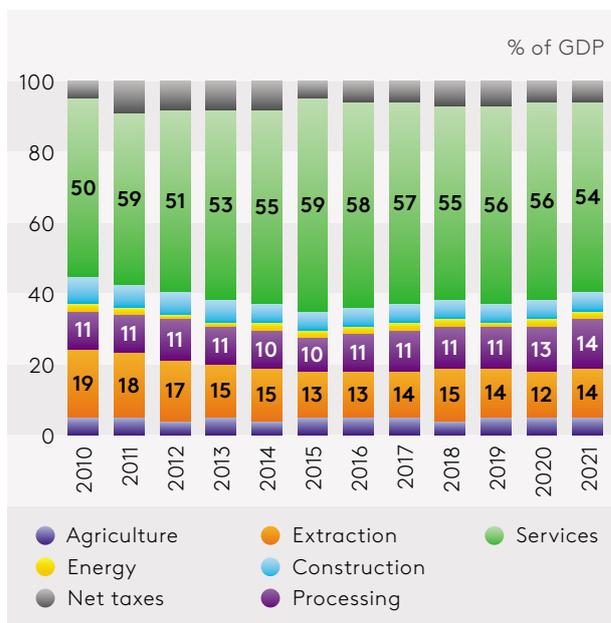
Kazakhstan is the leading economy of Central Asia. In 2021, its nominal GDP was \$197.1 billion (see Table 1), which is 1.3 times the aggregate GDP of the other four countries of the region. Kazakhstan's 2021 per capita GDP (PPP) was 2–7 times that of the other Central Asian countries. Kazakhstan's per capita income is comparable to that of Russia, being only 8% less than Russia's 2021 per capita GDP.

Kazakhstan has considerable reserves of natural resources, primarily hydrocarbons and metals. The country has the world's 12th-largest proven oil deposits and 16th-largest natural gas deposits (30 billion barrels of oil and 2.3 trillion m³ of gas, according to BP); it is one of the world's largest producers of coal, iron ore, bauxites, cadmium, copper, zinc, gallium, and chrome, and the largest producer of uranium (41% of global production in 2020). Kazakhstan is also one of the world's ten largest wheat exporters. In 2020, it held the 8th position, having supplied to the global market 6.2 million tonnes of wheat.

Geographically, Kazakhstan is situated in the centre of Eurasia, and is the largest landlocked country in the world. It is far from the main centres of economic activity on the Eurasian continent, including in Russia and China, with which it has shared borders. As a result, the country's international trade is associated with relatively high transportation costs. Kazakhstan is traversed by routes linking Europe and the Asia-Pacific region, both routes already in operation and those that will be created within the framework of China's Belt and Road Initiative. Therefore, Kazakhstan's geographical position creates barriers to economic growth and expansion of trade on the one hand, but gives it a number of potential advantages on the other.

The key sectors of Kazakhstan's economy are Services, Mining, and Manufacturing Industry. In 2021, these accounted for 54%, 14%, and 14% of the country's GDP, respectively (see Figure 8). Wholesale and Retail Trade is the largest Services subsector with 16.8% of GDP. The bulk of industrial output is represented by Oil Production (35%) and Metallurgy (20.7%). The share of Manufacturing Industry has been growing since 2019, due, among other things, to the increasing production of metals and engineering products. Additional support comes from implementation of state economic diversification programmes ("Economy of Simple Things", "Business Roadmap").

↓ Figure 8. Kazakhstan's GDP Structure



↓ Figure 9. Sector Contributions to Kazakhstan's GDP Growth



Note: Water Supply is reported as part of Power Industry.

Source: EDB calculations based on data published by the National Statistical Bureau of the Strategic Planning and Reforms Agency of the Republic of Kazakhstan.

In 2010–2021, Kazakhstan's economy has been growing at an average rate of 3.9% per year. To a significant extent, the Services sector has been the key driver of GDP growth during the period under review, with a contribution of 2.3 pp. Industry, Construction, and Agriculture accounted for 0.86 pp, 0.33 pp, and 0.08 pp of total economic growth, respectively (see Figure 9). Economic growth began to slow down in 2014 because of a drop in global oil and metal prices. However, government support measures somewhat mitigated the adverse consequences of external shocks. In particular, in 2014–2015, the Nurly-Zhol and Nurly-Zher infrastructure development programmes bolstered the economy by mitigating the impact of declining global oil prices. In 2020, the government sought to minimise the negative impact of the COVID-19 pandemic by invoking a set of crisis response measures estimated at 8.7% of GDP. The government's ability to counter multiple external shocks is determined by availability of reserves that it accumulated over time by prudent allocation of its oil revenues.

Government policy measures are designed to improve market efficiency and expand the competitive environment. According to OECD estimates, in 2010–2011 state-owned enterprises accounted for 30–40% of GDP (OECD, 2016). By the end of 2019, state participation decreased to 16% of GDP (Official Information Resource of the Prime Minister of the Republic of Kazakhstan, 2020). Kazakhstan is currently implementing a Comprehensive Privatisation Plan for 2021–2025. Its key objective is to reduce state participation in the economy to 14% of GDP by the end of 2025 (Official Information Resource of the Prime Minister of the Republic of Kazakhstan, 2021a). According to the approved timeframe, 50% of entities with state participation are slated for privatisation in 2021, 30% in 2022, and 10% in each of 2023 and 2024.

One of the obstacles to sustainable growth is the fact that Kazakhstan's economy is exposed to external shocks. Its oil and gas industry and metallurgy account for more than half of its total industrial output. In 2007–2021, the average share of transfers from the National Fund¹ out of total revenues to the state budget was 27%. An average 81% of 2001–2021 export revenues was represented by exports of oil and metals. As a result, during periods of decline of global commodity prices, Kazakhstan's economy becomes exposed to external shocks, as the level of its diversification is still not sufficient to support steady growth. The current policy goal is to secure a transition to steady and diversified economic growth. Thus, according to Strategy Kazakhstan-2050, one of the key policy documents, the country is to become one of the Top-30 most developed countries of the world by 2050. The structure of the economy is clearly changing: the share of Mining out of total GDP decreased from 19% in 2010 to 14% in 2021, while the share of Manufacturing increased from 11% to 14%.

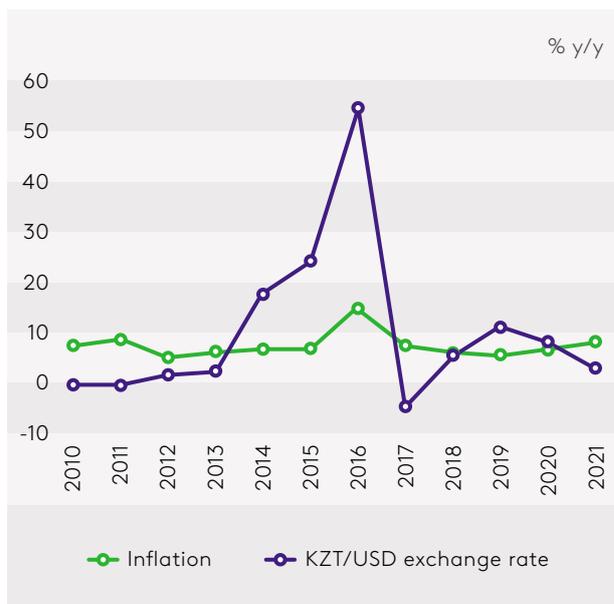
Foreign capital is concentrated in Mining. Foreign investors own 80% of Tengizchevroil, the country's largest oil producer, which is developing the Tengiz oil field, and more than 83% of NCOC (North Caspian Operating Company), which is developing the Kashagan oil field. In gross inward FDI in 2012–2021, the average shares of capital investments in production of crude oil and gas, metallurgy, and geological exploration and surveys were 33%, 13%, and 13%, respectively.

The average current account deficit in 2018–2021 — largely attributable to the servicing of liabilities to direct foreign investors — stood at 2.7% of GDP. The negative primary income balance (11.6% of GDP) covered the average trade surplus (10.3% of GDP) for that period (see Figure 11). Since 2015, the current account had a negative balance, primarily due to low energy prices, making it impossible to fully offset expenses related to interest and dividend payments to foreign direct investors. The financial account was replenished mostly by inward foreign direct investment (–2.6% of GDP). The bulk of portfolio investment (–0.5% of GDP) was financed by the general government sector and the National Bank of the Republic of Kazakhstan, mostly in connection with management of the assets of the National Fund of the RK. As of 1 May 2022, gross international reserves, including the NB RK's reserve assets and National Fund assets, amounted to \$86 billion, covering 22 months of imports of goods and services.

Kazakhstan's largest trading partners are Russia, China, Italy, and the Netherlands. Since 2017, export of goods (using the BoP methodology) increased by \$13 billion (or 3.2 pp of GDP), and in 2021 exceeded \$60 billion. The main export items are Fuel and Energy (57.7% of total 2021 exports) and Metals and Metal Products (17.5%). Import of goods increased by \$9 billion (2.4 pp of GDP) since 2017 to exceed \$39 billion in 2021. Almost one third of goods imported into Kazakhstan in 2021 are Machines and Equipment (2019: almost 50%; 2020: 68%). Other major import items are Food (16.7% of total 2021 imports), Metals and Metal Products (14.9%), Chemical Products (14.7%), and Mineral Products (12%).

¹ The National Fund of the Republic of Kazakhstan accumulates revenues (including tax revenues, non-tax revenues, and proceeds from the sale of fixed assets) generated by oil sector companies from an officially approved list.

↓ Figure 10. Inflation and KZT Exchange Rate (average for the year)



↓ Figure 11. International Trade Indicators of Kazakhstan



Source: EDB calculations based on data published by the National Statistical Bureau of the Strategic Planning and Reforms Agency of the Republic of Kazakhstan, National Bank of the Republic of Kazakhstan.

In August 2015, the National Bank of the Republic of Kazakhstan switched from the fixed exchange rate regime to an inflation targeting and free-floating exchange rate regime. The switch was prompted by a massive devaluation of the tenge in 2015–2016, following a significant drop of oil prices. The new policy enabled the National Bank to stabilise inflation expectations and control inflationary dynamics. In 2018–2020, inflation remained well within the target range (see Figure 10). The effectiveness of the inflation targeting regime was clearly demonstrated during the crisis caused by the COVID-19 pandemic. Despite the significant decline of oil prices in 2020, inflation and domestic lending rates in 2020–2021 remained relatively stable compared to the 2014–2016 shock. The National Bank of the Republic of Kazakhstan seeks to bring inflation down to 3–4% by the end of 2025.

The switch to the free-floating exchange rate regime in August 2015 helped to eliminate macroeconomic imbalances. Adherence to the fixed exchange rate regime had reduced foreign reserves, made Kazakhstan’s manufacturers less competitive, and fuelled inflation expectations. Accumulated macroeconomic imbalances were corrected by painful tenge devaluations. Since 2015, the tenge exchange rate has been shaped by market factors and short-term external shocks. Moderate exchange rate fluctuations absorb external shocks and contribute to stabilisation of inflationary processes. The National Bank conducts exchange rate interventions exclusively during periods of elevated turbulence, such as in March 2020, during the initial stages of the COVID-19 crisis.

The amount of Kazakhstan’s state budget relative to its GDP lies within the range typical for Central Asia. In 2017–2021, the average shares of public revenues and public expenditures in GDP were 19.4% and 21.8%, respectively. The fiscal burden in Kazakhstan is lower than in Uzbekistan, Tajikistan, and Kyrgyzstan. As of 1 January 2022, foreign public debt was \$17.1 billion (9% of GDP). Out of that amount, Eurobonds accounted for more than half, and soft loans received from international financial institutions for more than one third. Kazakhstan’s public debt remains low and, according to IMF estimates, increased from 11% of GDP in 2010 to 26% of GDP in 2021. However, the total debt burden, including quasi-public sector debt, is considerably higher. In 2021, quasi-public sector debt was 21.2% of GDP (Accounts Committee for Control over Execution of the Republican Budget, 2022).

5. KYRGYZSTAN: HYDROPOWER POTENTIAL AS A RESERVE FOR ECONOMIC GROWTH

↓ Table 2. Key Macroeconomic Indicators of the Kyrgyz Republic

Indicator	2000	2010	2019	2020	2021
Population, millions (end of the period)	4.9	5.5	6.4	6.5	6.7
Unemployment, % of workforce	7.5	8.6	5.5	5.8	—
GDP, \$ billions	1.4	4.8	8.9	7.8	8.5
GDP, increase % y/y	5.4	-0.5	4.6	-8.4	3.6
Inflation, % y/y (average for the period)	20.9	8.0	3.1	9.7	11.2
Key rate, % (end of the period)	38.3	0.9	4.25	5.0	8.0
KGS/USD exchange rate (end of the period)	48.3	47.1	69.6	82.6	84.8
Government budget balance, + = surplus, % of GDP (IMF estimate)	-10.7	-5.9	-0.1	-3.3	-1.3
Public debt, % of GDP (IMF estimate)	123.3	59.7	51.6	67.6	61.0
Turnover of foreign trade in goods and services, \$ billions	1.2	5.9	8.8	6.5	9.3
Reserve assets, \$ billions (end of the period)	0.3	1.7	2.4	2.8	3.0

Note: y/y — rate of increase relative to the relevant period of the previous year.

Source: EDB calculations based on data published by the National Statistical Committee of the Kyrgyz Republic, National Bank of the Kyrgyz Republic, IMF, CEIC.

The Kyrgyz Republic has moved up to the lower-middle income group of countries. In 2021, the country's GDP was \$8.5 billion (see Table 2), its per capita GDP \$1,328 (2000: \$281). In absolute terms, the GDP of the Kyrgyz Republic is comparable to that of Tajikistan, while its per capita income is one fifth that of Kazakhstan, the region's leader. Over the last five years, the income gap between the Kyrgyz Republic and Kazakhstan has been widening. At the end of 2021, per capita GDP (PPP) of the Kyrgyz Republic was 18.5% that of Kazakhstan, down 2.1 pp from 2017.

Emergence of a capacious and flexible labour market can give an additional impetus to steady economic growth. The job creation rate is lower than the population growth rate, giving rise to labour migration, which became particularly significant in the mid-2000s. In 2014–2021, remittances by migrant workers amounted to an average of 24% of GDP. The bulk of those remittances (97%) came from Russia.

The Kyrgyz Republic has hydropower potential. The key hydropower facilities are along the Naryn, the country's largest river and a major tributary of the Syr Darya. The Toktogul HPP

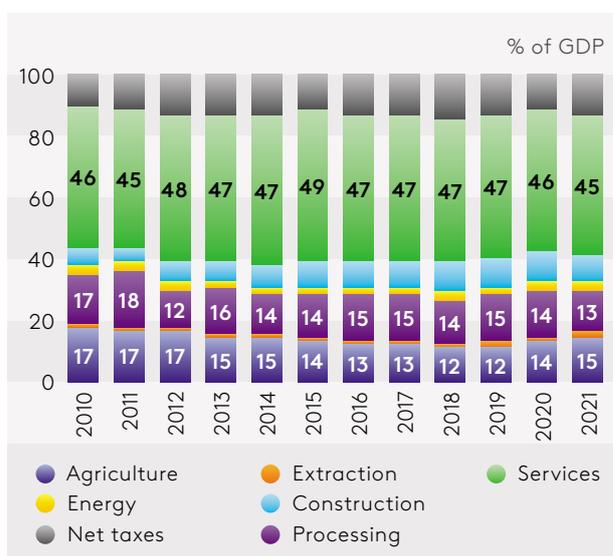
was designed and built as an integrated regional irrigation and energy hub. Infrastructure facilities created in the middle of the 20th century require modernisation and renovation of capital assets.

The country’s mineral resources consist of deposits of noble, non-ferrous, and rare metals, as well as non-metallic, fuel, and energy resources. The country produces mercury, clay, coal, fluorite, gypsum, lime, natural gas, crude oil, sand, gravel, and silver. However, the Kyrgyz Republic receives most of its income from gold mining. In 2012–2021, the average annual income from gold supplies was \$701 million, or approximately 40% of nominal exports and 9% of GDP.

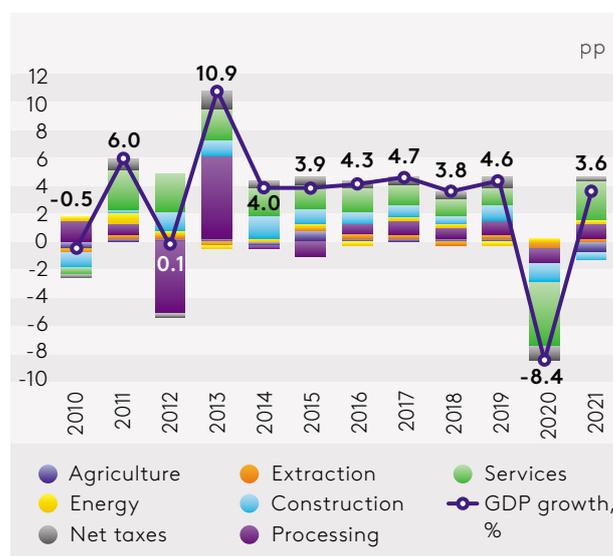
The key sectors of the economy of the Kyrgyz Republic are Services, Agriculture, and Manufacturing. In 2021, these accounted for 45%, 15%, and 13% of the country’s GDP, respectively (see Figure 12). Wholesale and Retail Trade is the largest Services subsector (about 18% of GDP). The bulk of industrial output is represented by Gold Mining (52%). In 2021, the share of Construction was 8%, a 2 pp increase relative to 2012, attributable primarily to the upsurge of activity in that sector.

In 2010–2021, the economy of the Kyrgyz Republic has been growing at an average rate of 3.2%. To a significant extent, Services and Construction have been the key drivers of GDP growth during the period under review, with a contribution of 1.3 pp and 0.5 pp, respectively. Industry and Agriculture accounted for 0.7 pp and 0.2 pp of total economic growth, respectively. Volatility of economic growth was largely determined by the strong dependence on Gold Mining (e.g., in 2012–2013 (see Figure 13)). Wholesale and Retail Trade played the key role in the Services sector, driven mostly by re-export of goods from China to Central Asian countries and Russia. Since the early 2010s, re-exporting has been accompanied by expansion of the Garment Industry, producing the second most important export item after gold.

↓ Figure 12. The Kyrgyz Republic’s GDP Structure



↓ Figure 13. Sector Contributions to the Kyrgyz Republic’s GDP Growth



Note: Water Supply is reported as part of the Power Industry; Gold Mining is reported as part of Manufacturing.
Source: EDB calculations based on data published by the National Statistical Committee of the Kyrgyz Republic.

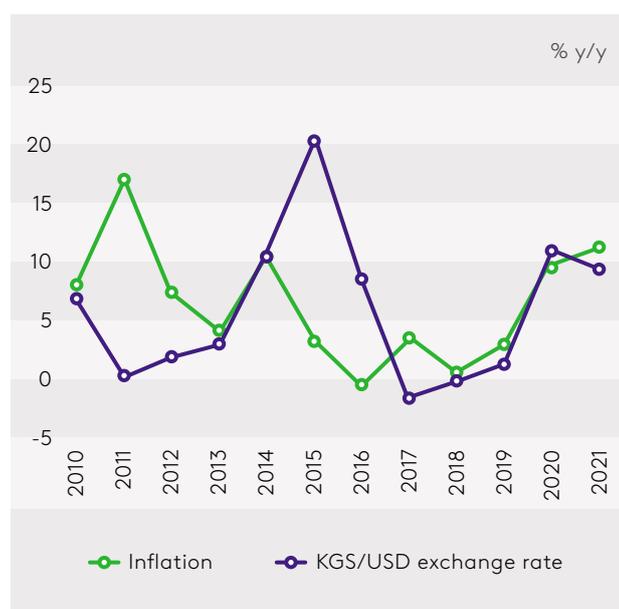
The average current account deficit in 2018–2021 — largely attributable to the negative balance of goods and services — stood at 7% of GDP. The deficit of goods and services (average for 2018–2021: 29.4% of GDP) was partially offset by the surplus of secondary income items (average for the same period: 28.3% of GDP, mostly represented by remittances by migrant workers (see Figure 15)). The key sources of funds on the financial account

were foreign direct investment (0.9% of GDP) and loans (0.9% of GDP), with the general government sector raising primarily soft loans, and the corporate sector raising commercial loans. In 2010–2021, there were no significant changes in the structure of the balance of payments. As of 1 May 2022, gross international reserves amounted to \$2.6 billion, covering 5.3 months of imports of goods and services.

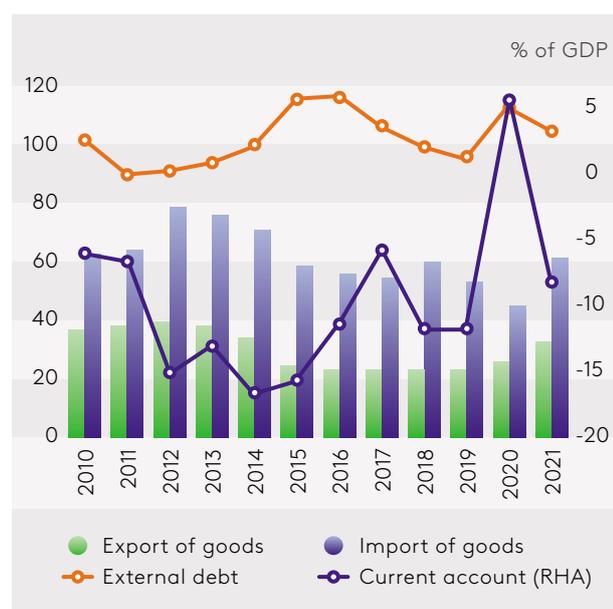
The largest trading partners of the Kyrgyz Republic are Russia, Kazakhstan, China, Uzbekistan, and Turkey. Average annual export of goods in 2017–2021 was \$1.8 billion. The main export items are Gold (26.6% of total 2021 exports), Food (19.9%), and Mineral Products (17.9%). Import of goods increased by \$1.1 billion since 2017 to exceed \$5 billion in 2021. Machines and Equipment accounted for more than 20% of all goods imported into the Kyrgyz Republic in 2021. Other major import items are Textiles, Textile Products, and Footwear (17.8% of total 2021 imports), Mineral Products (16.4%), and Food (15.5%).

The National Bank of the Kyrgyz Republic has been gradually shifting towards inflation targeting since 2018. The key monetary policy goal is to ensure price stability, defined as keeping inflation within the target range of 5–7% (NB KR, 2017). The effectiveness of monetary policy is limited by certain structural issues, such as strong susceptibility of the economy to external factors, and the large share of foodstuffs in the household consumption structure. Low inflation in 2015–2019 were the result of weak global grain prices and the real appreciation of the som. Acceleration of inflation since 2020 is attributable to a turnaround of global food prices and depreciation of the som (see Figure 14).

↓ Figure 14. Inflation and KGS Exchange Rate (average for the year)



↓ Figure 15. Key International Trade Indicators of the Kyrgyz Republic



Source: EDB calculations based on data published by the National Statistical Committee of the Kyrgyz Republic, National Bank of the Kyrgyz Republic.

The size of the Kyrgyz Republic’s state budget relative to GDP is the highest in Central Asia. In 2017–2021, the average shares of public revenues and public expenditures in GDP were 32.1% and 34.4%, respectively. In the Kyrgyz Republic, the share of national income reallocated through the budget is much higher than in the other Central Asian countries. The fiscal burden in the Kyrgyz Republic is the highest in the region. As of 1 January 2022, foreign public debt amounted to 50.3% of GDP, down by 4.1% compared to the beginning of 2017. The public debt of the Kyrgyz Republic is one of the highest in the region. According to IMF estimates, in 2010–2021 it fluctuated within the range of 50–68% of GDP.

6. TAJIKISTAN: REALISATION OF DEMOGRAPHIC POTENTIAL IN THE INTERESTS OF DEVELOPMENT

↓ Table 3. Key Macroeconomic Indicators of Tajikistan

Indicator	2000	2010	2019	2020	2021
Population, millions (end of the period)	6.2	7.6	9.3	9.5	9.9
Unemployment, % of workforce	15.1	10.9	7.1	7.6	7.8
GDP, \$ billions	0.9	5.6	8.3	8.2	8.7
GDP, increase % y/y	8.3	6.5	7.4	4.5	9.2*
Inflation, % y/y (average for the period)	32.6	6.9	7.8	8.6	9.0
Key rate, % (end of the period)	20.60	8.25	12.25	10.75	13.25
TJS/USD exchange rate (end of the period)	2.2	4.4	9.7	11.3	11.3
Government budget balance, + = surplus, % of GDP (IMF estimate)	-5.6	-3.0	-2.1	-4.4	-2.7
Public debt, % of GDP (IMF estimate)	111.4	36.8	43.1	50.4	46.5
Turnover of foreign trade in goods and services, \$ billions	—	4.2	4.5	4.6	6.4
Reserve assets, \$ billions (end of the period)	0.1	0.4	1.5	2.2	2.5

Note: y/y — rate of increase relative to the relevant period of the previous year; * — preliminary estimate.

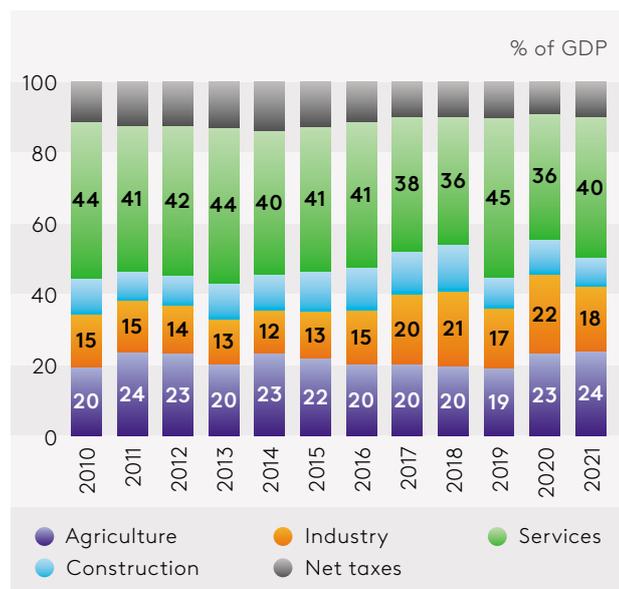
Source: EDB calculations based on data published by the Statistical Agency under the President of the Republic of Tajikistan and the National Bank of Tajikistan (except where noted otherwise).

Tajikistan has achieved significant success since the turn of the century, moving from the low income group to the lower-middle income group (according to the World Bank's classification). GDP per capita increased from \$159.4 in 2000 to \$877.8 in 2021. In 2020, unemployment declined from 15.1% in 2000 (see Table 3) to 7.8% in 2021 (according to World Bank data). The rate of poverty is also going down, from 34.3% in 2013 to 26.3% in 2019.

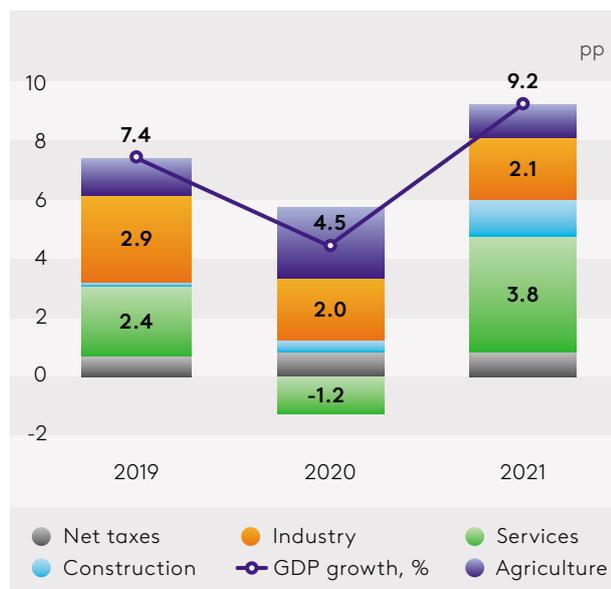
In 2010–2021, the country returned to an economic development model where industrial growth is the key driver. While in 2000–2010 the share of Industry in GDP decreased from 33.7% to 14.7% (mostly due to explosive growth of Trade fuelled by normalisation of economic life after a period of political instability and conflict in the 1990s), in 2021 it recovered to 18.2% (see Figure 16). That happened due to both growth of production in the industrial sector of the economy and its increased diversity: over the last ten years, the country successfully developed industries other than Metallurgy, which had traditionally played the key role, including Food, Textiles, and Construction Materials.

Industrial growth is underpinned by a rich resource base. The country has considerable mineral deposits: gold, non-ferrous metals (primarily lead and zinc), and coal. In addition, Tajikistan has significant hydropower potential. That, in particular, enabled commencement in Tajikistan, in the 1970s, of aluminium production from imported feedstock, and those facilities even now are one of the key sources of export revenue. Industries that specialise in the processing (including advanced processing) of mineral resources have a significant development potential; currently non-ferrous metals (with the exception of aluminium) are exported in the form of ore concentrates, and cotton in the form of cotton fibre and yarn (rather than fabric) (Avesta, 2022).

↓ Figure 16. Tajikistan's GDP Structure



↓ Figure 17. Sector Contributions to Tajikistan's GDP Growth



Source: EDB calculations based on data published by the Statistical Agency under the President of the Republic of Tajikistan.

In 2010–2021, Tajikistan's economy grew at an average rate of 7.0%. All key sectors, including Services, Industry, and Agriculture, contributed to that growth (see Figure 17), with the input of production sectors to overall growth being relatively more stable. For example, during the global recession caused by the COVID-19 pandemic in 2020, the branches of Tajikistan's economy comprising the Services sector fell into decline, while production branches continued to increase their output.

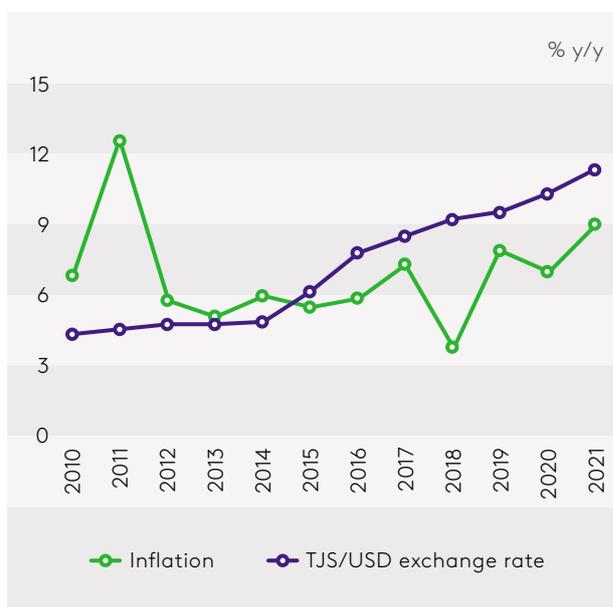
Rapid growth of Tajikistan's economy is largely attributable to the catch-up effect and strong demographics. Nevertheless, the gap between incomes in Tajikistan and Kazakhstan, the economic leader of the Central Asian region, remains wide and slow to be bridged. At the end of 2021, the per capita GDP (PPP) of Tajikistan was 14% that of Kazakhstan, up 2.0 pp from 2010. To speed up convergence with the more developed economies of the region in terms of per capita GDP, it is necessary to increase the growth of labour productivity, and that is hampered by the lack of investment, technologies, high-quality education, and physical infrastructure.

In 2010–2020, there was no clear progress in implementation of structural reforms to boost economic growth. During that period, the governance quality indicators published by the World Bank improved little, if at all. The modest increase of the consolidated index reflected improvement in one area only: political stability and security in the country.

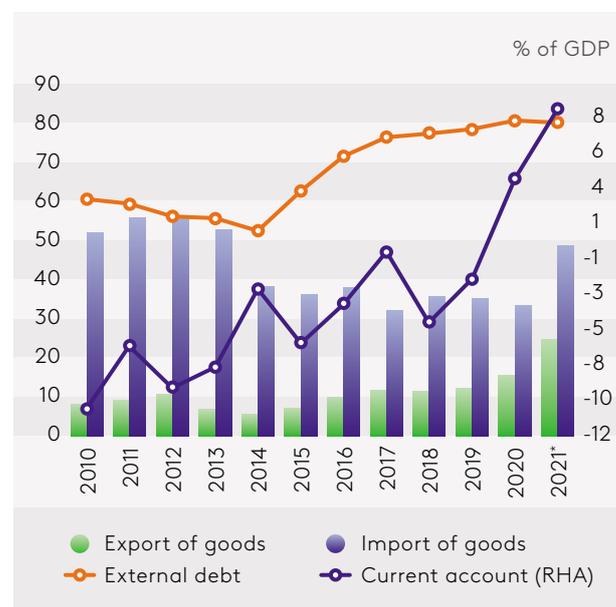
Tajikistan has a rapidly growing pool of labour resources. The population grew from 7.4 million at the beginning of 2010 to 9.9 million at the beginning of 2022. The economically active

population is 2.5 million (another 3.6 million are younger than 14, and cannot be officially employed). The average monthly wage in Tajikistan in 2021 was USD 136, almost four times less than in Kazakhstan. The surplus of labour resources and low wages increase the appeal of investment in labour-intensive sectors of the economy (one example of using that competitive advantage is the fast growth of the textile industry in the country).

↓ **Figure 18. Inflation and TJS Exchange Rate**
(average for the year)



↓ **Figure 19. International Trade Indicators of Tajikistan**



Note: * – 2021 external debt estimate as at the end of September.

Source: EDB calculations based on data published by the Statistical Agency under the President of the Republic of Tajikistan, National Bank of the Republic of Tajikistan.

One of the country's most urgent problems is the shortage of jobs. Limited employment opportunities and low wages force citizens of Tajikistan to look for work abroad. In 2010–2021, the average share of remittances by migrant workers in GDP was 23.5%. Most of those remittances came from Russia and Kazakhstan (77% and 6.4%, respectively, according to the data² for 2017).

The National Bank of Tajikistan pursues a managed float policy with respect to the national currency: it does not set exchange rates, but strongly restricts volatility of the somoni. Multiple exchange rates are still used, although to a limited extent (IMF, 2021). In 2010–2021, the somoni depreciated against the US dollar at an average rate of 9.0% per year, while the average inflation rate for the same period was 6.9% per year (see Figure 18). The weakening of the somoni against the US dollar and the currencies of Tajikistan's trading partners led to a decrease of the real effective exchange rate in 2010–2021 by 9.7%.

The current account of the balance of payments of Tajikistan's economy has had a persistent deficit throughout most the country's period of independence. In 2010–2021, the average annual deficit was 3.4% of GDP (see Figure 19). The deficit can be explained by the economy's dire need for investment, and to meet that need, Tajikistan raises external financing, both on concessional terms (from the IMF) and on market terms (in the form of trade finance and, in some cases, government bonds). At the end of 2021, reserve assets amounted to \$2.5 billion, covering seven months of imports of goods and services. In 2010, those reserves were merely \$0.4 billion (1.4 months of imports), and in 2000 – \$0.1 billion. The growth of the reserves

² Bilateral Remittance Flows (Migration Policy Institute).

shows that, after two decades, the risk of instability of the balance of payments (caused by the current account deficit and increasing external debt) has subsided.

In 2010–2021, exports from Tajikistan increased by a factor of 2.6, from \$0.8 billion (14.9% of GDP) in 2010 to \$2.1 billion (24% of GDP) in 2021, due to growing supplies, primarily of gold. That trend was supported both by more extensive gold mining and the rise of gold prices on the international markets. Higher external trade revenue is likely to boost internal consumption (including investment consumption) in the next several years. The current account balance, however, will probably return to negative, as export and import rates are smoothing out.

Tajikistan's key trading partners are Switzerland, Russia, Kazakhstan, China, and Turkey. At the end of 2021, Gold and Precious Stones were the key export items (41.7% of total 2021 exports in value terms). Export of those particular items explains the high share of Switzerland in the structure of Tajikistan's exports (41.7%). Other major export items are Mineral Products (particularly ore concentrates, 24.3% of total exports in value terms), Textiles (primarily cotton fibre, 13%), Non-Precious Metals (primarily aluminium, 12.4%), and Electricity (4.5%). Out of the total value of goods imported in 2021, Mineral Products (primarily fuel, including petroleum products and gas) accounted for 17.6%, Machines and Equipment 15.6%, Non-Precious Metals 9.6%, Food 9.2%, Vehicles 9.1%, and Chemical Products (including alumina, the raw material for the production of aluminium) 8.5%.

Monetary policy in Tajikistan is in the process of transition to inflation targeting, as envisaged by the Monetary Strategy of the Republic of Tajikistan for 2020–2025 (NBT, 2020). The National Bank of Tajikistan defines its current policy as a "monetary targeting" regime, where the NBT regulates money supply (supply of reserve money) to secure price stability; the target annual inflation range is set at $6\pm 2\%$. The NBT policy also involves interventions in the foreign exchange market to smooth out excessive fluctuations of the somoni exchange rate.

The policy pursued by the National Bank has been fairly successful in controlling inflation. In 2010–2021, the average annual rate of growth of consumer prices in the country was 6.9%. Over the last ten years (2012–2021), year-end inflation rates never exceeded 10%. Significant (0.1+ pp) breaches of the target range ($6\pm 2\%$) occurred only in 2013 when inflation was too low (at 3.7%), and in 2020 when it rose to 9.4% under the influence of a significant weakening of the national currency and rise of prices of imported food products caused by the COVID-19 pandemic.

The size of Tajikistan's state budget relative to its GDP is one of the highest in Central Asia. In 2017–2021, the average shares of public revenues and public expenditures in GDP were 27.5% and 31.1%, respectively. The share of national income reallocated through the budget is higher than in Uzbekistan, Kazakhstan, and Turkmenistan. Despite the persistent budget deficit, public debt as a percentage of GDP decreased from 47.7% in 2017 to 46.5% in 2021. That became possible due to the rapid growth of the economy.

7. TURKMENISTAN: COMPETITIVENESS IS LARGELY DETERMINED BY DIVERSIFICATION PROSPECTS

↓ Table 4. Key Macroeconomic Indicators of Turkmenistan

Indicator	2000	2010	2019	2020	2021
Population, millions (end of the period)	4.5	5.1	5.9	6.0	6.1*
Unemployment, % of workforce	11.5	4.0	4.3	5.0	5.1
GDP, \$ billions	8.5	34.8	53.0	53.2	63.4*
Per capita GDP, \$ thousand	1.9	6.8*	8.9*	8.8*	10.3*
GDP, increase % y/y:					
– official data	5.5	9.2	6.3	5.9	6.2
– IMF estimate	18.6	16.2	-3.4	-3.0	4.9
Inflation, % y/y (average for the period)	8.0	4.4	13.0	10.0	12.5
TMT/USD exchange rate (end of the period)	1.04	2.85	3.5	3.5	3.5
Government budget balance, + = surplus, % of GDP	-0.3	1.3	-0.3	-0.1	-0.1*
Public debt, % of GDP (IMF estimate)	73.7	6.3	15.3	13.1	10.6*
Turnover of foreign trade in goods and services, \$ billions	3.7**	7.4	14.4	11.2	12.7
Current account, % of GDP	4.6	-8.9	2.8	-3.3	1.9*

Note: y/y – rate of increase relative to the relevant period of the previous year, * – IMF estimate, ** – 2022.

Source: EDB calculation based on data published by the World Bank, Asian Development Bank, IMF, and Trade Map.

Turkmenistan is the third largest economy of Central Asia (after Kazakhstan and Uzbekistan); according to IMF estimates, its 2021 GDP was \$63.4 billion (see Table 4). Turkmenistan borders on Kazakhstan, Uzbekistan, Iran, and Afghanistan. To the west lies the Caspian Sea, which offers an opportunity to develop ties with a broader range of countries. Gas deposits owned by Turkmenistan are ranked as the fourth-largest in the world, at 10% of total global deposits (according to the World Bank). In addition to natural gas, the country is rich in oil, sulphur, iodine, salt, clays, gypsum, and cement – resources used primarily by the Chemical Industry and Construction. The economic growth of the republic strongly depends on hydrocarbons and associated industries. Export of hydrocarbons, mostly natural gas, to China accounts for 25% of Turkmenistan's GDP.

Agriculture is intensively developing due to the existence of irrigated oases. The most significant crops are cotton, the bulk of which is exported, and wheat, which is consumed within the country. In the early 2000s, Agriculture accounted for almost 22% of GDP, bolstered by government subsidies for procurement of resources and low loan interest rates. Now its share in GDP is insignificant compared to the early 2000s (approximately 10.8% in 2019) because of higher growth rates in Industry and Construction. However, Agriculture is still the main employer for a considerable part of the workforce (about 21% of the total working population, according to ADB data for 2019).

In 2000–2009, the economy grew at a brisk pace, an average of 7.4% per year. Growth and exports were supported by the extractive sector, which expanded due to high global prices and new production capacity. In 2015–2021, economic growth in Turkmenistan slowed down to an average of 6% per year compared to 11% in 2010–2014 (see Figure 20), largely because of declining global energy prices and cuts in public expenditures and social subsidies. According to the World Bank, in 2019 Industry and Construction accounted for 42% of GDP, Services 47.2% (2010: 60% and 28%, respectively). The decrease in the share of Industry is related to declining global energy prices, and a certain diversification of the economy over the last several years. The structure of Industry is still dominated by production of natural gas.

Turkmenistan has been classified as an upper-middle income country since 2012. Because of the strong economic growth in the early 2000s, per capita GDP almost quadrupled over 12 years (from \$2,500 in 2001 to \$9,500 in 2012). In 2000–2011, average wages increased sevenfold (the rate of increase was higher in Construction and Transport) (Gyulumyan, 2014). In 2021, the IMF estimated per capita GDP at \$10,300. Over the last several years, there has been a slowdown in the rate of convergence of Turkmenistan with Kazakhstan, the regional leader, in terms of incomes, but the gap is still less than that of the other Central Asian countries. At the end of 2021, the per capita GDP (PPP) of Turkmenistan was about 62.4% of that of Kazakhstan. The slower convergence was caused by the relatively more modest post-2015 economic growth due to lower energy prices, public expenditure cuts, underdevelopment of the non-energy sector, and the closed nature of the economy.

In 2019, Turkmenistan signed a five-year natural gas supply contract with the Russian Federation. However, China remains Turkmenistan's largest hydrocarbon export market. In addition, the country is building the TAPI pipeline (Turkmenistan–Afghanistan–Pakistan–India). Export of gas to other regions through gas exchange mechanisms could mitigate the risks of excessive geographic concentration.

The progress achieved by Turkmenistan since the early 1990s in enhancement of the business environment and privatisation of non-state enterprises is rather modest, which has constrained economic development beyond the energy sector. High energy prices in the mid-2000s enabled the government to allocate massive resources to finance development and social needs. Reduction of energy prices since the middle of 2014 slowed down Turkmenistan's economic growth, and resulted in a decrease of public expenditures. The government cut subsidies in certain areas, and wage arrears increased.

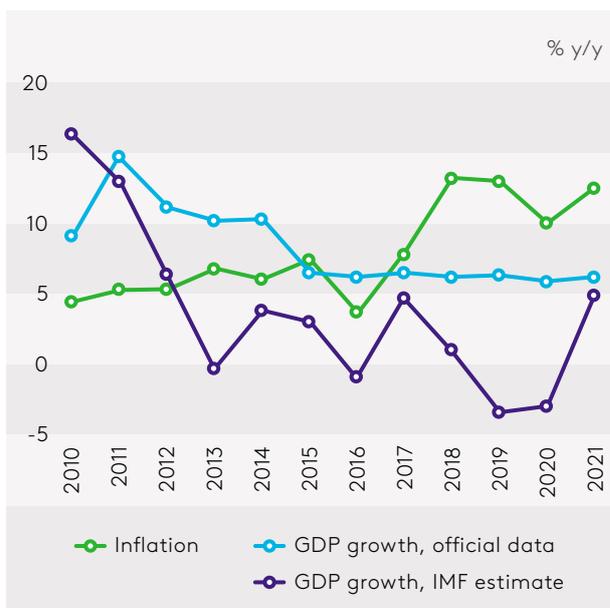
The dominating role of the public sector in the economy hinders development of the private sector. Despite the increasing role of the private sector (according to ADB estimates, in 2021 its share in non-hydrocarbon GDP increased to 70% or more compared to 60% in 2015 (ADB, 2017)), the public sector and state monopolies continue to dominate the economy and the formal labour market. The opening of the economy, improvement of business regulations, accelerated privatisation of state-owned enterprises, and more active investment in human capital can contribute to development of the private sector.

With the exception of the hydrocarbon sector, the inflow of direct foreign investment in the country remains limited.

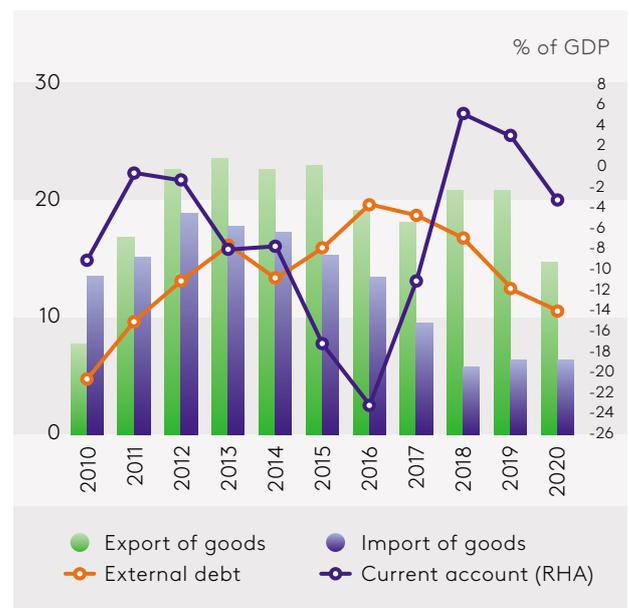
Turkmenistan uses a fixed exchange rate regime: the manat has been pegged to the US dollar since 2009. In May 2008, the Central Bank of Turkmenistan announced a unification of exchange rates. Prior to 2008, two exchange rates had been used, with the difference between the official and parallel exchange rates almost four- or fivefold. The dual exchange rate restricted exports and encouraged imports, and deterred the banking sector from conducting foreign exchange and trade finance operations. In January 2009, the manat was denominated at the ratio of 1:5,000, and pegged to the US dollar at a fixed exchange rate of TMT 2.85/USD 1.00.

In January 2015, the Central Bank of Turkmenistan set the exchange rate at TMT 3.50/USD 1.00, and that rate has been used in all official transactions ever since. At the beginning of 2022, the unofficial exchange rate was close TMT 20.00/USD 1.00 ([Chronicles of Turkmenistan, 2022](#)). All enterprises in the country are obliged to convert their export revenues and inward foreign investments at the official exchange rate. The maximum amount of foreign currency that an individual can purchase is set at \$500 per month. A number of currency exchange restrictions have been in effect since 2016. In 2020, the government established the Reserve Currency Fund, with all foreign exchange revenues to be transferred to that fund. The plan is to concentrate the accounts of the Fund at the Central Bank, and transfer to it all foreign exchange revenues received by ministries, branch departments, their accountable agencies, and all legal entities with state equity participation.

↓ Figure 20. Turkmenistan's GDP and Inflation



↓ Figure 21. International Trade Indicators of Turkmenistan



Source: EDB calculation based on data published by the World Bank, Asian Development Bank, IMF, and Trade Map.

The current monetary policy regime limits the possibility of curbing inflation. The Central Bank of Turkmenistan uses credit growth targeting to influence domestic demand ([Fitch Ratings, 2022](#)). In 2020, inflation was 10.0% y/y, having slowed down from 13.3% the year before. The dynamics of that indicator are probably affected by the situation in global food markets, and the unofficial exchange rate of the manat. Termination of price subsidies for certain goods may also have contributed to acceleration of inflation. In 2021, the average annual inflation rate increased to 12.5%. By the end of the year, the rate of inflation could have reached 21% y/y because of a 35% y/y increase in food prices ([Fitch Ratings, 2022](#)).

The size of Turkmenistan's state budget relative to GDP lies below the range typical for Central Asia. In 2011–2021, the average shares of public revenues and public expenditures in

GDP were 12.4% and 12.0%, respectively. According to the rating agency Fitch, by the end of 2021, the share of public debt in GDP was reduced as a result of partial repayment of the country's external debt (see Figure 21), and the use of the Turkmenistan Stabilisation Fund to finance the budget deficit.

Turkmenistan imports finished products, while its exports consist mostly of mineral fuels. Engineering products and metals account for half of all goods imported. The key suppliers of goods to Turkmenistan are Turkey (26.4% of total 2021 imports), Russia (19.4%), and China (12.3%). Mineral fuel accounts for 87% of Turkmenistan's exports. The main buyer of Turkmenistan's energy resources is China (79% of total mineral fuel exports). Prior to rerouting to China, Turkmenistan exported the bulk of its hydrocarbons to Europe (through Russia); however, in 2009 declining demand for energy and falling prices prompted Turkmenistan to look for new markets, and to start construction of a pipeline to China.

8. UZBEKISTAN: ECONOMIC REFORMS IMPROVE LONG-TERM GROWTH PROSPECTS

↓ Table 5. Key Macroeconomic Indicators of Uzbekistan

Indicator	2000	2010	2019	2020	2021
Population, millions (end of the period)	24.8	29.1	33.9	34.6	35.3
Unemployment, % of workforce	—	5.4	9.0	10.5	9.6
GDP, \$ billions	17.2	50.0	59.9	59.9	69.2
GDP, increase % y/y	3.8	7.1	5.7	1.9	7.4
Inflation, % y/y (average for the period)	25.0	7.5	14.5	12.9	10.8
Key rate, % (end of the period)	24.0	14.0	16.0	14.0	14.0
UZS/USD exchange rate (end of the period)	325	1,640	9,508	10,477	10,838
Government budget balance, + = surplus, % of GDP (IMF estimate)	-3.7	2.6	0.6	-2.5	-4.6
Public debt, % of GDP (IMF estimate)	29.5	6.6	28.4	37.6	36.8
Turnover of foreign trade in goods and services, \$ billions	6.2	22.2	28.4	37.6	36.8
Reserve assets, \$ billions (end of the period)	—	14.2	29.2	34.9	35.1

Source: EDB calculation based on data published by the State Statistical Committee of the Republic of Uzbekistan, Central Bank of the Republic of Uzbekistan, IMF (except where noted otherwise).

Uzbekistan is the second largest economy of Central Asia (after Kazakhstan); in 2021, its GDP was \$69.2 billion (see Table 5). The country is rich in natural resources (precious metals, copper, uranium, tungsten, coal, natural gas), and has a well-developed production base. However, Uzbekistan is underutilising its resource base, and could expand its presence in the value chain of Non-Ferrous Metallurgy, Construction Materials, and the Chemical and Petrochemical Industry (Alekseev et al., 2019).

Economic transformations that commenced in 2017 were instrumental to changing the structure of Uzbekistan's economy. The key sectors are Services, Agriculture, and Manufacturing, which account for 36%, 25%, and 20% of GDP, respectively (see Figure 22). In 2017, the share of Manufacturing in GDP increased by more than 6 pp, which can be attributed to a significant inflow of investment capital following the beginning of the structural economic reforms. The leading branch of Industry is Metallurgy (accounting more than one fourth of total output), with Machine Engineering, Textiles, Food, and the Chemical Industry also holding significant shares.

The economy of Uzbekistan is capable of rapidly adapting to the dynamically changing external environment. Small and medium-sized enterprises play a significant role in the national economy. In 2021, SMEs produced almost 55% of total GDP, with contributions to industrial production and construction works at 27% and more than 72%, respectively; they employ about 70% of the workforce. That facilitates flexible adjustment of economic agents to changing conditions, and ensures steady GDP growth based on private initiative.

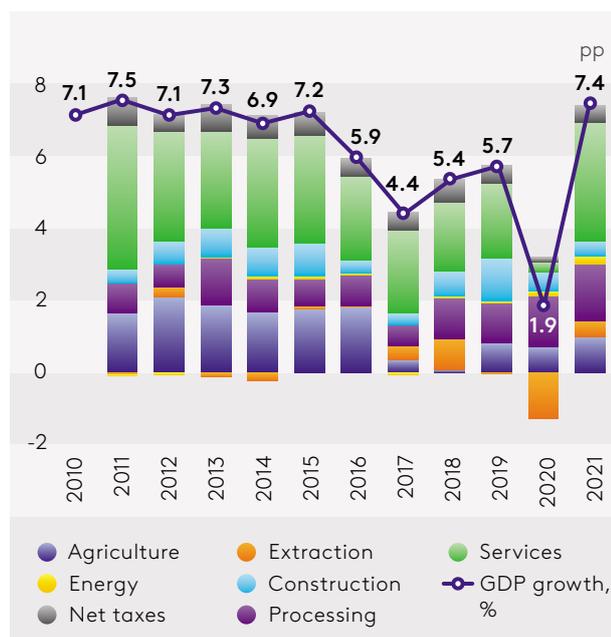
In 2012–2021, the average annual economic growth rate in Uzbekistan was 5.9%. To a large extent, GDP growth during that ten-year period was assured by the production sphere: contributions by Agriculture, Industry, and Construction were 1.2 pp, 1.1 pp, and 0.7 pp, respectively, with the share of Services in total GDP growth at 2.4 pp (see Figure 23). Economic growth began to slow down even before the 2017 structural reforms, indicating that the potential of the closed economy plan-based growth model had been exhausted.

Dynamic economic development of Uzbekistan is largely attributable to the catch-up effect and the growth of the country's workforce. However, convergence of Uzbekistan with Kazakhstan, the leader of the Central Asia region in terms of income levels, is slow, and the gap remains rather wide. At the end of 2021, Uzbekistan's per capita GDP was about 30% that of Kazakhstan – an increase of approximately 2 pp over the last ten years. One of the reasons for that sluggishness is the low productivity of the key sectors of economy of Uzbekistan (Vinokurov, Tsukarev et al., 2021). Improvement of productivity is hindered by the lack of investment and technologies, and the state of the country's physical infrastructure.

↓ Figure 22. Uzbekistan's GDP Structure



↓ Figure 23. Sector Contributions to Uzbekistan's GDP Growth



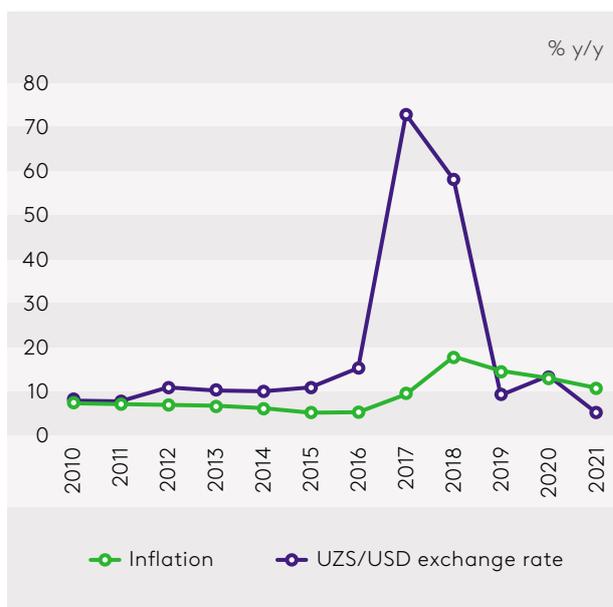
Note: Water Supply is reported as part of the Power Industry.

Source: EDB calculation based on data published by the State Statistical Committee of the Republic of Uzbekistan.

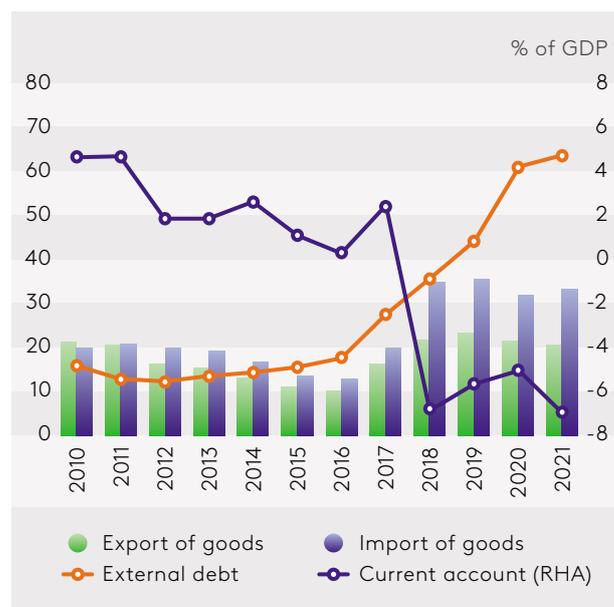
The structural reforms initiated in 2017 are transforming the country's economy and can support its growth potential, which is estimated at 5.5% per year (Vinokurov, Tsukarev et al., 2021). Over the last several years, Uzbekistan has opened to the world; its business environment, prices, commerce, and currency market were liberalised, investment increased, and the country sought to boost production of value-added products and to diversify its exports. That improved the investment climate and created new opportunities for raising external funding. The average share of investment in GDP increased from 22% in 2012–2017 to 35% in 2018–2021. The number of actively operating enterprises and organisations with

foreign equity participation increased from 5,008 at the beginning of 2017 to 13,289 at the beginning of 2022. In 2019, net FDI inflow increased to 3.9% of GDP, while in 2020–2021 it stood at 2.9% of GDP. In 2021, enterprises operating in Manufacturing, Mining, Energy, and Agriculture received 37.5%, 14.2%, 12.1%, and 9.7% of total foreign investment and loans. Out of total inward FDI in fixed assets, 24.2% were received from Russia, 20.4% from China, 9.2 from Turkey, and 8.1% from Germany. It should be noted that, despite the ongoing reforms, the Manufacturing sector is still dominated by medium- and low-technology production facilities (2021 EoY: 77%). High-technology facilities account for only 2.7% of total output, and medium-high-technology facilities for 20.1%.

↓ **Figure 24. Inflation and UZS Exchange Rate**
(average for the year)



↓ **Figure 25. International Trade Indicators of Uzbekistan**



Source: EDB calculation based on data published by the State Statistical Committee of the Republic of Uzbekistan, Central Bank of the Republic of Uzbekistan.

Uzbekistan has significant and competitive labour resources. The population grew from 26 million at the beginning of 2005 to 35.3 million at the beginning of 2022. The economically active population is 15 million – almost half of the whole Central Asian workforce. The average monthly wage in Uzbekistan in 2021 was \$303, which is almost two times less than in Kazakhstan. Abundant labour resources and low wages increase the attractiveness of investing in labour-intensive sectors of Uzbekistan’s economy (Alekseev et al., 2019).

One of the serious problems faced by the country is the job shortage: in 2021, the rate of unemployment was 9.6%. That forces citizens of Uzbekistan to seek employment abroad, and increases the importance of remittances for the economy: in 2018–2021, their average share in GDP was 13.4%. Russia remains the main source of personal money transfers, with about 70% of total transfers in 2021. Compared to 2019, that indicator decreased by almost 7 pp. At the same time, the share of Kazakhstan increased from 5.9% in 2019 to 9.4% in 2021, the share of the USA from 3.9% to 6.2%, the share of South Korea from 2.8% to 3.9%, and the share of Israel from 1.4% to 1.8%. The share of personal transfers from Turkey to Uzbekistan in 2021 was 2.8%.

In 2017, the government of Uzbekistan switched to a floating exchange rate regime, lifted restrictions previously imposed on current account payments and transfers, took steps to ease limitations on FDI inflows, and permitted the sale of FX cash to individuals residing in the country (IMF, 2020). Uzbekistan’s som weakened against the US dollar by 72% in

2017, and by 58% in 2018 (see Figure 17). Combined with the other measures, that enabled elimination of multiple exchange rates.

Liberalisation of external trade and the increase in domestic investments produced a current account deficit which in 2018–2021 averaged 6.1% of GDP (see Figure 25). The need to finance the current account deficit resulted in an increase of Uzbekistan's external debt. In 2017–2021, external debt (public and private) increased by 45 pp of GDP, and by the end of 2021 reached 63% of GDP (or \$43.7 billion). As of 1 March 2022, Uzbekistan's reserve assets amounted to \$35.4 billion, covering 16 months of imports of goods and services.

The largest trading partners of Uzbekistan are China, Russia, Turkey, and Kazakhstan. Exports of goods increased by \$4 billion (4 pp of GDP) since 2017 to exceed \$14 billion in 2021. Gold is the key export item (29.2% of total 2021 exports). Other major export items include Food (10.5% in 2021), Non-Ferrous Metals (10.4%), Chemical Products (8.7%), Energy Goods (6.3%), and Machines and Equipment (5%). Imports of goods increased by almost \$11 billion (13 pp of GDP) since 2017 to exceed \$23 billion in 2021. Almost 40% of goods imported in 2021 were represented by Machines and Equipment (in 2019 almost 50%; in 2020 68%). Since 2017, the volume of Machines and Equipment brought into the country has more than doubled due to a significant growth of domestic investment. Uzbekistan's major import items also include Chemical Products (18% of total imports in 2021), Food (12.3%), Ferrous Metals (8.4%), and Energy Goods (6.5%).

Liberalisation of prices, trade, and foreign currency market resulted in double-digit inflation in 2021: +10.8% relative to 2020. Devaluation of the som in 2017–2018 generated additional pressure on prices of imported goods. Liberalisation of external trade forces the alignment of domestic with global prices, particularly food prices. As regulated prices and tariffs are raised and driven to breakeven levels, they also keep up inflationary pressure. The Central Bank of the Republic of Uzbekistan aims to reduce the rate of inflation to 5% by the end of 2023.

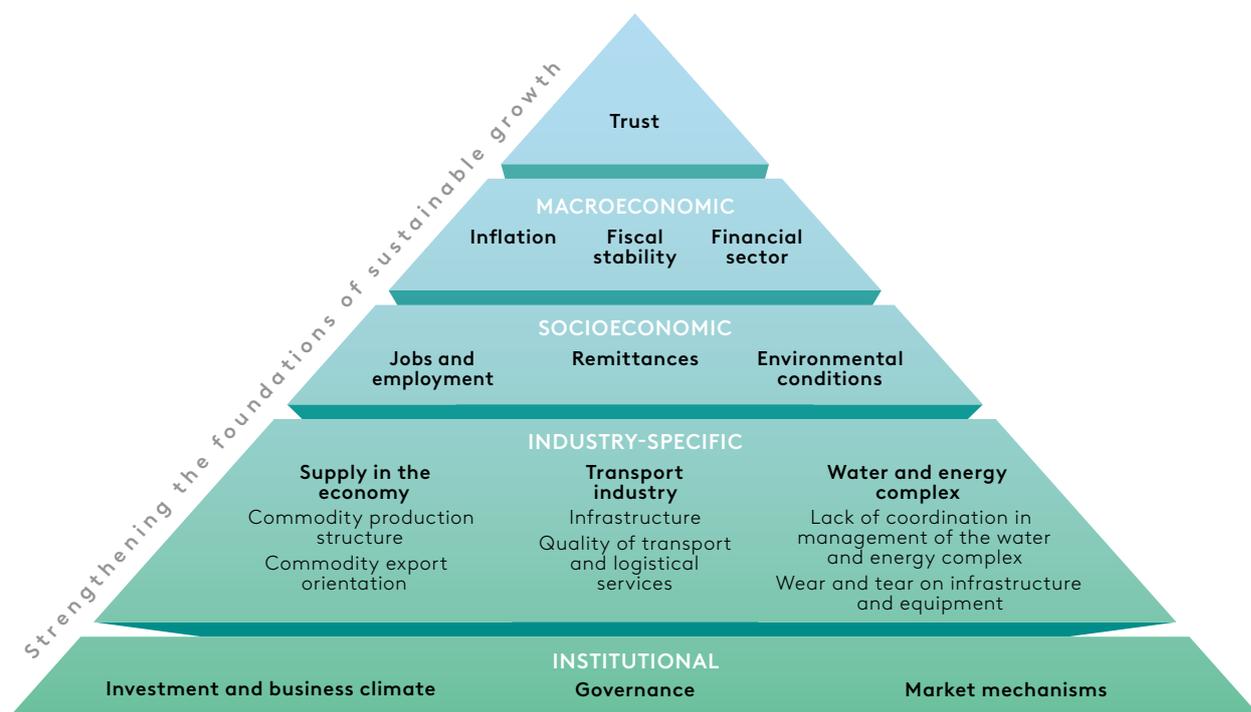
Monetary policy in Uzbekistan is in the process of transition to inflation targeting. The key rate is the principal monetary policy tool. The Central Bank uses open market operations to ensure that short-term interest rates in the interbank loan market are set at a level close to the key rate within the approved interest rate corridor.

The size of Uzbekistan's state budget relative to GDP lies within the range typical for Central Asia. In 2017–2021, the average shares of public revenues and public expenditures in GDP were 26.1% and 26.8%, respectively. In Uzbekistan, the share of national income reallocated through the budget is much higher than in Turkmenistan, and higher than in Kazakhstan. However, the fiscal burden in Uzbekistan is not as high as in Tajikistan or Kyrgyzstan. Since the mid-2010s, the external public debt has been growing because of the expanding current account deficit of the balance of payments, reaching \$23.6 billion (including guarantees) by the beginning of 2022. According to IMF estimates, in 2021 the public debt amounted to 36.8% of GDP.

9. CONSTRAINING FACTORS AND CONDITIONS OF ECONOMIC DEVELOPMENT

Despite the substantial progress in social and economic development achieved in Central Asia since the beginning of the 21st century, a number of factors constrain economic development and growth of disposable household income (see Figure 26). Creating favourable conditions (institutional, industrial, social, economic, macroeconomic) in the economies of Central Asia will provide a foundation for their steady growth. As a rule, institutional conditions work as a catalyst of structural economic transformations. Eliminating bottlenecks in such industries as transport and the water and energy complex will enable the region to unlock its economic potential, and ensure product diversification of production and exports. Expansion of the production potential of the region will facilitate creation of new jobs, and reduce dependence of domestic demand in some countries of the region on remittances. Low inflation, a safe level of sovereign debt, and a well-developed and reliable financial sector are important conditions of the steady growth of any economy. Establishment by Central Asian countries of good-neighbourly relations both with each other, and with their key trading partners, will affect the quality and rate of regional and international cooperation, and become the key prerequisite for long-term sustainable development of the region.

↓ Figure 26. Constraining Factors and Conditions of Economic Development of Central Asian Countries



Source: EDB.

Elimination of structural constraints in development is a challenge for Central Asian countries and, at the same time, an opportunity to reduce their dependence on commodity exports. To diversify and modernise their economies, they will need to set ambitious goals. Uzbekistan, which liberalised its trade and economy, became an example of successful transformation of the national economy for certain other Central Asian countries (Burunciuc and Izvorski, 2019). The countries of the region may use its economic liberalisation experience to step up

their efforts to develop various branches of industry, agriculture, and external trade, and to improve their business climate.

Insufficient regional cooperation is one of the consequences of the commodity bias of the region's economies. The focus on production of commodities for export to foreign markets explains the low complementarity of the commodity structure of production, and the low intensity of cooperation of the countries of the region with each other. Regional interaction could be deepened by diversification of production, increasing the share of value-added products in total output, expansion of export geography, creation of highly productive jobs, and development of the private sector.

The countries of the region differ significantly in terms of living standards, economic growth rates, quality of social services and infrastructure, and efficiency of public administration. The divergence of certain social and economic development parameters is getting stronger. Kazakhstan remains the leader in that respect, and is strengthening its positions. For example, according to IMF data for 2021, per capita GDP (PPP) of Uzbekistan stands at about 30% of that of Kazakhstan, while in Tajikistan and Kyrgyzstan that ratio is below 20%, and in Turkmenistan over the last five years it declined from 71% to 62%.

The institutional arrangements in the countries of the region differ, but generally need to be strengthened. Among common challenges faced by Central Asian countries, international experts list the need to improve public administration and develop means of social mobility (Rumer, Sokolsky, Stronski, 2016). The weakness of institutions of public administration restricts, to some extent, the possibilities for diversification of national economies (OECD, 2018). Kazakhstan remains the most advanced country in its institutional setup. In 2022, the country was ranked No. 64 in the global Index of Economic Freedom³.

The following mechanisms could improve the investment appeal of Central Asian countries: improvement and harmonisation of laws and regulations, protection of investor rights, joint efforts to attract investors, implementation of reforms designed to privatise and restructure large state-owned companies (Das, 2018).

The share of the public sector and of state-owned companies in the Central Asian countries remains high (Burunciuc and Izvorski, 2019). Kazakhstan and Kyrgyzstan have made more progress in their market reforms than the other countries of the region. Over the last several years, significant progress in that area was also made by Uzbekistan, which is planning to privatise some of its largest state monopolies, such as Uzbekneftegaz [Uzbekistan Oil and Gas], Teplovye Elektricheskie Stantsii [Thermal Power Plants], and Uzbekistan Airways JSC (National Information Agency of Uzbekistan, 2022). The situation in Tajikistan and Turkmenistan can still be described as an ongoing transition to the market economy.

To a large extent, economic growth of Central Asian countries still depends on export of commodities (all countries) and labour (Tajikistan, Kyrgyzstan, Uzbekistan). For that reason, their economies are sensitive to external shocks. Volatility of global commodity markets creates risks to sustainable long-term economic growth, which becomes dependent on foreign exchange revenues (OECD, 2018). Structurally, exports from Central Asian countries are dominated by Fuel and Energy Products (Kazakhstan, Turkmenistan), Precious Metals (Uzbekistan, Kyrgyzstan), Ores and Metals (Tajikistan, Kazakhstan).

Remittances by migrant workers are a substantial source of support of consumer demand in a number of countries of the region. In Tajikistan and Kyrgyzstan, remittances account for about 25% of GDP. In Uzbekistan, their share is lower, but dependence of consumption

³ Index of Economic Freedom (The Heritage Foundation).

on revenues generated by migrant workers remains high (about 15% of GDP). Low household incomes hinder further development of the Services sector.

The lack of access to the sea restricts the trading and economic potential of the region. Central Asian countries are far from the main centres of global economic activity. Despite the region's proximity to China, transport access to that country's market is hindered as well. The region's mountainous landscape prevents expansion of transport ties both with the world at large, and within the region (Starr, 2007). Undeveloped competition in the market for transport services and the remaining obstacles to border crossing inflate transport costs. According to expert estimates, because of high transport costs, GDPs of landlocked countries grow 1.5% more slowly, and their goods turnover is 30% less, than in countries with direct access to the sea (Lissovolik, 2017). High transport costs are attributable, among other things, to the scarcity of transport networks, the high cost and low quality of transport and logistical services in the region, and difficulties associated with cross-border traffic (Das, 2018). Underdeveloped air traffic restrains tourism, trade, investment ties, and business contacts, including those with the other Asian countries.

"Soft" transport infrastructure should play a large role in improving transport connectivity. Customs procedures and other rules regulating trade currently have disparate degrees of sophistication. Cohesion between countries in these matters is insufficient to ensure dynamic development of regional and external trading ties (Das, 2018). Because of the deficiencies in infrastructure, customs and technical limitations, the transit potential of the region is not realised in full (Dankov, 2020).

The water and energy complex of Central Asia is the basis of the region's social and economic stability. The weakening of cooperation in the Central Asian water and energy complex in the 2000s coincided with a period of rapid increase of the load borne by the energy sector. High wear and tear on the water and energy infrastructure results in power losses and a shortage of water resources. Lack of coordination in the use of water resources leads to major floods in the countries lying in the lower reaches of the main rivers (Kazakhstan, Turkmenistan, Uzbekistan), and summer droughts and power shortages in the countries on their upper reaches (Kyrgyzstan, Tajikistan) (Vinokurov and Libman, 2012). The main problems come from the ever-increasing shortage of fresh water. Depletion of water resources in the Aral Sea basin will continue due to demographic factors, including persistently high population growth, increased consumption and urbanisation, and the possible increase of the area of irrigated lands (Vinokurov, Ahunbaev, Usmanov, et al., 2021).

Creation of new highly productive jobs is one of the challenges to future economic growth in the Central Asian countries. Because of the weak development of the private sector, the creation of additional jobs lags behind population growth, encouraging labour migration. The ongoing demographic boom exacerbates the job shortage. The average number of new jobs created in Uzbekistan's economy is 280,000 per year (on a net basis), while 600,000 jobs are required each year solely for demographic reasons (World Bank, 2019). In that connection, the unemployment problem remains extremely urgent, with the rate of unemployment ranging between 2% and 9%. The total number of officially unemployed people exceeds 2 million. Informal employment remains widespread. A significant share of the unemployed do not register to avoid red tape, or because they are illiterate (Dankov, 2020).

The Central Asian countries experience a shortage of skilled labour in health care, education, industry, transport, housing, and utilities (Dankov, 2020). Many people are employed in the low-productivity Agriculture sector. Modernisation of the education system is another critical challenge for the future development of the region. In Kazakhstan, creation of a highly qualified talent pool became one of key long-term targets. For example, the state-sponsored Bolashak scholarship programme offered new education opportunities to the country's youth,

promoting improvement of the human capital and facilitating a further increase of labour productivity and production efficiency.

The Central Asian countries are highly vulnerable to climate change. It is projected that the region will become increasingly hot, which may become a serious obstacle to the growth and development of agriculture. The water and energy complex is also sensitive to climate-related challenges. Climate change is a social and environmental problem which puts at risk food safety and the well-being of the considerable part of the population that is employed in agriculture.

Macroeconomic stability of the Central Asian countries is increasing; however, inflation remains high, with fiscal risks in some countries increasing. Over the last ten years, public debt increased in most countries of the region, reaching the highest levels in Kyrgyzstan and Tajikistan at 61% and 46.5% of 2021 GDP, respectively. Liabilities in those countries are structurally dominated by foreign borrowings denominated in foreign currency, which increases fiscal risks. The highest rate of increase of the debt burden is in Uzbekistan, where from 2016 to 2021 public debt increased by almost 30 pp to 36.8% of GDP.

Inflation, despite its gradual deceleration, remains unstable, and exceeds the global average. According to IMF data, in 2021 prices rose by double digits in a number of Central Asian countries (Kyrgyzstan, Turkmenistan, Uzbekistan). Over the last ten years, the highest rate of inflation was in Uzbekistan, where prices tripled, and in Kazakhstan and Turkmenistan, where they doubled. To combat high inflation, many countries of the region are switching to inflation targeting.

The COVID-19 pandemic undermined the macroeconomic stability of Central Asian countries. Due to the specific structural features of their economies, they proved to be vulnerable to the consequences of the pandemic. Prior to the outbreak of the disease, international reserves and debt burdens were considered generally acceptable for all the Central Asian countries. The sharp decline of commodity prices and decrease of the amount of remittances, as well as the high fiscal cost of public financial support packages, increased debt burdens and brought pressure to bear upon national currencies (OECD, 2020).

The well-being of the region will largely depend on finding a format for economic cooperation with China and Russia that will be favourable for the Central Asian countries, and on their ability to make ample use of their transit capabilities. The other global economic centres will influence the situation in the region to a lesser degree. The EU is generally acting in a consulting capacity, focusing on such sectors of the economy as governance and water security (Spaiser, 2018). The importance of Central Asia for the USA is gradually decreasing (Rumer et al., 2016), although the United States continues to implement a number of individual programmes (e.g., USAID⁴).

China is becoming a significant geopolitical and economic player in the region (Rumer et al., 2016). Under the Belt and Road Initiative, the economies of Central Asian countries get an excellent chance to speed up intergovernmental infrastructural projects (Pieper, 2021). China is also interested in importing energy and solid minerals, and in expanding the markets for its own goods. Over the last ten years, China has become the main creditor for many Central Asian countries. For example, there has been a sharp increase in the external debt to China of Kyrgyzstan and Tajikistan (OECD, 2020).

Geopolitical risks have significant influence on the stability of the region's development. Internal risks are fuelled by unresolved border disputes, which are primarily linked to the increasing shortage of resources, especially water. Countries have political, economic, and

⁴ United States Agency for International Development (USAID) in Central Asia.

social differences in the Fergana Valley. The existence of enclaves hinders movement of people and goods. Failure to delimit and demarcate the Kyrgyz-Tajiki border gives rise to regular conflicts. All these factors constrain development of trade and investment in the region. The sanctions pressure on the Russian economy constitutes a significant external geopolitical risk for the Central Asian countries. Dependence on trade with Russia, on the continued employment of migrants in Russia, and on investment by Russian companies increases the risk of growth volatility and deceleration of economic development in the region. If the economic situation in Russia improves slowly, the region's economic ties will probably expand more intensively with Turkey and Asian countries.

10. TRADING AND INVESTMENT TIES: MUTUALLY BENEFICIAL PARTNERSHIPS

Central Asian Trade

The geographic proximity of the countries of the region and the similarity of their fundamental cultural attitudes create favourable conditions for trade and economic cooperation. However, the deepening of international ties is constrained by differences in their economic development models, and by some persistent barriers. Still, the share of mutual trade in goods in foreign trade turnover is increasing, and investment cooperation is getting stronger. That also warrants a fresh perspective on the region.

Regional trade generally faces limitations stemming from structural economic and institutional differences between the countries of the region. The mountainous terrain, which necessitates considerably larger investment in reliable and convenient transport infrastructure; the insufficiently developed transport logistics and financial services; the lack of coordination in national regulations and customs procedures, are among the chief barriers to the growth of regional trade in Central Asia ([Abdymomunova et al., 2018](#); [ADB Institute, 2015](#)).

Despite these difficulties, mutual trade among the countries of the region is developing faster than their external trade, and its share in total turnover is increasing. Uzbekistan provided a powerful impetus to development and expansion of intraregional trade after 2017. Until recently, mutual trade was structurally dominated by agricultural products and commodities. At the same time, industrial production and cooperation contribute to the growth of non-commodity exports, while the inflow of investment capital promotes non-commodity imports.

In 2021, total turnover of foreign trade in goods among the Central Asian countries amounted to \$165.5 billion (see [Figure 27](#)). The share of Kazakhstan was 61.4%, that of Uzbekistan 22.9%, Turkmenistan 7.7%, Kyrgyzstan 4.4%, and Tajikistan 3.6%. Over the last 20 years, that indicator has increased sixfold. The COVID-19 pandemic led to a decline of foreign trade turnover in 2020, but in 2021 it recovered in most countries of the region. The share of trade in goods in GDP has remained relatively steady since 2018, reaching about 49% in 2021. The region as a whole has a positive trade balance, because of the surplus reported by Kazakhstan and Turkmenistan. Having reached its maximum in 2011, the trade surplus has been gradually decreasing, as imports grew faster than did exports. The foreign trade turnover of Central Asian countries is dominated by goods, with the share of services in total trade in goods and services at the end of 2020 being merely 12%.

Commodity export revenues remain one of the key drivers of development of Central Asian countries. In 2021, Mineral Products accounted for more than 50% of all goods exported from the region, while Metallurgy came second with 16%. The export polarity of Central Asia persists. Almost 90% of foreign supplies from Turkmenistan are represented by fuel and energy; in Kazakhstan, they account for almost 60% of total exports, with Metallurgy being another significant export item. Uzbekistan, Kyrgyzstan, and Tajikistan depend, to a considerable degree, on gold exports. In addition, Uzbekistan and Kyrgyzstan specialise in

exports of food, and Tajikistan in exports of ore concentrates and metals. Imports to Central Asian countries are dominated by Machines, Equipment, and Vehicles, which accounted for one third of total deliveries in 2021 (see Figure 29). That can be explained by the catch-up effect, accumulation of capital, and growth of investment.

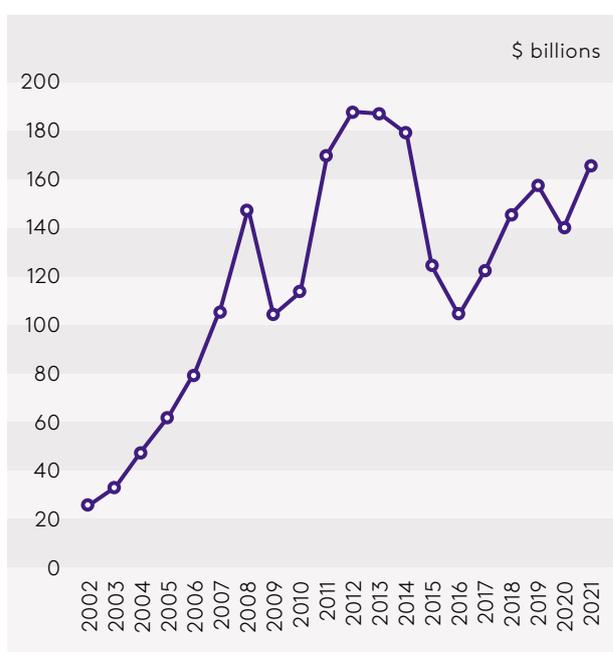
Russia and China are the key trading partners of the Central Asian countries. Over the last 20 years, trade with China has been expanding faster than trade with Russia. In 2021, Russia and China accounted for 21.6% and 20.4%, respectively, of total turnover with the Central Asian countries. The fact that the Central Asian countries lie at the intersection of transport corridors linking China and Russia creates opportunities for expanding their transit potential, in terms of both transportation of goods and incorporation in cross-border production chains. Turkey is another major trading partner for the countries of the region (see Table 6), while EU countries are the main buyers of Kazakhstan's oil.

↓ Table 6. Shares of Key Trading Partners in Trade Turnover of Central Asian Countries in 2021, %

Country → Trading Partner ↓	CA Countries	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Russia	21.6	23.9	31.6	22.5	6.7	18.6
China	20.4	17.9	21.1	14.0	51.0	17.5
Turkey	6.0	4.0	5.7	6.5	13.1	8.7
CA Countries	9.9	6.2	21.2	28.0	8.5	13.9

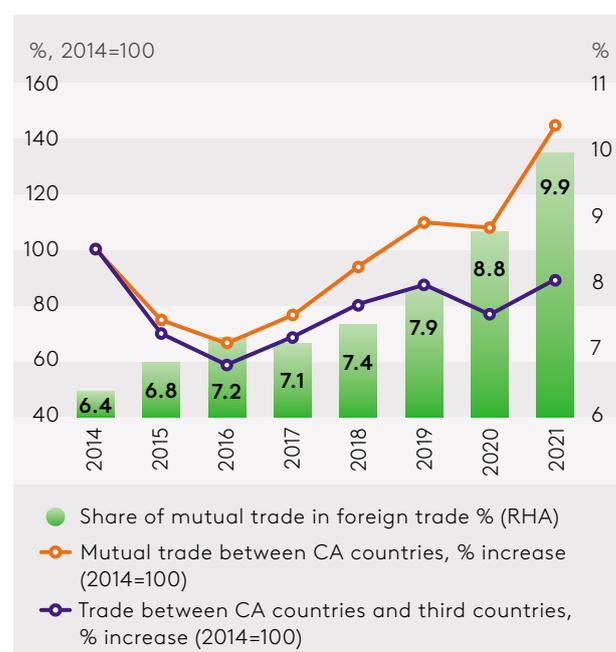
Sources: EDB calculation based on Trade Map data.

↓ Figure 27. Turnover of Foreign Trade in Goods of Central Asian Countries

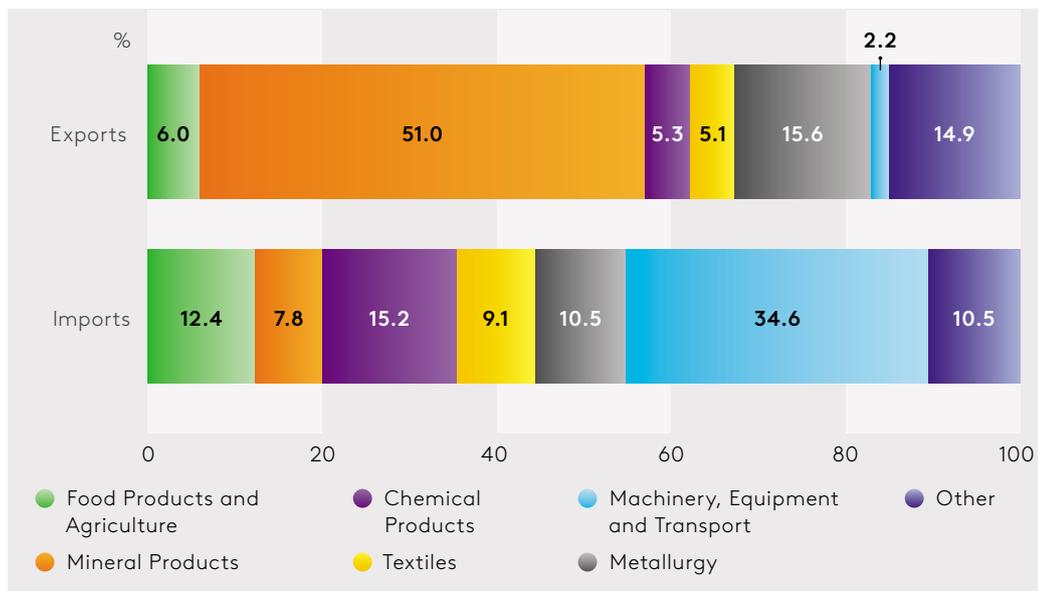


Source: EDB calculation based on Trade Map data.

↓ Figure 28. External and Mutual Trade in Goods of Central Asian Countries



Source: EDB calculation based on data published by Trade Map, Agency for International Operations and Trade Statistics of the Republic of Uzbekistan.



← Figure 29. Structure of External Trade in Goods of Central Asian Countries in 2021

Source: EDB calculation based on data provided by national agencies of Central Asian countries, Asian Development Bank, World Bank, Trade Map.

Over the last 20 years, turnover of trade between China and the Central Asian countries has increased by a factor of more than 25. To compare: total external trade of China during the same period has increased only by a factor of 9. According to data published by the Central Asian countries, trade with the PRC in 2021 amounted to \$33.7 billion (20.4% of total trade volume) (see Box 1). The largest growth of China's trade turnover (200 times) was reported by Turkmenistan. Turkmenistan has the strongest ties with the PRC, and almost all of its exports to China are represented by natural gas, which since 2009 has been supplied through the Turkmenistan-Uzbekistan-Kazakhstan-China trunk pipeline (Alifirova, 2022). China's trade turnover with Uzbekistan and Tajikistan increased by a factor of more than 100, with Kyrgyzstan by a factor of 24, and with Kazakhstan by a factor of 16. China is also becoming one of the key export destinations for the Central Asian countries. Since 2016, exports to China increased by 42.8% to reach \$16.4 billion in 2020 (Alimov, 2022). China seeks to increase its trade turnover with the region to \$70 billion by 2030, among other things, by opening its domestic market for industrial and agricultural products from Central Asia (Xi, 2022).

Box 1

According to Chinese sources, trade turnover between the PRC and the Central Asian countries in 2021 amounted to \$44.5 billion. Mutual trade statistics published by Central Asian countries and the PRC have significant differences (\$44.5 billion vs \$33.7 billion). The largest difference in absolute terms (about \$6 billion) is reported for Kazakhstan. That can be explained, first, by the fact that Chinese customs include transit goods transported through Central Asian countries which have borders with the PRC, in particular, Kazakhstan, and, second, by the fact that Chinese exporters overstate prices before clearing the national customs to increase VAT refunds for exported goods. Understatement of import prices may also play a role (Zakon.kz).

Russia remains a priority trading partner. Trade flows from Kazakhstan, Tajikistan, and, particularly, Kyrgyzstan are largely directed towards Russia (Vinokurov, 2018). Turnover of foreign trade between Russia and Central Asia in 2021 was \$35.8 billion (21.6% of the total trade turnover of the Central Asian countries). Trade volume has increased approximately sixfold since 2001 (6.3 billion). Russia has a trade surplus with each Central Asian country. Total trade surplus in 2021 was \$18.3 billion. The share of trade between Russia and Kazakhstan is 69% of the total trade turnover. Tajikistan had the largest negative balance of trade with Russia: in 2021, imports from Russia exceeded exports to Russia by a factor of 11.

At the same time, the role of Russia in the trade turnover of certain Central Asian countries is gradually declining. Thus, over the last ten years, the share of Russia in foreign trade turnover of Uzbekistan decreased by 11.8 pp, while the shares of the PRC and Turkey increased by 5 pp and 3.5 pp, respectively. In 2014–2021, the share of Russia in trade with Tajikistan went down by 5.5 pp. During the same period, the shares of Uzbekistan and Kazakhstan went up by 7.4 pp and 3.9 pp, respectively. Over the last ten years, the share of Russia in the foreign trade turnover of Kazakhstan (which accounts for the bulk of total foreign trade in the region) increased by 6.8 pp, while the share of Asian countries increased by 8.3 pp (South Korea: +1.7 pp; India: +1.6 pp; the PRC: +1.4 pp; Turkey: +1.4 pp).

Trade turnover between Central Asia and South Asia has a sizeable growth potential. For Central Asia, trade with South Asia currently accounts for merely 2.5% of its total foreign trade turnover. However, the Central Asian countries recognise the prospects of boosting exports to South Asia, in particular, with respect to oil and gas supplies, and are interested in expanding the range of imported products, primarily equipment and consumer goods. Despite the territorial proximity of the region to India, Pakistan, and other South Asian countries, trade with them is hindered by the lack of direct transport routes. Development of the International North–South Transport Corridor and transport routes through Afghanistan to Iran and Pakistan will enable Central Asian goods to enter both South Asian markets and the global market through the Persian Gulf seaports. In particular, Uzbekistan intensified its trade with South Asia; in 2022, it imported meat from Pakistan for the first time in history, and began to examine the possibility of importing wheat from that country. Uzbekistan is also expanding its trade with India (Ministry of Investment and Foreign Trade of the Republic of Uzbekistan, 2022a).

The aggregate trade turnover among Central Asian countries is dynamically increasing, and in 2021 reached \$16.4 billion. The share of mutual trade in total external trade increased from 6.4% in 2014 to 9.9% in 2021 (see Figure 28). That provides convincing testimony of the successful development of regional cooperation. At the same time, agricultural goods and commodities still play an important role in mutual trade. For example, Turkmenistan's exports to Uzbekistan are dominated by Mineral Fuel (92% of total exports), Tajikistan's exports to Kazakhstan by Ore (91%), Kazakhstan's exports to Uzbekistan by Grain Crops (29%).

The share of intraregional trade with other Central Asian countries in total external trade turnover is particularly large in Tajikistan and Kyrgyzstan (28.0% and 21.2%, respectively) (see Table 6). Despite their shared border, trade links between Tajikistan and Kyrgyzstan are among the weakest in the region, and account for merely 0.3% of total mutual trade among Central Asian countries. Tajikistan's and Kyrgyzstan's key intraregional trading partners are Kazakhstan and Uzbekistan. The largest volume of mutual trade is reported by Kazakhstan and Uzbekistan (see Table 7). In 2021, the share of their turnover in total external trade volume in Central Asia was 45.2%. Other significant trade ties in the region are those between Kazakhstan and Tajikistan (13.6%), Kazakhstan and Kyrgyzstan (11.7%), and Kyrgyzstan and Uzbekistan (11.1%).

In 2021, Kazakhstan's share of the total external trade volume in Central Asia was 80.9%, of which Uzbekistan accounted for more than half. Motor vehicles are an important item of mutual trade for both countries (Latipov, 2022). Since 2010, the volume of trade between Kazakhstan and other Central Asian countries has increased from \$2.5 billion to \$6.3 billion. Intensive growth started in 2017, and trade with Uzbekistan became the key driver. The share of Central Asian countries in Kazakhstan's foreign trade turnover increased from 2.8% in 2010 to 6.2% in 2021.

↓ Table 7. Shares of Exports to Other Central Asian Countries in Total Turnover of Mutual Trade in Goods in Central Asia (Exports) in 2021, %

Importer country → Exporter country ↓	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Kazakhstan		7.3	9.3	2.5	33.2
Kyrgyzstan	4.4		0.3	0.1	2.1
Tajikistan	4.2	0.1		0.0	1.5
Turkmenistan	8.0	0.4	0.3		0.5
Uzbekistan	12.0	9.0	3.8	1.1	

Source: EDB calculations based on Trade Map data.

Uzbekistan began to expand its foreign trade, including trade with the other Central Asian countries, in 2017, in the course of economic liberalisation. The share of Central Asian countries in Uzbekistan's foreign trade turnover is increasing, meaning that its trade with the region's countries is growing faster than with other countries. Since 2016, the volume of trade in goods and services between Uzbekistan and other Central Asian countries has increased by a factor of 2.6 to reach \$6.3 billion in 2021 (trade in goods alone amounting to \$5.9 billion). The share of Central Asian countries in Uzbekistan's external trade volume increased by 5 pp to 15.1%.

Turkmenistan has the least volumes and shares of trade with the region's countries. To a large extent, that is the consequence of its complete neutrality policy. In 2021, its trade turnover with Central Asian countries was \$1.1 billion, which is 1.5 times less than the volume of regional trade reported by Tajikistan and Kyrgyzstan, two countries with lower GDP. Turkmenistan traded mostly with neighbouring Uzbekistan, whose share in Turkmenistan's trade with Central Asian countries was 71.4%.

Development of mutual trade between Central Asian countries will be facilitated both by structural factors (creation of trade and logistics infrastructure in border areas, establishment of joint wholesale distribution centres and logistical services, development of the financial sector, etc.) and by political measures, such as improvement of tariff and non-tariff terms, strengthening of interactions between customs and tax authorities, harmonisation of trading rules by making use of the advantages offered by the EAEU (common customs territory) (Vinokurov et al., 2017) and WTO mechanisms (TFA, etc.). Digitization of trade will play an important role. The use of digital technologies to simplify trade procedures may greatly benefit the countries of the region. Implementation of WTO TFA measures and seamless cross-border electronic exchange of data and documents could reduce trade costs by more than 11% and more than 20%, respectively (UNESCAP, 2021).

In the future, expansion of regional trade potential will be linked to transition to trade in value-added goods, which will become possible through strengthening of industrial cooperation, creation of regional value chains, and utilisation of comparative economic advantages. Other important aspects include improvement of the business climate; attraction of foreign investment, technologies, and qualified specialists to non-commodity sectors; and creation of their own basic and advanced personnel training framework.

Investments in Central Asia

Central Asian countries made a breakthrough in the Ease of Doing Business⁵ rating, but their investment appeal still varies greatly. Among the countries of the region, Kazakhstan has the best position: in the 2020 Doing Business report, it ranked No. 25 out of 190, having ascended 57 notches over 15 years. Uzbekistan came up by 82 notches (it ranked No. 69 in 2020), Kyrgyzstan and Tajikistan by 24 notches (No. 80 and No. 106, respectively).

Inward foreign direct investment stock accumulated by Central Asian countries is \$211 billion (see Table 8). The countries of the region are net importers of direct investment. The key advantages of the region are its macroeconomic stability, vast natural resources, capacious domestic market, cheap labour, and large agricultural production potential (Abdymomunova et al., 2018). In 2010–2021, inward foreign direct investment stock increased by a factor of 2.1 (since 2000, by a factor of 17.2). The rate of attraction of direct investment in Uzbekistan was higher than in the other Central Asian countries, with FDI stock having increased by a factor of 4.4 since 2010 (UNCTAD, 2022).

In 2021, the share of FDI in the Central Asian GDP was above the global average (61% vs. 47%). However, in Tajikistan and Uzbekistan, that indicator is lower (38% and 16%, respectively), while in the other countries the bulk of FDI is represented by investment in commodity sectors. Thus, at the end of 2021, oil and gas production accounted for 71% of Kazakhstan’s total FDI stock. According to expert estimates (Abdymomunova et al., 2018), the share of FDI in the Central Asian GDP net of extracting industries is lower than in other developing regions.

Few investment projects in the region are embedded in global supply chains. Inflow of investment capital to agriculture and labour-intensive processing industries is insufficient (ADB Institute, 2015). Certain sectors, such as Agricultural Processing, Petrochemical Production, and Tourism, also have considerable investment potential (Abdymomunova et al., 2018).

↓ Table 8. FDI Stock in Central Asian Countries, \$ millions

	2000	2010	2021
Kazakhstan	10,078	82,648	151,953
Kyrgyzstan	432	1,698	4,233
Tajikistan	136	1,226	3,198
Turkmenistan	949	13,442	40,775
Uzbekistan	698	2,564	11,278
CA Countries	12,293	101,578	211,437

Source: EDB based on data published by UNCTAD (UNCTAD, 2022).

⁵ The World Bank did country ratings from 2006 to 2020. Turkmenistan is not represented in the rating.

Kazakhstan attracted the most FDI in the region – \$151.9 billion out of \$211.4 billion. All in all, Kazakhstan’s economy received more than \$370 billion of foreign investment over the last 30 years. The largest investors are the Netherlands (\$101 billion), the USA (\$46.2 billion), and Switzerland (\$28.5 billion) (Sarsenova, 2022).

The PRC has invested twice as much as Russia in Central Asia. By the end of 2020, Chinese direct investment in Central Asian countries came close to \$40 billion, with \$21.4 billion going to Kazakhstan, more than \$10 billion to Uzbekistan, \$4.6 billion to Kyrgyzstan, and more than \$3 billion to Tajikistan. By the end of 2021, the number of Chinese companies involved in joint ventures and owning companies with 100% equity participation reached 7,700. There are 2,700 companies with Chinese equity participation and 798 Chinese joint ventures registered in Kazakhstan. In Uzbekistan, the number of such companies increased by a factor of 1.5 since 2017, and approached 2,000 (Alimov, 2022).

According to the Bank of Russia, as of 1 January 2022, Russian FDI stock in Central Asia amounted to \$4.9 billion. Since 2010, Russia has increased its investment in the region by \$1.8 billion, to Kazakhstan – at a faster pace. The EDB Monitoring of Mutual Investments (EDB MMI) database provides a more detailed view of Russian investment in the region because of its methodology (see Box 2). According to the EDB MMI, Russian FDI stock in the countries of the region is \$21.7 billion, including \$11.1 billion in Kazakhstan, \$8.9 billion in Uzbekistan, \$0.9 billion in Kyrgyzstan, and \$0.6 billion in Tajikistan. Russia remains the main investment donor for Central Asian countries among the post-Soviet states. For example, in Tajikistan and Uzbekistan, Russia accounts for more than 95% and 98.5% of post-Soviet FDI, respectively. The dominant presence of large-scale investment by Russian companies is gradually complemented by increasing investment by major Russian agricultural and processing enterprises (Kuznetsov and Vinokurov, 2021). There are currently more than 10,000 Russian enterprises and joint ventures operating in Central Asia and creating 900,000 jobs (Lavrov, 2022).

Box 2

The EDB MMI is an ongoing EDB Centre for Integration Studies’ project. The database contains detailed information on mutual FDI stock related to projects implemented by investors from CIS countries and Georgia. The monitoring has been conducted since 2012 using diverse data obtained from publicly available sources. The database is generated “from the bottom up”, i.e., its creators rely on corporate statements and other primary information. As a result, the EDB MMI makes it possible to take into consideration such factors as investments made through offshore structures and other “trans-shipping destinations”. In that respect, the EDB MMI database is different from official statistics.

Investment ties within the region are gradually expanding. Kazakhstan is the main internal investor. Over the last 15 years, it invested more than \$1 billion in Kyrgyzstan (Kapital.kz, 2021). In 2021, Kazakhstan’s FDI stock in Tajikistan came close to \$500 million, a 20-fold increase relative to 2013 (Nazarov, 2021). Kazakhstan seeks to implement large infrastructural projects with the participation of the countries of the region, and to expand production cooperation. Industrial cooperation between Kazakhstan and Uzbekistan is developing at a brisk pace (Official Information Resource of the Prime Minister of the Republic of Kazakhstan, 2021b). Special attention is paid to the Automotive Industry. Cooperation is also under way in Finance, Light Industry, and other sectors (Gazeta.uz, 2019; Yassy-tur.kz, 2020).

Construction of the “Central Asia” international centre for trading and economic cooperation between Kazakhstan and Uzbekistan started in 2021. The centre will become a major industrial, trading, and logistical platform for implementation by Kazakhstan and Uzbekistan of joint investment projects designed to expand industrial cooperation between the two countries, and will be integrated into the key transport corridors (CAAN, 2021). Kazakhstan also intends to create and modernise similar centres at its borders with Russia, China, Kyrgyzstan, and to approve a Uniform Strategy for Development of Cross-Border Hubs (Kapital.kz, 2022).

Uzbekistan, together with Tajikistan and Kyrgyzstan, is establishing development funds to encourage investment partnership. The Uzbekistan–Kyrgyzstan Development Fund and the Uzbekistan–Tajikistan Investment Fund were created to support and promote high-potential joint projects in various branches of the economy (Ministry of Investment and Foreign Trade of the Republic of Uzbekistan, 2022b; Avesta, 2021).

Investment by China and Russia, the region’s main trading partners, remains one of its key development drivers. Development of good-neighbourly relations with Russia and China, as well as with South Asian and other countries, will give a powerful impetus to sustainable development of Central Asia. The chief task is to attract FDI in non-commodity sectors, including labour-intensive industries and the Agro-Industrial Complex. The arrival of foreign companies in the region will accelerate technological growth, and contribute to further development of the Services sector.

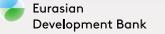
Attraction of foreign investment may be additionally facilitated by certain joint activities undertaken by Central Asian countries. For example, in 2022, during the First Tashkent International Investment Forum, Uzbekistan came up with an initiative to create an integrated investment space that will bring together all countries of the region (Ministry of Investment and Foreign Trade of the Republic of Uzbekistan, 2022a).

Programmes and financial assistance of international organisations and development banks (UN agencies, WB, ADB, EBRD, IsDB, EDB, etc.) will continue to play an important role, as they encourage cohesion among the countries of the region and facilitate development of stable long-term development mechanisms, ensure implementation of technical assistance programmes and infrastructural projects that can become important strategic milestones and unlock the region’s investment and export potential (Batsaikhan and Dabrowski, 2017).

Trade and investment in Central Asian countries must become increasingly climate-oriented. According to UNESCAP, the contribution of Central Asian countries to combatting climate change could be increased in line with the best practices of the APAC countries, e.g., they could use digital technologies to simplify trade procedures (UNESCAP, UNEP, UNCTAD, 2021). That will increase competitiveness of goods manufactured in Central Asian countries in the context of the increasingly stringent requirements related to reduction of greenhouse gas emissions.

State Trade and Investment Support Programmes

↓ Figure 30. Trade and Investment Support Institutions and Mechanisms in Central Asia

 Kazakhstan	 Kyrgyzstan	 Uzbekistan	 Tajikistan	 Turkmenistan
Atameken National Chamber of Entrepreneurs of the Republic of Kazakhstan	Single Window Centre for Foreign Trade state enterprise under the Ministry of Economy and Commerce of the Kyrgyz Republic	Agency for the Promotion of Export under the Ministry of Investment and Foreign Trade of the Republic of Uzbekistan	Export agency under the Government of the Republic of Tajikistan	Chamber of Commerce and Industry of Turkmenistan
Astana International Financial Centre	National Investment Agency under the President of the Kyrgyz Republic	Agency for the Attraction of Foreign Investment under the Ministry of Investment and Foreign Trade of the Republic of Uzbekistan	"Tajinvest" state unitary enterprise	CJSC Turkmen Investment Company
JSC QazTrade, KazakhExport JSC Export Insurance Company	Trade portal export.gov.kg Investment portal invest.gov.kg	"Made in Uzbekistan" programme	Trade portal tajtrade.tj Investment portal tajinvest.tj	Exporters Support Centre (project)
Export portal export.gov.kz	Export-Import Bank (project)	Annual Tashkent International Investment Forum	Export Insurance Agency (project) Exporters Development Fund (project)	
Other trade and investment support institutions and mechanisms				
Programmes implemented by international organisations and sources of preferential financing				
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;"> <p>Special Programme for the Economies of Central Asia (UN) (SPECA)</p> <p>Central Asia Regional Economic Cooperation (CAREC)</p> </div> <div style="width: 70%; text-align: center;">            </div> </div>				

Source: EDB.

To attract investment and improve their competitiveness in external markets, the Central Asian countries are implementing large-scale state programmes, and participating in major international initiatives (see Figure 30), which open up unique opportunities to realise the region's economic potential.

For example, **Kazakhstan** implemented a series of integrated programmes, including the Nurdy Zhol State Infrastructure Development Programme for 2020–2025 designed to build powerful transit, export, and logistical infrastructure for realisation of the country's export policy. The government launched several state initiatives, including "Economy of Simple Things" and "Business Roadmap", and approved ten national projects, scheduled for completion by the end of 2025, to promote the Kazakhstan-2050 strategy (Expert, 2021). Kazakhstan is implementing its National Export Strategy for 2018–2022 to develop a uniform integrated policy to create conditions conducive to doubling and then tripling the country's non-commodity exports by 2025 and 2040, respectively.

In addition, Kazakhstan has several special institutions, such as the Foreign Investors Council chaired by the Head of State, the Development Bank of Kazakhstan, as well as the Atameken National Chamber of Entrepreneurs of the Republic of Kazakhstan and the Chamber of International Commerce of Kazakhstan that operates on its basis. In particular, Atameken is authorised to support exporters under a state programme for reimbursement of costs incurred by industrial innovators producing domestic manufactured goods. Other institutions engaged

in key support programmes include the Agrarian Credit Corporation, the KazExportGarant export credit insurance corporation, the KAZNEX INVEST national export and investment agency, the emerging Kazexport single export support operator, and the KazakhExport export insurance company which seeks to become, by 2023, the key development institution responsible for implementation of Kazakhstan's international trade policy in Central Asia and the EAEU member states. In 2021, Kazakhstan launched the export portal export.gov.kz, which positions itself as one of the fundamental projects in the digitisation of Kazakhstan's trade. It is managed by the single operator responsible for government support of domestic exporters the KazakhExport trade policy development centre. Kazakhstan is taking steps to digitise export support activities and develop export credit subsidisation tools as part of its export support suite in collaboration with the Asian Development Bank ([Review and Analytical Portal "Strategy 2050", 2021b](#)). Special role in attraction of investment and development of exports is played by the Astana International Financial Centre (AIFC) and Astana Hub. The AIFC is working to implement new tools in the financial market, e.g., tools designed to enhance "green" financing and to attract investment to diversify the economy of Kazakhstan and of the entire region, by involving the countries of the region in AIFC operations. The Astana Hub is an international technopark for IT start-ups that creates attractive conditions for registration, development, and operation of high-tech companies both in Kazakhstan and around the world, and helps businesses to expand and enter international markets. By doing that, Kazakhstan creates new opportunities for the entire region.

In **Kyrgyzstan**, activities designed to support national foreign trade potential are carried out within the framework of the Programme of the Government of the Kyrgyz Republic for the Development of Exports of the Kyrgyz Republic in 2019–2022 and the relevant Implementation Plan, both adopted in 2018. The key tasks include creation of a foundation to build a more attractive foreign trade regime, improve competitiveness, and increase the responsibility of manufacturers for their products. The key efforts are focused on supporting fruit and vegetable producers, dairy and meat farmers, exporters of bottled potable water, and providers of tourist services. There is an export support institution operating under the Ministry of Economy of the Kyrgyz Republic – the Single Window Centre for Foreign Trade – which specialises in completion of pre-customs import and export procedures and provision of consulting services ([EEC, 2019](#)). Development of exports and attraction of investment are direct responsibilities of the Agency for the Promotion and Protection of Investment of the Kyrgyz Republic. The National Programme for Development of the Kyrgyz Republic until 2026, designed within the framework of the National Strategy for Development of the Kyrgyz Republic until 2040, defines the prospects for the creation of the State Export and Import Bank, and the launch, in 2022–2026, of the "Made in the Kyrgyz Republic" National Export Programme ([Ministry of Justice of the Kyrgyz Republic, 2021](#)).

The landmark document for improving the export potential and investment appeal of **Uzbekistan** is the Strategy for the Development of New Uzbekistan 2022–2026. The strategy envisages steps to further improve and increase the attractiveness of the investment climate in the country, and to attract, over the next five years, investment in the amount of \$120 billion, including foreign investment in the amount of \$70 billion. Uzbekistan intends to set up a new system to effectively use investment capital and boost exports "from the bottom up", increasing exports to \$30 billion by 2026 ([National Legislation Database of the Republic of Uzbekistan, 2022](#)). Under the Strategy for Attraction of Foreign and Domestic Investment until 2026, Uzbekistan expects to create public-private partnerships to attract \$14 billion for investment in the power industry, transport, water management, utilities, health care, education, environmental protection, etc. Uzbekistan places special emphasis on strengthening partnerships between the regions of the country and India, China, and Russia, expanding its export geography from 115 to 150 countries, and expanding exports of tourist, transport, information, and other services by a factor of 1.7 to \$4.3 billion. Finally, Uzbekistan plans to use the Strategy to create free trade areas near its borders with the neighbouring countries.

The goal of realising the export and investment potential of **Tajikistan** is served by the State Programme for the Development of Export from the Republic of Tajikistan until 2030, and the Mid-Term Development Programme of the Republic of Tajikistan for 2021–2025. The latter envisages an increase of investment in the real sector and infrastructure by 25%, and strengthening of the potential of the Export Agency under the Government of the Republic of Tajikistan. There is a plan to establish a Tajikistan Export Insurance Agency and a Fund for the Development of Exporters of Tajikistan – entities specialising in export insurance, creation of industry export clusters, industry programmes for manufacture and processing of export products, etc. (FAOLEX, 2021).

In **Turkmenistan**, new approaches to development of exports and investment will be defined in the National Programme of Social and Economic Development of Turkmenistan for 2022–2052, currently under development, which will update and strengthen provisions and activities of the similar programme for 2011–2030 (Golden Age, 2022). State programmes for expansion of exports (total value: about \$6.1 billion) and import substitution (total value: \$176 million) have existed in Turkmenistan since 2015. CJSC Turkmen Investment Company was established in 2021 by the State Bank for Foreign Economic Affairs of Turkmenistan with a view to attracting foreign investment.

In addition to the programmes developed by the Central Asian countries, there are a number of important programmes offered by developed economies such as Russia, the USA, Germany, Japan, the EU, Korea, and Turkey, as well as international institutions such as the World Bank, the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank (ADB), the Islamic Development Bank (IsDB), the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), the Economic Cooperation Organisation (ECO), and the Shanghai Cooperation Organisation (SCO) (Ermolov, 2021).

The most significant assistance in implementation of structural economic transformations in Central Asian countries is provided within the framework of Central Asia Regional Economic Cooperation (CAREC), with the Asian Development Bank as the head entity. The programme is implemented with the support of other international institutions – the IMF, the World Bank, the UNDP, the EBRD, and the Islamic Development Bank. CAREC members (in addition to Central Asian countries) are the PRC (with a focus on the Xinjiang Uygur Autonomous Region), Azerbaijan, Mongolia, and Afghanistan. The main objective of CAREC is to finance infrastructural projects and improve economic policies of the countries of the region in such areas as transport, the power industry, trade, and transit. The programme became a respected platform for dialogue and coordination in the planning and implementation of priority regional projects. Special emphasis is placed on transformation of select transport and communication projects in CAREC member countries into trade and economic corridors.

The EBRD is implementing in Central Asia the Pilot Programme to Support Regional Exporters 2022. For example, in Turkmenistan, the EBRD's portfolio is valued at €320 million and consists of 88 projects, including EU-financed projects, e.g., those implemented under the Ready4trade Central Asia programme, where entrepreneurs receive e-trade training.

One of the largest external programmes in the region is Trade Central Asia implemented by the United States Agency for International Development (USAID). The goal of the programme is to improve region-wide trade connectivity to accelerate economic growth and increase economic opportunity in Central Asia. The programme's components include harmonisation of customs and border procedures, increasing public-private dialogue on trade and investment, and improving cross-border firm-to-firm connectivity.⁶

⁶ USAID Trade Central Asia programme.

It should be noted that the above list is not exhaustive, and the number of ongoing programmes is considerably higher. It is important to understand, however, that all these programmes, whether initiated by the countries of the region or by many other large countries and respected organisations, underscore the special role of Central Asia and set important strategic benchmarks to unlock the investment and export potential of the region.

11. FINANCIAL SECTOR: DOMESTIC SAVINGS POTENTIAL

Creation of their own financial sectors is a mandatory condition for sustainable development of the countries of the region. The main tasks in that area are to overcome lack of trust on the part of the population, and to ensure diversified expansion of financial services. The initial period of rapid development and expansion of lending activity spurred by foreign capital inflow and export revenues helped to include a broad range of companies and households in the emerging financial market. However, depositors and investors lack trust in the financial and banking sector. The population prefers “conventional” forms of saving, and distrusts bank deposits. In emergencies, people rely more on assistance offered by family and friends than on bank loans. The population prefers “conventional” forms of saving. Besides, even though banking networks are expanding, their presence in the outlying regions is still limited, and access to them in certain remote areas remains difficult (CAAN, 2017). Low inclusivity of the financial system could contribute to preservation of income inequality, and slow down development of human capital due to limited access to education and healthcare.

Kazakhstan is the region’s leader in financial development (see Figure 31). As of 1 April 2022, there were 22 banks operating in Kazakhstan. The share of five largest banks in total banking sector assets was 64.7%. Uzbekistan trails behind Kazakhstan: as of 1 May 2022, there were 33 banks operating, of which 12 partially state-owned banks accounted for 81% of total banking sector assets. Tajikistan and Kyrgyzstan have similar levels of financial development. In 2021, Tajikistan had 14 banks operating, Kyrgyzstan 23 banks. Turkmenistan is the least financially developed country in Central Asia. In April 2022, it had 9 banks operating, of which 4 were partially owned by the state.

To a large extent, the availability of banking services to the population is characterised by the number of ATMs. In 2020, the number of ATMs per 100,000 adults in Kazakhstan was 95.8 (compared to the global average of 41.2), having increased by a factor of 1.5 over the last ten years. In the other countries of the region, the number of ATMs per 100,000 adults is lower (48.4 in Uzbekistan, 41.8 in Kyrgyzstan, 21.5 in Tajikistan)⁷, but it is increasing at a fast pace. Over the last ten years, the number ATMs per 100,000 adults more than tripled in Tajikistan and Kyrgyzstan, and increased 11-fold in Uzbekistan.

The greatest depth of the banking sector (measured as the ratio of total bank assets to GDP) at the end of 2021 was in Uzbekistan where it was 60.6% of GDP (early 2017: 32.9% of GDP). Banking sector assets increased due to the rapid growth of lending in the country over the last several years. The credit burden of the economy increased from 20.6% of GDP in 2017 to 44.4% of GDP in 2021. Also, domination of state-owned banks results in inferior financial intermediation and limited access to finance (IMF, 2022). The depth of the banking sector in Kazakhstan in 2021 was 46.9% of GDP. Restructuring of the banking sector to improve the quality of its credit portfolio and introduce more stringent macro-prudential supervision rules resulted in a decrease of that indicator relative to 2017 (58% of GDP). In Kyrgyzstan, the depth of the banking sector increased significantly over the last ten years (from 34% of GDP at the beginning of 2010 to 48% as of 1 April 2022) due to the surge in the amount of disbursed loans. In Tajikistan, lending increased at a rate that was lower than the rate of economic growth, resulting in the ratio of bank assets to GDP dropping from 28.0% in 2011 to 22.7% in 2021.

⁷ World Bank ATM Statistics. Data on Turkmenistan are not available.

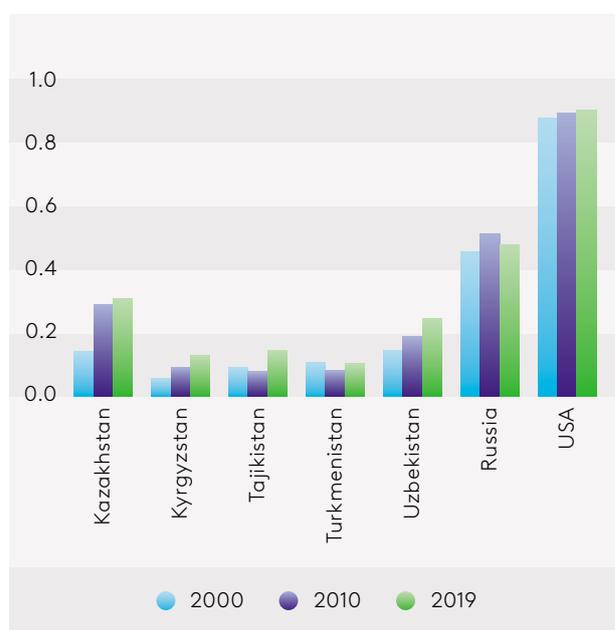
The countries of the region, with the exception of Kazakhstan, are not sufficiently integrated in the global financial system, which restrains the inflow of foreign capital to the Central Asian countries. Creation of a full-fledged regional financial market is still perceived as a long run, but it could facilitate inclusion of the countries of the region in the global financial market. Prerequisites for that are being created even now, including the operation of the Astana International Financial Centre, and reduction of entry barriers to regional and foreign investment.

Further development of the financial sector will help to deepen regional integration and overcome resource dependence. Insufficient supply of banking services limits development of the private sector, especially of small and medium-sized enterprises. Experts note the shortage of trade finance services, credit guarantees, and insurance (Das, 2018). Creation of an extensive financial intermediation network will give an impetus to the development of trading and investment relations not only within the region, but also with neighbouring countries.

In addition to improving availability of banking services, development of the financial sector should also cover non-banking services, including those offered by capital markets, insurance companies, and other non-banking financial institutions, to ensure inclusive growth of the economies of the region (World Bank, 2016). The low demand for saving services in the region makes insurance products even less popular.

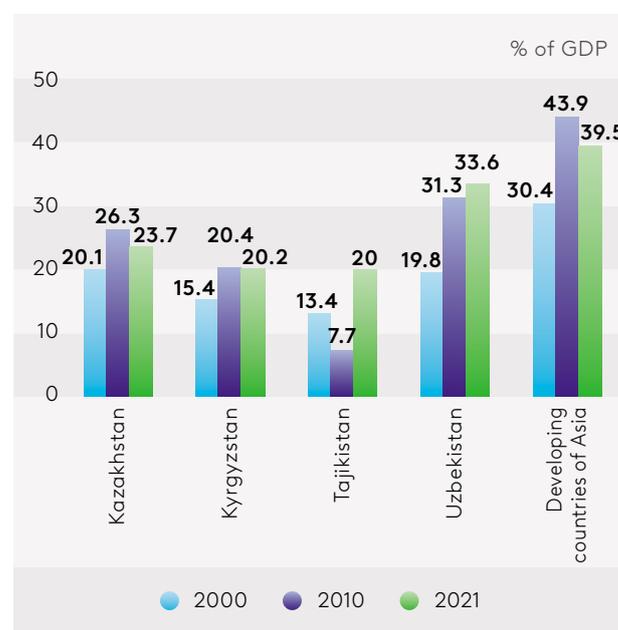
Domestic savings have a large potential for being used to finance development of the economy (see Figure 32) in a situation where FDI in non-commodity sectors of the economy is limited. Attraction of individual savings alongside further development of financial services (banking, exchanges, insurance) will contribute to emergence of reliable sources of economic growth.

↓ Figure 31. Financial Development Index



Source: EDB calculations based on IMF data.

↓ Figure 32. Gross National Savings



Note: private and government savings

Source: IMF

12. WATER AND ENERGY COMPLEX: DEVELOPMENT THROUGH COOPERATION

Current State of the Water and Energy Complex and Investment Projects

Effective development of the water and energy complex in the region is one of the crucial tasks faced by the Central Asian countries. A fresh perspective on the water and energy complex involves recognition of the importance of regional interests in order to improve its operational efficiency. At present, investment projects mostly correspond to the national interests. Most projects are concentrated in the generation segment, leading to a shortage of investment in water management and the power grid.

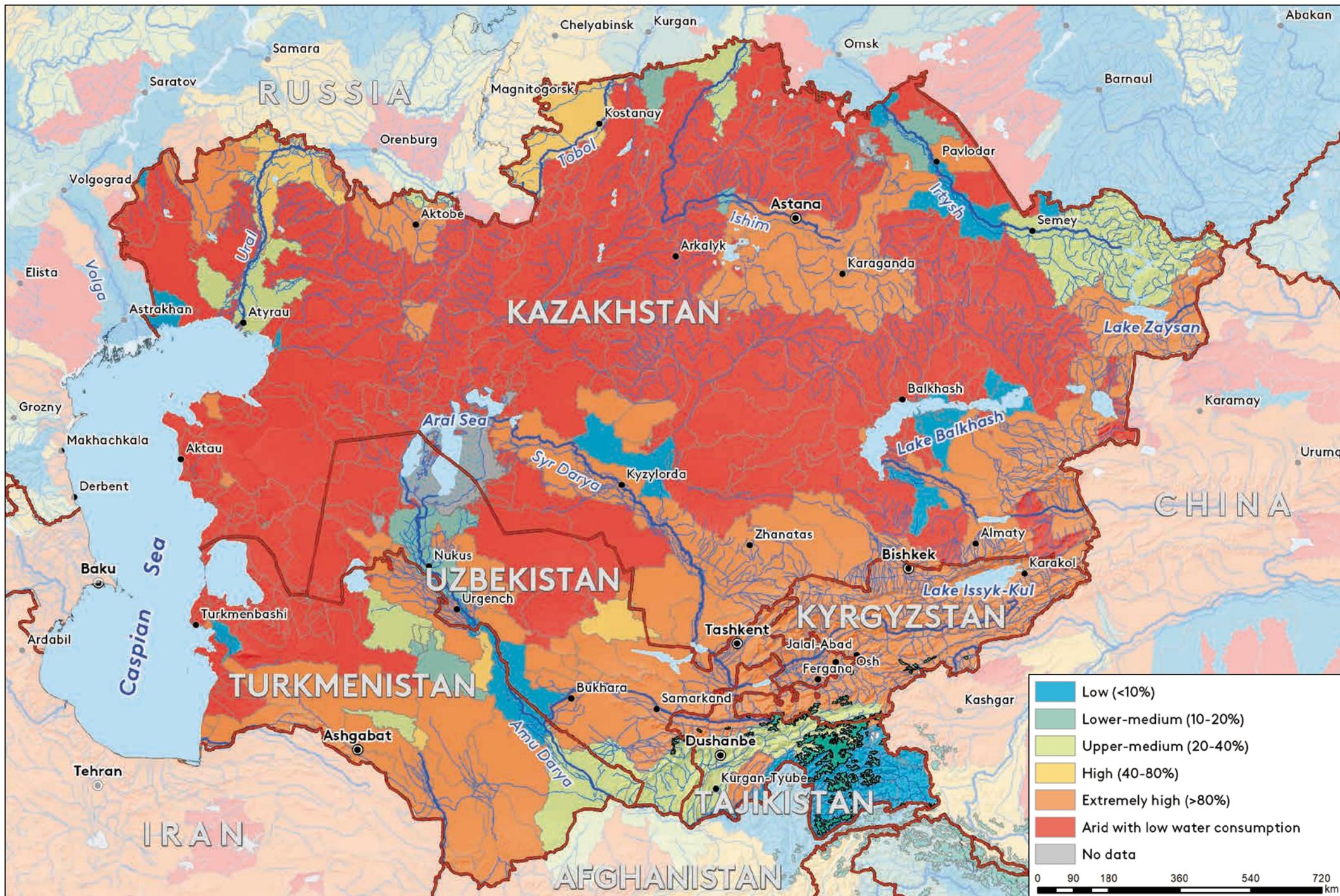
The Central Asian countries suffer from fresh water shortages, and according to the international classification belong to the category of “stressed” countries. The level of water stress (SDG 6.4.2) is high at 81.4%, and by 2040 may grow considerably (see Figure 33). Stronger cooperation in water and energy management could reduce the costs incurred by the economies of the Central Asian countries, and improve their competitiveness.

Water and energy management facilities in the region are closely interconnected. In the Aral Sea basin, they form a single water and energy complex of Central Asia that consists of a system of hydropower installations, water reservoirs, pumping stations, irrigation channels, power plants, power grids, regulatory organisations, etc.

The interconnection among water resources, agriculture, and the power industry in Central Asia is attributable to the natural geographic conditions in the Aral Sea basin. In 2020, 60 million people, or almost 80.7% of the region’s population, lived in that basin, which covers 60% of the total area of Central Asia. All large rivers of the basin, including the Amu Darya and the Syr Darya, link the Central Asian countries and Afghanistan, and have transboundary and inter-state status. The river runoff of the basin (115.1 km³, or 51% of total renewable water resources of Central Asia) is almost entirely formed in the upper reaches (in Kyrgyzstan and Tajikistan) and used downstream (in South Kazakhstan, Turkmenistan, and Uzbekistan).

Uneven allocation of water and fuel/energy resources in the region and the priority status of agricultural uses of water resources predetermine the interdependence of the energy systems of Central Asia. During Soviet times, the water and energy complex of Central Asia was created and developed in a holistic manner, as a critical component of the Central Asian economic district of the Soviet Union. Plans were developed and implemented to ensure efficient management of Central Asian water and fuel/energy resources; those plans provided a special mechanism to offset costs and allocate benefits among the republics of the region. Thus, the bulk of electricity generated by the Naryn HPP Chain (in the Syr Darya basin) and by the Vakhsh HPP Chain (in the Amu Darya basin) during summer irrigation releases was handed over to the neighbouring republics. In exchange, in autumn and winter Kyrgyzstan and Tajikistan received electricity, natural gas, coal, and fuel oil for thermal power plants from the Soviet Union’s reserve of material and technical resources (Vinokurov, 2008). The Central Asia Power System (CAPS) was an essential element of that mechanism, supporting all critical cross-flows among national power systems. Long-term planning of

↓ Figure 33. Water Stress in Central Asia in 2040



Source: EDB based on WRI Aqueduct 3.0.

CAPS regimes took into consideration the structure of generating capacities in each power system, and sought to minimise fuel consumption and power losses in the system's networks as the key HPPs operated in the irrigation regime.

After the dissolution of the USSR, the operating regime of the region's water and energy complex was disrupted. Because of the shortage of domestic energy resources, the countries which heavily relied on hydropower generation began to release more water from reservoirs during the winter to cover seasonal electricity demand peaks. That resulted in a breach of HPP operating rules and nominal HPP water and energy regimes, loss of long-term storage capacity of reservoirs, and increasingly critical shortage of irrigation water even during wet years. Other consequences included a spike in the number of power system incidents and declining reliability of power supply in the region. The current situation in the water and energy complex of Central Asia is characterised by insufficient cooperation and substantial economic losses. According to expert estimates, annual economic damage and unrealised economic benefits may be as high as \$4.5 billion (adelphi and CAREC, 2017), which corresponds to 1.5% of the region's GDP. Losses in agriculture are estimated at 0.6% of Central Asia's GDP, and in the energy complex at 0.9% of Central Asia's GDP.

Over the last three decades, each Central Asian country focused on achievement of national energy security. They actively built new and modernised existing generating capacity, enabling satisfaction of their increasing needs by domestic generation. In fact, the Central Asian countries managed to achieve self-sufficiency of their energy systems. As a result, the aggregate generation capacity of Central Asian countries increased from 42.2 GW in 1992 to 53.8 GW in 2020 (Vinokurov, Ahunbaev, Usmanov, et al., 2021).

During the same period, investment in the region's water sector was extremely limited, and the Central Asian countries in the Aral Sea basin were distinct in that their social and economic development proceeded in the context of depletion of water resources. According to the international classification, in terms of availability of water resources they fall under the "stressed" category (1,405 m³ per person per year, with the threshold value being 1,700 m³ per person per year). Due to the shortage of investment, the water sector began to experience numerous problems. Water infrastructure – both for the public water supply and for irrigation – have exhausted their service lives and require upgrade and modernisation. The poor state of repair of the irrigation infrastructure (wear and tear: 70%) leads to substantial loss of water, causing waterlogging and salinization of irrigated lands (60% of irrigated lands have various degrees of salinity).

Inasmuch as the Central Asia water and energy complex has poor investment appeal, and profitability of related projects is too low from the viewpoint of private capitalists and foreign investors, multilateral development banks (MDBs) have been an important source of financial resources required to implement state-initiated complex development projects. According to EDB estimates, at the end of 2021 there were 104 ongoing MDB-financed projects, with a total value of \$10.2 billion. The EBRD topped the list of funding providers with a portfolio of \$3.3 billion, or 32.7% of total MDB financing in Central Asia. It was followed by the World Bank (\$3.0 billion, or 29.6%) and the ADB (\$2.6 billion, or 26.2%). The combined EDB, EFSD, EIB, and AIIB portfolio stood at USD 1.2 billion (11.5%). The MDBs have continued to finance the Central Asian water and energy complex, despite the global drive to minimise the effects of the COVID-19 pandemic. In 2020, the MDBs approved financing of 24 Central Asian water and energy projects for a total of \$1.8 billion.

Many MDB-financed projects were implemented within the framework of regional initiatives, for example, CAREC Energy Strategy 2030 (ADB) and Central Asia Water and Energy Programme (CAWEP), including the CASA-1000 investment project (World Bank). There are also several ongoing projects initiated by international development agencies, including the GIZ programme Transboundary Water Management in Central Asia (German Federal

Foreign Office), and the USAID project Transboundary Water Management Adaptation in the Amu Darya Basin to Climate Change Uncertainties. Those initiatives are designed to resolve environmental problems, promote technologies for integrated management of water resources, implement and improve “green” power engineering solutions by sharing best practices and technologies, provide assistance in the operation of energy and water supply systems and effective management of water and land resources, and enhance reclamation, irrigation, and drainage systems.

An in-depth review of high-potential investment projects for the water and energy complex of Central Asia by EDB experts (Vinokurov, Ahunbaev, Usmanov, et al., 2021) shows that the portfolio structure is far from optimal because of the lack of coordination in water and energy complex development. In most cases, investment projects seek to satisfy the needs of the national economies, without giving due regard to regional interests.

The portfolio’s sectoral structure is dominated by energy projects. Total identified investment proposals in that segment of the Central Asia water and energy complex are currently estimated at \$52.8 billion, with the generation segment and the power grid accounting for \$45.4 billion (86.0%) and \$7.4 billion (14.0%), respectively. The primary goals of the projects are to ensure energy supply security by diversifying energy sources and building up generating capacities that are traditional for each country, as well as to expand into new electricity markets, and reinforce internal power industry ties.

Despite the depletion of water resources, all countries of the region intend to further increase the use of water resources for irrigation and hydropower generation purposes, as evidenced by their national strategies and programmes. The planned and projected investment needs of the region’s water sector in 2021–2030 will amount to about \$9.7 billion. The bulk of planned water sector investment will go to the two countries situated in the lower reaches of the transboundary rivers of the Aral Sea basin — Kazakhstan (49.3%) and Uzbekistan (26.2%). They are facing relatively more severe water availability challenges than the others. Ongoing projects are frequently implemented within state programmes and funded with budget allocations.

Development of “Green” Energy

Because of climate change and declining river runoff in Central Asia, implementation of alternative sources of energy is becoming a critical component of development of the energy sector. Virtually all countries have designed policy measures and laws to promote renewable energy sources (RES). Accordingly, increasing the share of RES in the energy mix of the Central Asian countries can become one of the most promising areas of development of the energy sector in the region.

In the mountainous areas of Kyrgyzstan and Tajikistan, as well as in the remote steppes of Kazakhstan and deserts of Turkmenistan, the orographic features and the natural potential make RES utilisation more viable. In those areas, development of distributed power generation, including various RES (small HPPs, solar, wind, geothermal power) can be more reasonable from the technological and economic point of view — as compared to construction of power lines from large power plants to remote consumption points.

The potential of small HPPs in Central Asia is distributed unevenly, and varies to a large extent. Arid and semiarid plains that occupy extensive areas in Kazakhstan, Uzbekistan, and Turkmenistan have minimal or even no hydropower potential. On the other hand, the mountainous areas in the east and southeast of Central Asia (in Kyrgyzstan, Tajikistan and, partially, Kazakhstan) have substantial hydropower potential. Those territories have ample

water thanks to copious rains and snowfalls. Most resources are concentrated in Tajikistan, with 30 GW out of 39.9 GW of total potential capacity in the region.

A significant RES potential is concentrated in the solar and wind power segments. Thus, the aggregate “solar” potential of Central Asia is estimated as “high” at 5,470 GW (see Table 9). This exceeds the average values recorded in European and Asian continental territories, but is lower than in tropical and subtropical deserts to the south. Out of the total potential, 3,760 GW is concentrated in Kazakhstan. The aggregate “wind” potential is estimated as “moderate” at 369.1 GW, with higher values along the mountain ranges in southern Kazakhstan and the open steppes to the east of the Caspian Sea, which explains the dominant share of that country in the total (354 GW in Kazakhstan alone).

↓ Table 9. RES Potential in Central Asia

	Small HPPs		Solar		Wind	Geothermal	Bio
	MW	MW	TW/h	MW	TW/h	TW/h	MW
Kazakhstan	4,800 (<35 MW) 2,707 (<10 MW)	3,760,000	6,684	354,000	11,388	54,000	300
Kyrgyzstan	900 (<30 MW) 275 (<10 MW)	267,000	537	1,500	256	171	200
Tajikistan	30,000 (<30 MW)	195,000	410	2,000	146	45	300
Turkmenistan	1,300	655,000	1,484	10,000	1,992	N/A	N/A
Uzbekistan	1,180 (<10 MW)	593,000	1,195	1,600	1,685	2	800
Total	39,862	5,470,000	10,310	369,100	15,467	54,218	1,600

Note: Small HPPs are defined as plants with a capacity of <10 MW and <35 MW.

Source: Laldjebaev, Isaev, Saukhimov, 2021.

To realise the RES potential, in the future it will be necessary to incorporate RES facilities in the power systems of Central Asian countries. Special solutions will be required to implement automated frequency regulation, enhance gas transportation systems in order to accelerate load buildup at thermal power plants, build new manoeuvrable hydropower plants and pumped-storage plants, and increase throughput capacity of power grids.

With time, development of nuclear power may become one of the alternatives for Central Asia. A review of nuclear power plant (NPP) construction projects is currently nearing completion in Kazakhstan and Uzbekistan. Kyrgyzstan is considering construction of small nuclear power plants.

According to preliminary calculations, to cover the possible shortage of base capacity in Kazakhstan, it may be necessary to build an NPP that will have at least two units with a capacity ranging from 1,000 MW to 1,400 MW, and construction costs may range from \$6 billion to \$12 billion (Trofimova and Batyrshin, 2022). According to the priority action plan for the construction of the NPP approved by the Prime Minister of the Republic of Kazakhstan in 2014, two potential sites were selected: in the south in the settlement of Ulken near Balkhash, and in the north near the city of Kurchatov (former Semipalatinsk Testing Grounds). In 2019, a shortlist was approved, including technical and commercial proposals submitted by six key manufacturers from China, Korea, Russia, the USA, and France. The plant is scheduled to go live in 2035.

In September 2018, an intergovernmental NPP construction agreement between Russia and Uzbekistan was signed in Uzbekistan (Lillis, 2022). The \$11 billion project envisages construction near the shores of Lake Tuzkan in Jizzakh Region of two Gen 3+ power units with VVER-1200 water-cooled and water-moderated reactors with a total capacity of 2,400 MW. Construction is expected to commence in 2022, and the plant is scheduled to go live in 2030.

In January 2022, Kyrgyzstan signed a memorandum of cooperation with the Rosatom state corporation for the construction of small nuclear power plants (Forbes Kazakhstan, 2022). In the memorandum, the parties expressed their interest in building a small nuclear power plant in the Kyrgyz Republic on the basis of an RITM-200N reactor plant.

Integration Proposals

For Central Asia, integration processes for joint management of the water resources of transboundary rivers and power facilities has always been, and remains, a critical factor affecting virtually all aspects of regional development. Accordingly:

- The increasing shortage of water in transboundary river basins in Central Asia gives rise to the need to strengthen the water infrastructure, implement water-saving technologies, rationalise water use in all sectors of the economy, primarily agriculture, and attract substantial long-term investment.
- To deal with water use challenges, it will be necessary to find new cooperation mechanisms and tools to be used in transboundary river basins (Vinokurov et al., 2022). It is necessary to develop political and legal measures for regulation of water and energy relations that will be consistent with the interests of all stakeholders.
- One of the most important tasks faced by the Central Asian energy sector is to implement an integrated approach to using the existing fuel and energy potential. Its optimal realisation in a way that is consistent with the interests of all countries of the region can and must rely on stronger intergovernmental cooperation.
- It is necessary to identify new approaches to shaping and steering a competitive regional electricity market on the basis of cutting-edge technological (including digital) solutions. They should satisfy the region's electricity and water needs using the most economic and environmentally sound methods, and contribute to convergence of approaches to pricing and tariffs. From the regulatory point of view, a competitive market can be created in Central Asia in accordance with the principles adopted by the Common EAEU Electricity Market.
- Accession of Uzbekistan to the Eurasian structures (EAEU, EDB, EFSD), and of Tajikistan to the EAEU, would significantly facilitate resolution of the key challenges faced by the Central Asia water and energy complex. Effective integrated management of water resources across Central Asia and expansion of the Common EAEU Electricity Market require a comprehensive regional solution that will involve all the Central Asian countries.

13. TRANSPORT CONNECTIVITY: BASIS FOR DIVERSIFICATION OF EXPORTS

The Transport Sector in the Region

For Central Asia, transport is the key that opens closed doors and grants access to international markets. The fresh perspective on transport in Central Asia is that transport corridors and routes traversing the region from north to south and from west to east give it a unique chance to re-emerge as a transit crossroads supporting the Eurasian transport network.

It should be noted, however, that access of the countries of the region to global markets is subject to road and railway transit across the neighbouring countries. The distance to the nearest seaports ranges from 1,500–1,700 km (if cargoes are carried by road to the ports of Karachi in Pakistan and Bandar Abbas in Iran) to 3,500–6,600 km (if cargoes are carried by railway to the seaports of the Baltic Sea, the Azov Sea, the Black Sea, or the Far East of Russia) (see Table 10).

↓ Table 10. Distances from Central Asian Countries to Seaports in Transit Countries by Road and Railway

CA Countries	Main Seaports in Transit Countries	Distance to the Sea (km) (Road / Railway)
Kazakhstan	Shanghai (CHN); Hamburg (DEU); Saint Petersburg (RUS); Vladivostok (RUS)	4,700–5,200
Kyrgyzstan	Shanghai (CHN); Hamburg (DEU); Saint Petersburg (RUS); Vladivostok (RUS)	4,900–5,000
Tajikistan	Bandar Abbas (IRN); Karachi (PAK); Shanghai (CHN); Hamburg (DEU); Saint Petersburg (RUS); Vladivostok (RUS)	1,500–3,770
Turkmenistan	Poti (GEO); Bandar Abbas (IRN); Shanghai (CHN); Hamburg (DEU); Saint Petersburg (RUS); Vladivostok (RUS)	1,700–4,500
Uzbekistan	Poti (GEO); Bandar Abbas (IRN); Lianyungang (CHN); Hamburg (DEU); Saint Petersburg (RUS); Vladivostok (RUS)	2,700–6,600

Source: UNESCAP, 2022.

High transport costs due to large distances that may be as high as 60% of the value of imported goods (UNCTAD, 2021), limited access to international markets, and weak transport connectivity within the region are factors inhibiting steady social and economic development of the region. The landlocked Central Asian countries experience weaker growth than countries that have access to the sea (being landlocked reduces the average growth rate by about 1.5 pp) (Arvis et al., 2010).

According to the UNESCAP transport connectivity index (UNESCAP, 2019), all Central Asian countries still lag behind developed countries (with Singapore used as the benchmark). Their logistics performance indices (LPI) are also below par. In 2018, Kazakhstan held the best position in the region (No. 77 in a ranking of 160 countries). It was followed by Uzbekistan (No. 117), Kyrgyzstan (No. 132), Turkmenistan (No. 142), and Tajikistan (No. 147).

Development of transport in Central Asia has been associated with three historical challenges. The first is the infrastructural fragmentation related to the structure of the transport network of the USSR, which developed without considering the administrative borders between the Union republics, and the virtual absence of road or railway access to the neighbouring countries in the south (Afghanistan, Iran). After the dissolution of the USSR, and of its shared transport system, there emerged a “patchwork quilt” (Kulipanova, 2012) of railway and motorway branches, in particular, in Kyrgyzstan and Tajikistan.

The second challenge is the landscape. The mountain terrain in the east of the region constrained development of motorways and railways, forcing construction of circuitous routes or routes using dangerous mountain passes. Large distances between cities and the vastness of sparsely populated deserts and steppes also contributed to the low density of the transport network.

The third challenge is the shortage of funding required to finance development of transport infrastructure that emerged after Central Asian countries had regained their sovereignty (Libman and Vinokurov, 2011).

For those reasons, road transport became the key mode of transport in most Central Asian countries. However, development of international road transport in the region also encountered numerous barriers that increased logistics costs and time expenditures, and complicated expansion of trade, as certified by various international research projects, such as NELTI (NEA, 2009).

Despite those difficulties, over the last two decades, the region achieved significant progress in the construction and modernisation of its transport infrastructure facilities, including those incorporated in the Asian Highway Network (AH) and the Trans-Asian Railway. There was a substantial increase in the volume of passenger and freight transport, and an improvement in transport accessibility to the population. One indicator of improvement of infrastructure quality is the length of the region’s paved roads, which over the last 20 years increased by 24,500 km (see Table 11). The most progress was achieved in Turkmenistan and Uzbekistan, which initiated a series of large-scale road construction projects.

Dynamic development of the motorway network improves the transport and trade connectivity of Central Asia (see Box 3).

↓ Table 11. Length of Public Paved Roads in Central Asia, 2000–2021, thousand km*

Country	2000	2010	2021	2021 vs. 2000 Increase, %
Republic of Kazakhstan	83.2	86.0	84.8	101.9
Kyrgyz Republic	32.0	33.0	34.0	106.3
Republic of Tajikistan	27.0	29.0	30.0	111.1
Turkmenistan	47.5	51.0	55.4	116.6
Republic of Uzbekistan	75.5	79.0	85.5	113.2
Central Asia Total	265.2	278.0	289.7	109.2

* — including road networks in cities and municipalities.

Sources: compiled by EDB experts based on statistics published by the International Road Federation (IRF) and national statistical agencies.

An important indicator of the quality and accessibility of transport systems of the Central Asian countries is population mobility, which testifies to availability of public transport (excluding personal motor vehicles and non-motorised vehicles).

Box 3. Central Asian Road Projects

The key motorway projects in Kazakhstan are the construction of the Beyneu–Shalkar–Yrgyz section of the TRACECA corridor (648 km, 2025–2028) and the Aktobe–Uralsk–Samara motorway (523 km, 2025–2030). The new Europe–Western China international route, which passes through Kazakhstan, became Central Asia’s first high-speed highway linking China and Russia that meets all international standards.

The main projects completed or ongoing in Kyrgyzstan are: construction of an alternative north–south highway, reconstruction of the roads Bishkek–Osh, Tyup–Kegen, Bishkek–Naryn–Torugart, Kochkor–Aral, and Osh–Batken–Isfana–Khujand. Construction of the Balykchy–Karakol international motorways is still under way.

In Tajikistan, over the last 30 years, total investment in development of the road network exceeded \$1.8 billion. The following transport facilities were upgraded: more than 2,100 km of international motorways and 1,000 km of internal motorways, 31 km of tunnels, and 240 bridges. The following motorways were built and upgraded: Kulob–Khorog–Kulma–Karakoram (Shohon–Zigar and Shkev–Zigar), Dushanbe–Kurgan–Tyube–Kulob, Dushanbe–Chanak, Vahdat–Chirgatal–Saritosh (border with the Kyrgyz Republic), Dushanbe–Tursunzoda (border with Uzbekistan), Ayni–Panjakent (border with Uzbekistan), Vose–Khovaling, Khujand–Isfara. New tunnels were opened: Ozodi, Istiklol, Shakhristan, and Chormaghzak.

A motorway network with a total length of 13,700 km is being built and upgraded in Turkmenistan. 118 bridges were put in operation ([Turkmen State Publishing Service, 2016](#)). Construction works are under way along the Turkmenbashi–Ashgabat motorway (564 km). In 2019, construction was announced of a 600-km section of the Ashgabat–Turkmenabat–border with Uzbekistan highway included in the AH network; completion of works is scheduled for 2030. There is a plan to build a high-speed highway from Turkmenbashi to Garabogaz to the border with Kazakhstan, with a bridge across the Kara-Bogaz-Gol lagoon (298 km, including 225 km in Turkmenistan), which will become part of the Eastern Motorway Route of the INSTC.

Major projects completed in Uzbekistan include the following: upgrade of the 77-km Qarshi–Kitab section of the A380 and M39 highways; expansion of the 75-km section of the CAREC-2 corridor between the cities of Pungan and Manangan, etc. Uzbekistan is considering reconstruction and expansion of the 920-km highway leading from Uzbekistan to China through Kyrgyzstan (Andijan–Irkeshtam–Kashgar). The road has been used for freight transport since February 2018, and is critically important for all of Central Asia.

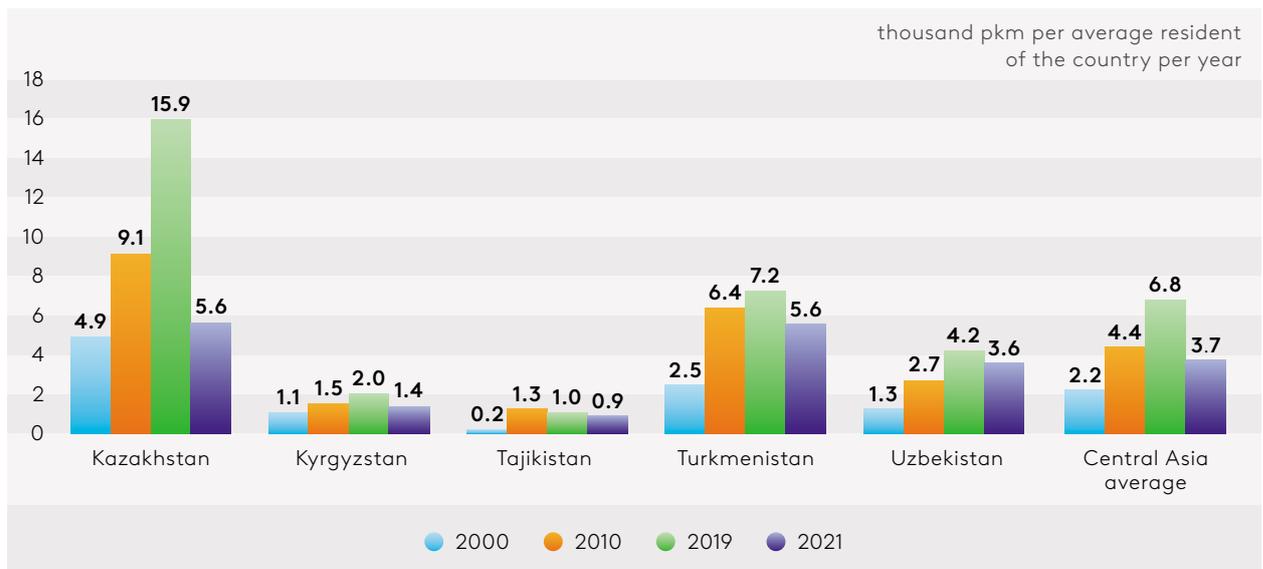
In 2000–2019, mobility of the population in the region more than tripled from 2,198 pkm/person to 6,792 pkm/person, but the COVID-19 pandemic broke that trend, temporarily reducing the number of trips. The highest mobility is in Kazakhstan, where people move more frequently and for longer distances. However, the impact of the pandemic on personal mobility in Kazakhstan was more substantial than in the other Central Asian countries (see [Figure 34](#)).

One of the pressing transport-related challenges faced by Central Asia is the weak development of passenger traffic routes between the countries of the region. According

to a review of Eurasian bus services conducted by the International Road Transport Union (IRU, 2016), there are no direct international bus routes between most countries of the region, and in a number of cases passengers have to change buses at the border. A similar problem exists in the air transport sector. According to the Interstate Aviation Committee (IAC, 2022), the absence of direct flights between the capitals of some Central Asian countries means that the only option is to use connecting flights through Istanbul.

In the 21st century, all the Central Asian countries attribute strategic importance to development of their railways. In the past, the volume of railway freight transport within the region was rather modest. Now new railway routes and container services are being established to ensure more effective integration in global supply chains (see Box 4).

↓ Figure 34. Individual Mobility in Central Asian Countries



Sources: compiled by EDB experts based on statistics published by the World Bank and national statistical agencies.

Box 4. Central Asia Railway Projects

In Kazakhstan, the laying of secondary main tracks is under way at the Dostyk–Moyunty section (836 km, 2022–2025), and the Darbaza–Maktaaral railway line (106 km, 2024–2025); in addition, there is an ongoing project to build a bypass railway around Almaty (73 km, 2023–2024). There are plans to upgrade the rolling stock, among other things, by manufacturing containers at a domestic facility.

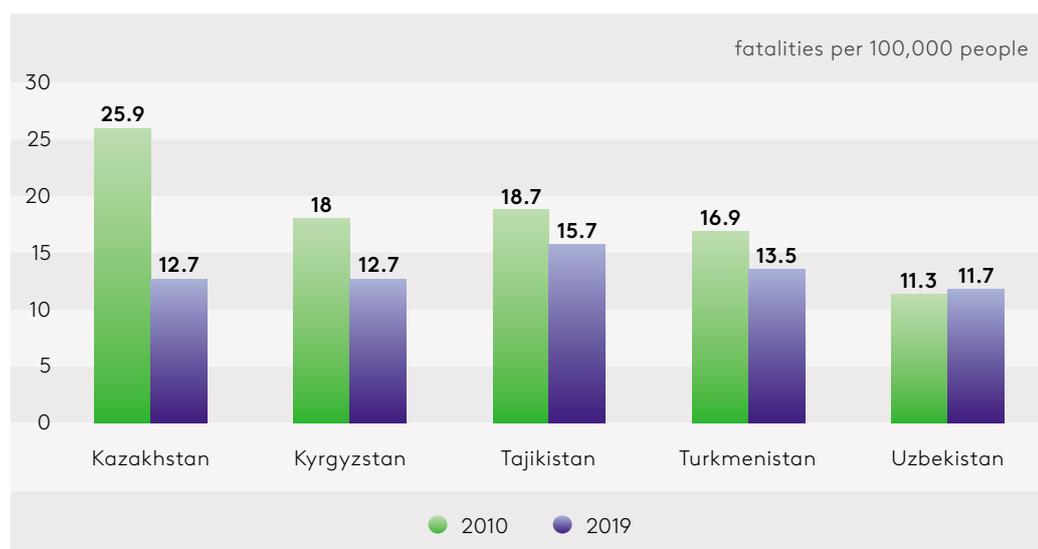
The isolated northern and southern sections of the railway network of Kyrgyzstan are to be joined to eliminate fragmentation. Negotiations on the China–Kyrgyzstan–Uzbekistan railway construction project are nearing completion; the railway will strengthen Kyrgyzstan’s transit role and increase transit revenues.

The Dushanbe–Kurgan-Tyuberailway (3 tunnels, 8 bridges) was put in operation in Tajikistan in 2016. However, the northern section of the railway can be joined to its central and southern sections only through Uzbekistan. The Trans-Afghan Corridor is an important large-scale project; the corridor will connect Tajikistan, Afghanistan, and Turkmenistan, and provide Tajikistan with an alternative route to Iran, Turkey, and the countries of the South Caucasus.

Turkmenistan has completed a series of important projects designed to expand its 5,188-km railway network. Construction of a 700-km branch between Serkhetyaka at the border with Kazakhstan and Ak-Yayla at the border with the Islamic Republic of Iran was completed in 2014. The 85-km section between Kerki (previously known as Atamyra) and Ymam Nazar at the border with Afghanistan was put in operation in 2016. The 13-km railway between Serhetabat (Turkmenistan) and Torghundi (Afghanistan) was completely overhauled in 2017. Plans for the future include electrification of the main trunk section with a total length of 2,000 km.

The total length of Uzbekistan’s railways is 6,950 km, of which 1,200 km are new lines built since independence. Projects already completed include: Navoiy–Uchquduq–Sulton–Uvays–Tog–Nukus line (700 km); railway bridge across the Amu Darya (861 m); Tashguzar–Boysun–Kumkurgon line (223 km). In addition, more than 3,800 km of railways were modernised and upgraded, and almost 1,100 km were electrified (UNESCAP, 2022). The latest projects include electrification of a new 124-km Pop–Angren railway line linking three regions in the Fergana Valley with the rest of the country, bypassing Tajikistan. In 2021–2022, the AIIB and the ADB allocated \$162 million and \$108 million, respectively, to finance electrification of the 465-km Bukhara–Urgench–Khiva railway line included in the CAREC-2 corridor. Expansion of the railway network enabled domestic traffic without transit through the bordering regions of Tajikistan and Turkmenistan. Uzbekistan is considering participation in the construction of the Mazar-i-Sharif–Herat railway (Trans-Afghan Corridor). Implementation of that project will make it possible to create access through Afghanistan to the seaports in Iran (Chabahar) and Pakistan (Chaman).

Considerable progress was made in improving the safety of road traffic. Over the last ten years, the number of road accidents decreased in all countries of the region, with the exception of Uzbekistan (see Figure 35). Road fatalities in Kazakhstan fell by half. That success was achieved, among other things, because the governments of the countries of the region complied with UN recommendations under the Global Plan for a Decade of Action for Road Safety (2011–2020).



← Figure 35. Road Safety in Central Asian Countries

Sources: UNECE, WHO.

Priority Areas with Transport and Logistics Potential

Increasing passenger and freight traffic, including container transit; ensuring sustainable “green” mobility; and reducing transport costs — those are the priorities for both national strategies and bilateral/multilateral cooperation among the countries of the region. The focus of their efforts should be on development of international transport corridors (ITCs) and creation of alternative routes that will make it possible for all Central Asian countries to diversify their opportunities. Kazakhstan is the most active participant in all ongoing international programmes and initiatives designed to enhance East–West and North–South transport potential. Its objective is to obtain the status of a Eurasian transport and logistics centre. Priorities for Kazakhstan’s transport and transit potential are described in Strategy-2050 (adopted in 2012), and in the Nurlı Zhol State Infrastructural Development Programme for 2020–2025 (approved in 2019). Kazakhstan is considering creation of a “container hub” at the ports of Aktau and Kuryk (KZT 10.4 billion, 2022–2025), and acquisition of new sea-going vessels (KZT 80 billion, 2023–2025).

Of all the key transport routes actively used by Kazakhstan, the most important are China–Europe and China–Turkmenistan–Iran (Eastern INSTC Route). Special attention is paid to the development of the Trans-Caspian International Transport Route (TITR), which supports container transit from China through the Caspian Sea ports to Azerbaijan, Georgia, and then on to Turkey and European countries.

Cooperation between Kazakhstan and Uzbekistan is ascending to a new level. Work is under way to create the Turkmenistan–Shymkent–Tashkent high-speed railway and the Darbaza–Maktaaral–Jizzakh railway, and to upgrade border crossing points. The countries have agreed to commence construction of the Kyzylorda–Uchquduq motorway and railway in 2025. The ADB is financing creation of the Shymkent–Tashkent–Khujand economic corridor to simplify trade and freight traffic among Kazakhstan, Uzbekistan, and Tajikistan (ADB, 2021). Kazakhstan is interested in Uzbekistan’s participation in expanding the TITR route and the North–South corridor, which will make it possible to increase freight traffic to the markets of South Asia through Turkmenistan and Iranian ports.

Kyrgyzstan is implementing its National Programme of Social and Economic Development for 2018–2040, designed to assure mobility of the population and lead the country out of the transport dead-end.

Development priorities for the transport sector of Tajikistan are set forth in the National Programme of Social and Economic Development until 2030. Given its geographic features, Tajikistan is trying to overcome its territorial isolation and to diversify, to the extent possible, routes linking the country to external markets.

Development priorities of the transport sector of Turkmenistan are listed in the National Programme of Social and Economic Development for 2019–2025. Turkmenistan is solving the task of turning the country into a transport and communication centre along the East–West and North–South routes. Implementation of large-scale projects is under way to modernise existing and build new motorways and railways, to upgrade and expand air and maritime transport infrastructure. Turkmenistan was the initiator, in 2014–2021, of five UN General Assembly resolutions on sustainable transport. In November 2016, Ashgabat hosted the First UN Global Sustainable Transport Conference which defined transport development and sustainable mobility priorities until 2030. The country implemented a number of very ambitious infrastructure projects, including the construction of the Turkmenbashi International Seaport on the Caspian Sea (opened in 2018) and the new Ashgabat International Airport (opened in 2016), which, along with the Almaty Airport, is one of the most technically advanced airports in Central Asia, with its all-weather ICAO Cat IIIb runway.

The Strategy of Development of the Transport System of the Republic of Uzbekistan until 2035 pays special attention to ensuring transport connectivity of the country's regions and establishing transport corridors that will provide Uzbekistan's cargoes with access to third-country seaports, and connections to China, Russia, Afghanistan, Iran, Turkmenistan, Turkey, and India.

International trade and transport connectivity programmes and initiatives (see Table 12) play an important, occasionally systemically important role in the development of transport, trade, and economic cooperation in Central Asia. Those programmes include the following:

- CAREC, which supports development of six regional transport corridors, with total investment in transport systems and trade/transport connectivity exceeding \$31.5 billion;
- Special Programme for the Economies of Central Asia (SPECA), a UN programme launched in the late 1990s at the initiative of Kazakhstan with the participation of UNECE and UNESCAP;
- Transport Corridor Europe–Caucasus–Asia (TRACECA), which started off as a UN programme, but later received the status of a full-fledged international intergovernmental organisation comprising 14 states, including all the Central Asian countries;
- The Belt and Road Initiative, a large-scale transport, trade, and economic connectivity project implemented by China;
- projects financed by India, Japan (JICA), Germany (GIZ), the USA (USAID), and other countries.

↓ Table 12. Key International Investment Initiatives in the Central Asia Transport Sector

Project Name	Investments, \$ billions	Countries or Continents
Belt and Road Initiative (BRI)	900–8,000*	Europe, Asia, Africa
Central Asia Regional Economic Cooperation (CAREC)	31.5**	Afghanistan, Azerbaijan, People's Republic of China, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, Turkmenistan, Uzbekistan
Transport Corridor Europe–Caucasus–Asia (TRACECA)	0.16**	Armenia, Azerbaijan, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, Iran, Republic of Moldova, Romania, Turkey, Ukraine, Uzbekistan, Tajikistan, Turkmenistan, EU member states
Trans-Asian Railway (TAR), UNESCAP network	75.6*	Afghanistan, Armenia, Azerbaijan, Bangladesh, Belarus, Bhutan, Brunei, Cambodia, China, India, Indonesia, Iran, Kazakhstan, Laos, Mongolia, Nepal, Pakistan, South Korea, Russia, Sri Lanka, Tajikistan, Thailand, Turkey, Turkmenistan, Uzbekistan, Vietnam

Note: * — planned for investment; ** — already invested.

Source: UNESCAP, 2019.

Prospects for a Eurasian Transport Network

Central Asia lies at the intersection of the key land transport arteries which historically served as the bridge between East and West, North and South, and which currently form the foundation of the Eurasian transport network (see [Figure 36](#)).

The corridors along the East–West axis have already attracted significant transit container traffic. In 2014–2021, the number of transit container trains from China to Europe increased from 308 to 15,150, i.e., by a factor of more than 50. The total number of containers transported between China and Europe in 2021 along the Trans-Eurasian Corridor (China–Kazakhstan–Russia–Belarus–EU) and the Trans-Caspian International Transport Route (TITR) amounted to 693k TEU and 25.3k TEU, respectively.

The speed of container trains moving through Kazakhstan exceeded 1,100 km per day, with the number of regular container services increasing, their geography and the range of transported freight expanding. Freight traffic is growing in both directions — from China to Europe and from Europe to China. According to EDB estimates, in the future the aggregate railway container traffic along the China–EAEU–EU axis may reach 2 million TEU per year ([Vinokurov et al., 2018](#)).

Over the last several years, the active interaction among the countries of the region on the one hand, and India, Iran, and Afghanistan on the other, as well as the increasingly intensive involvement of Azerbaijan, Kazakhstan, Turkmenistan, and other countries that lie along the INSTC in the expansion of transit and multimodal corridors in the Caspian region, have been the key factors driving the importance of transport routes along the North–South axis.

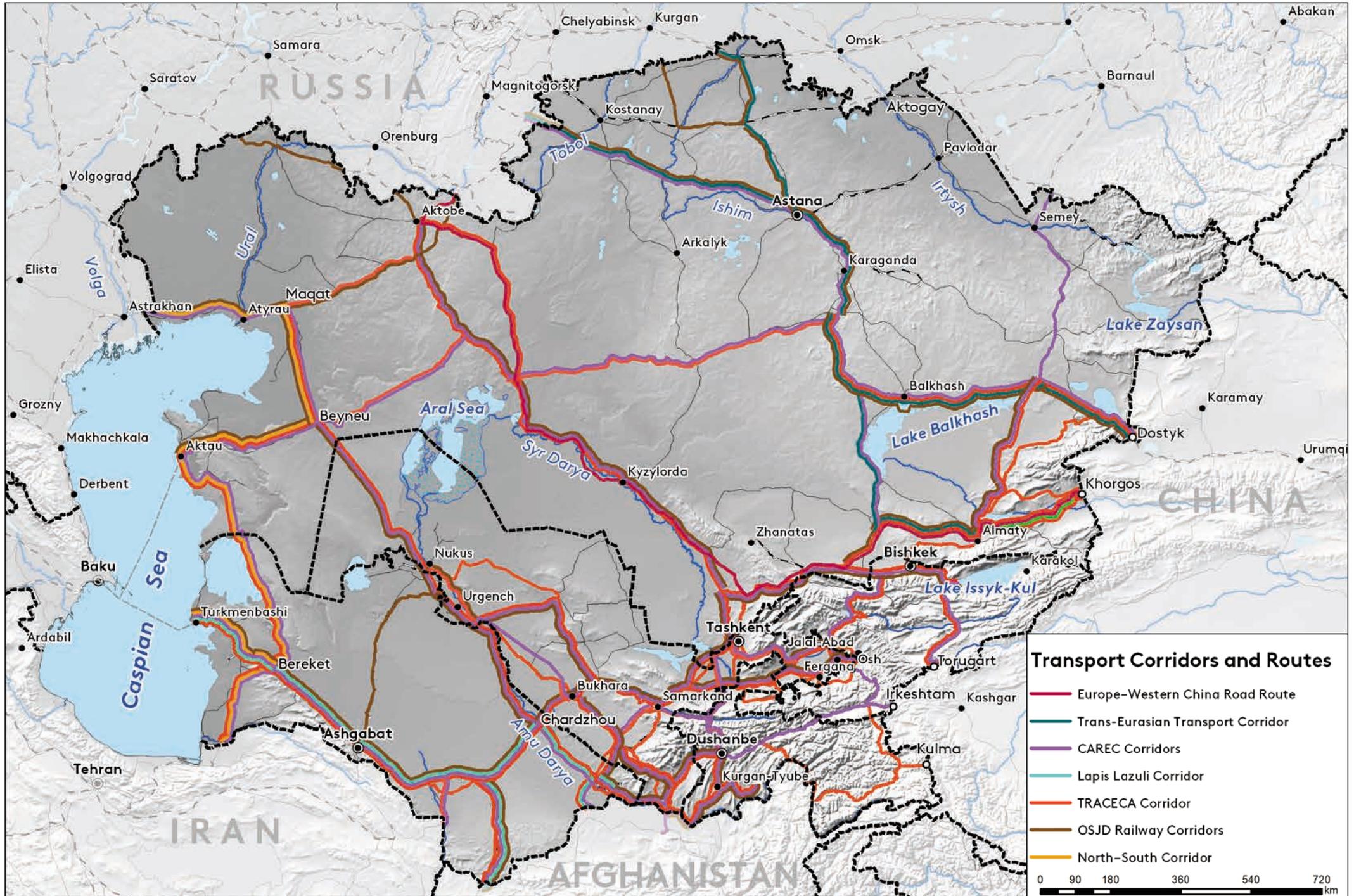
Expansion of INSTC container freight traffic is of considerable interest to the Central Asian countries, as it can support freight traffic ranging from 245k TEU to 500k TEU (from 4.4 Mt to 9 Mt) by 2030 ([Vinokurov, Ahunbaev, Shashkenov, et al., 2021](#)).

The Eurasian transport network is unique in that it enables an interlinking of the international transport corridors traversing Central Asia, offering multiple logistical options to the countries of the region. In particular, the INSTC is connected to the Northern Corridor, the Europe–Western China (EWC) international transport corridor, the TRACECA transport corridor, the TITR, the Lapis Lazuli corridor, etc. That creates opportunities for making ample use of the advantages and benefits offered by the logistical and transit crossroads ([Vinokurov, Ahunbaev, Zabojev, 2022](#)).

Concurrently with the development of their transport infrastructure, the countries of the region should strive to streamline “soft” (non-physical) infrastructure — to harmonise transport regulations and simplify border crossing procedures (e.g., with respect to customs transit and border control).

Digitisation of transport and logistical processes remains important for ensuring the “seamlessness” of transport operations. Digitisation involves introduction of CMR, SMGS, and CIM/SMGS electronic waybills, and eTIR carnets, creation of a digital global transit network on the basis of the Global Transit Document (GTrD), implementation of digital twin technologies for transport infrastructure, artificial intelligence, self-driving vehicles, Big Data, allocation of registers (blockchain), automatic identification and tracking of cargoes and containers, etc.

↓ Figure 36. International Transport Corridors and Routes of Central Asia



Source: EDB.

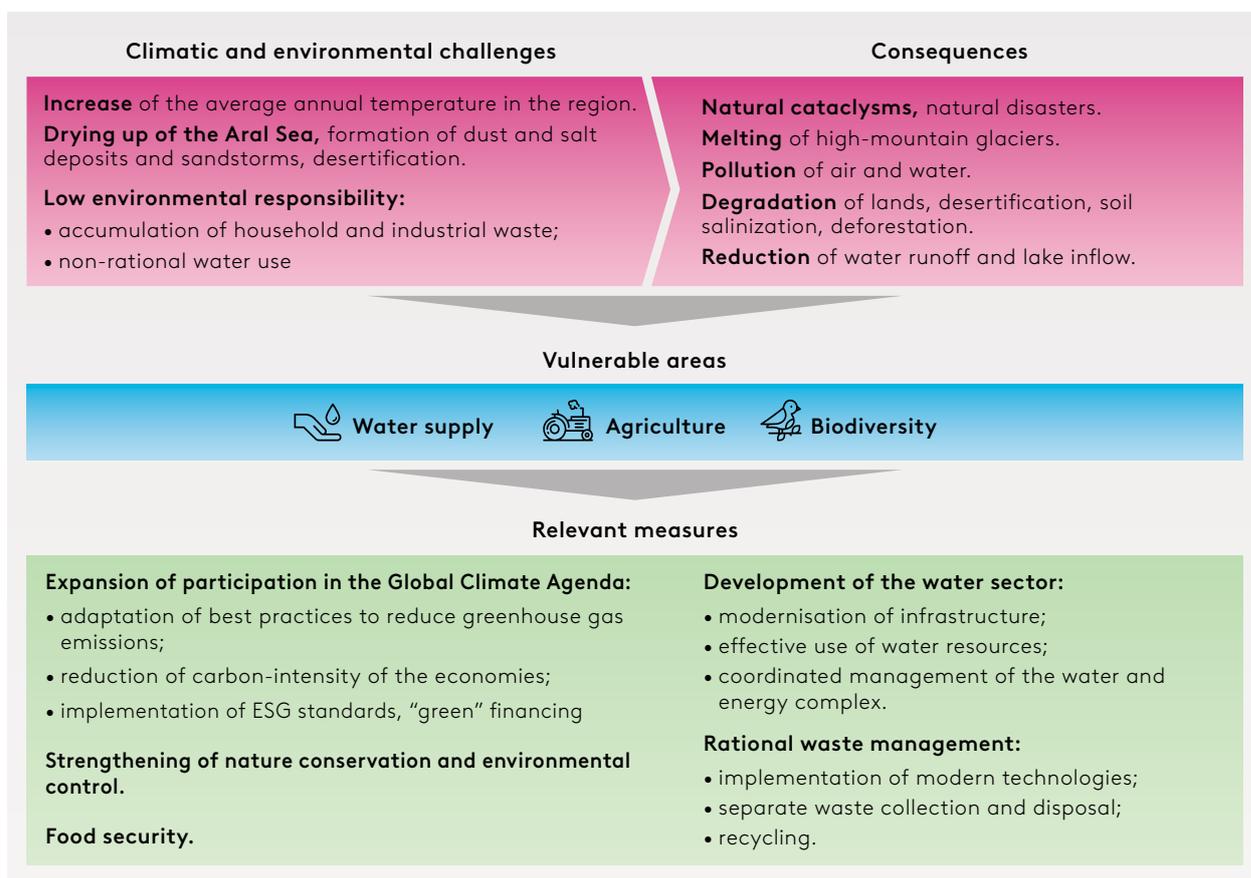
14. ENVIRONMENTAL AND CLIMATE CHANGE: IMPACT ON THE REGION

Environment and Climate Risks

Climate Change

Central Asia is among the regions that are most vulnerable to climate change. Food supplies, water and energy resources are particularly sensitive to climate challenges, and the biodiversity conservation problem is becoming particularly pressing. Accordingly, the path to the region’s adaptation to climate change lies through the “green” transformation of the economy, and to effect such a transformation, it is necessary to implement appropriate national strategies, conceptual frameworks, and sectoral initiatives, as well as international programmes and treaties (see Figure 37).

↓ Figure 37. Climatic and Environmental Challenges Facing Central Asian Countries



Source: EDB.

Climate change is becoming an increasingly grave challenge to progressive development of agriculture in Central Asia. It is projected that the boundaries of agroecological zones will be moving, and the region will generally become hotter and less suitable for traditional farming. The average annual temperature in the region is increasing faster than global benchmarks. In particular, in Kazakhstan during the 1976–2017 observation period, the average per-decade increase was +0.34°C vs the global average of +0.18°C (UN, 2019). Climate change puts food security and well-being of the population at risk, because the contribution of the agricultural

sector to the GDP of the region's countries is rather substantial; besides, the sector employs a significant share of the population, ranging from 15% (in Kazakhstan) to 45% (in Tajikistan) (CACIP, 2021). In 2021, the Intergovernmental Panel on Climate Change (IPCC) projected that by the end of the century, the average temperature in the Amu Darya basin would increase by 5°C, and that by 2100 the number of days when the temperature is above 40°C would increase from the current 20 per year to 60 per year, while heavy rains would occur more frequently and become more intensive⁸. Those changes will have a negative impact on livestock, fisheries, aquaculture, and, in some regions, will make lands less suitable for agriculture (Van't Wout, Celikyilmaz, Arguello, 2021).

Pollution of Water and Air

All countries of the region, without exception, suffer from air pollution, and a shortage and inferior quality of drinking water. In Uzbekistan, one third of the population resides in areas prone to natural hydrometeorological disasters (droughts, sandstorms, etc.) which lead to migration of the population, destruction of infrastructure, and reduced accessibility of water for agriculture in a country where 90% of lands are artificially irrigated.

The region's water problems may be exacerbated by increasing air temperatures, dwindling precipitation, and the accelerating crisis in the parts of Turkmenistan, Kazakhstan, and Uzbekistan adjacent to the Aral Sea. It took only 60 years for the lake that once was the fourth largest in the world, and which until the early 1960s had an area of more than 60,000 km², to lose more than 90% of its water, with the water level dropping from the absolute mark of 53.4 m in 1960 to 29 m, leaving merely 6% of the original water volume. The causes of that disaster are 70% anthropogenic: excessive and non-rational use of the waters that fed into the Aral Sea for irrigation of agricultural lands (UNESCO, 2020).

As a result, floods in the 100-km zone stopped, precipitation decreased, summers became hotter and drier, and winters colder and longer. That affected biodiversity in the Aral Sea area: the number of bird species declined from 319 to 160, of mammal species from 70 to 32, and of fish species from 32 to 6.

The rapid disappearance of the sea aggravates the ecological situation. Each year, the drying sea emits into the atmosphere more than 100 million tonnes of dust and more than 100,000 tonnes of salt. The Aral Sea catastrophe is deemed to be linked to the ongoing increase of water intake and the projected increase of temperature in its environs by 1.5–3 °C in 2025–2050 (UN, 2020). The harmful consequences of air pollution with dust and suspended salt particles increase health risks for the 35 million people living in the former sea basin. In addition, suspended dust and salt particles are transferred from the Aral Sea to the Tian-Shan glaciers, including those situated in Tajikistan and Kyrgyzstan, accelerating their shrinkage. According to some estimates, further increase of extensive water use in the basins of the Amu Darya and the Syr Darya may lead to a complete disappearance of the Aral Sea as a natural geographic object, thereby speeding up desertification and salt deposition, and upsetting the environmental balance in the region's vast territory. Some experts maintain that, as salt winds from the Aral Sea reach Tajikistan's mountains, they may soon cause the disappearance of many smaller glaciers.

The situation at Lake Balkhash in Kazakhstan (14th-largest in the world) is also very alarming: its area has also been decreasing because of the diminishing run-off of the Ili River, which accounts for 80% of the lake's inflow. That occurs primarily because of the considerable water intake in China, where the river has its origin, and because of non-rational water use in the area of the Ili-Balkhash basin and shrinkage of the Tian Shan glaciers — although Kazakhstan is taking steps to resolve those problems.

⁸ Information from the IPCC WGI Interactive Atlas.

The area of Kyrgyzstan's glaciers exceeds 6,500 km², but it decreases by approximately 1% each year. Non-rational water intake for agricultural needs during the melting season has disastrous effect on Lake Issyk-Kul, whose shoreline in some places receded by 10 metres. Experts believe that in the foreseeable future the melting of glaciers in Tajikistan and Kyrgyzstan will result in a massive increase of river run-off, but later it will inevitably lead to a serious water shortage.

Land Degradation

In the Central Asian countries, certain problems, including desertification, salinization of the soil, and deforestation occur because of progressive land degradation. According to expert estimates of the Economics of Land Degradation (ELD) Initiative, degradation in Central Asia is extensive, ranging from 4% to 10% of cropped land, from 27% to 68% of pasture land, and from 1% to 8% of forested land, in total representing more than 40% of the land degraded in each country (Quillerou et al., 2016). In Kazakhstan, about 66% of the land is now degraded, and in Kyrgyzstan over 30% of all highland pastures are degraded. Tajikistan saw an estimated GDP loss of almost 8% as a direct result of land degradation. In Turkmenistan, 70% of all pasture lands are degraded, and in Uzbekistan, over half of the irrigated land is saline. More than 40% of the population of Kazakhstan and almost 50% of the population of Uzbekistan live in rural areas and suffer from the adverse effects of land degradation, including damage to agriculture, shortage of drinking water, and a more onerous health burden (Romanova and Nikolaenko, 2021).

Land degradation and deforestation in remote areas of Central Asia are also caused by poor selection of sites for laying and construction of roads in high mountain regions, including access roads to places of extraction of mineral resources on mountain faces. That considerably increases the number of landslides and mudslides, and inflicts damage on downhill villages, while substantial amounts of geological material are moved into nearby streams and rivers, forming catastrophic accumulation of alluvium. That, in turn, causes degradation of aquatic habitats and reduces the quality of water used for drinking in downstream villages (Sidle, 2020).

Finally, the ecological situation in the region is further aggravated by accumulation of household and industrial waste, including mercury, medical waste, and other hazardous waste (see Table 13). Effective waste collection, processing, and disposal systems are still not sufficiently widespread, especially in small towns and villages. Other persistent problems include continued accumulation and poor processing of waste, use of open landfills and illegal dumps, open burning of waste instead of composting, absence of impervious layers and gas vents at waste-processing sites, resulting in emission of toxic substances into the air and contamination of groundwater (UNEP, 2017).

↓ Table 13. Waste Accumulation and Disposal (as of 2017)

Country	Accumulated Waste, Mt	Industrial Waste Production, Mt/year	Household Waste Production, Mt/year	Household Waste Processing and Disposal
Kazakhstan	28,000	300	6	2–3%, as well as 23% of industrial waste, >30% of hazardous waste
Kyrgyzstan	100–150	5–10	1	1–10%
Tajikistan	100–150	–	0.6–2	1%
Turkmenistan	–	0.5–1	0.5–1	1%
Uzbekistan	–	40–100	4.2	5–10%

Source: United Nations Environment Programme and Zoï Environment Network.

International Climate Agenda: Priorities for Implementation

All the Central Asian countries have assumed commitments to manage climate risks and decrease (limit) greenhouse gas emissions as stipulated by the Paris Agreement, which went into effect in November 2016. Those commitments were codified for each country by Nationally Determined Contributions (NDCs), which will remain in effect until 31 December 2030 (see Table 14).

↓ Table 14. Voluntary Commitments on Reduction of Greenhouse Gas Emissions and Transition to Carbon Neutrality

Country	2030 Target Relative to 1990	Achievement of Carbon Neutrality
Kazakhstan	15%	2060
Kyrgyzstan	11.49–13.75%, with international support – 43.62%	2050
Tajikistan	30–40%	–
Turkmenistan	–	–
Uzbekistan	35% (relative to 2010)	–

Source: UNFCCC Registry of Nationally Determined Contributions.

The countries are to report compliance with their NDCs at annual climate meetings conducted under the UN Framework Convention on Climate Change (UNFCCC), and to align NDCs with globally agreed approaches to their implementation under the Paris Agreement. The latest of those meetings (COP26) took place in Glasgow (Scotland) in November 2021. In addition, the countries of the region participate in achieving the UN-developed and globally recognised Sustainable Development Goals (SDGs), in particular, SDG-13 (Climate Action) and SDG 15 (Life on Land). Incidentally, according to the 2022 SDG Index, out of the countries of the region, Kyrgyzstan had the highest overall SDG compliance ranking (No. 45 of 163), followed by Kazakhstan (No. 65), Uzbekistan (No. 77), Tajikistan (No. 78), and Turkmenistan (No. 99) (Sachs et al., 2022).

As for country-specific NDCs, Kazakhstan intends to achieve carbon neutrality by 2060, including by increasing the share of RES in its energy mix and ensuring that the share of separately collected biodegradable waste reaches 30% by 2030. Kazakhstan also intends to increase the share of renewable energy sources in its energy mix to 10% by 2030. Over the long term (by 2050), renewable and alternative (clean) energy sources may account for half of all energy generated in the country. Kazakhstan also plans to reduce the energy intensity of its GDP by 50% relative to 2008 by 2050 (Government of the Republic of Kazakhstan, 2021). To ensure attainment of those benchmarks, the government of Kazakhstan is developing the Low Emission Development Strategy 2050.

Kazakhstan became the first Central Asia country to launch, back in 2013, a Greenhouse Gas Emissions Quota Trading System. The system regulates about 40% of domestic carbon dioxide emissions in Kazakhstan generated by the 225 largest enterprises (power engineering, central heating, mining and manufacturing) with total annual emissions of more than 20 kt CO₂e. The system, however, does not cover emissions by the smaller enterprises, the transport sector, and agriculture (REdiCAP, 2021). Kazakhstan's experience can be scaled to the other countries of the region, including creation of the Extended Producer Responsibility System, the programme for return and disposal of used electronic devices, and the work of the national waste management operator.

By 2030, Kyrgyzstan intends to reduce greenhouse gas emissions by 11.49–13.75% under the “business as usual” scenario, and by 43.62% if international support is available (UNFCCC, 2021b). Kyrgyzstan seeks to achieve carbon neutrality by 2050, primarily through development of a zero-carbon power industry, construction of hydropower plants, and implementation of a series of steps to improve energy efficiency. Measures will be taken to preserve and increase the area of forests and to expand perennial plantings. By 2025, Kyrgyzstan plans to adopt a National Monitoring, Assessment and Verification System, which will enable an assessment of the effectiveness of NDC mitigation and adaptation measures and control their funding. In addition, Kyrgyzstan advocates development and adoption, under UN auspices, of a special target programme for mountain forests to ensure their preservation and restoration on mountain slopes, as well as development, under UN auspices, of a special global fund to support mountainous countries.

Tajikistan has undertaken to ensure that by 2030 its greenhouse gas emissions will not exceed 60–70% of the 1990 level in the absence of substantial international financing, and 50–60% if substantial international financing and technology transfers are made available in the context of the Paris Agreement (UNFCCC, 2021a).

Turkmenistan defined its general intentions on climate change matters in its Intended Nationally Defined Contribution (INDC). With financial and technological support from the developed countries, Turkmenistan intends to ensure zero growth of emissions, or even reduce them, by 2030, but so far without any specific measurable indicators (PwC, 2021). By way of contribution to mitigating the consequences of climate change, Turkmenistan plans to reduce natural gas leaks from its oil and gas enterprises, modernise its gas and oil pipelines, and implement RES.

Uzbekistan, acting within the framework of the Paris Agreement, intends to reduce, by 2030, its greenhouse gas emissions per GDP unit by 35% relative to 2010. To that end, it will seek to ensure a twofold increase of energy efficiency of its economy by 2030, including an increase of the share of renewable energy to 25%, and development of environmentally clean transport (UNFCCC, 2021c). Other announced NDC targets include significant improvement of the effectiveness of water use and reduction of the resource and energy intensity of the country’s economy by at least 20% by 2030, improvement of the fertility of agricultural lands, enhancement of the solid household waste management system, and expansion of forested areas. It is also planned that new solar and wind power plants with a total capacity of 2,900 MW will be put in operation by 2025.

It is particularly important to implement more stringent measures to prevent contamination of internationally important bodies of water. Such measures can most effectively be realised by international organisations responsible for implementing regional target programmes. For example, there are SCO-supported programmes to develop “smart” tourism, combat climate change, preserve biodiversity, and develop low-carbon economies. The concept of cooperation in environmental protection and the SCO “Green Belt” programme are aimed, among other things, at exchange of environmental information among the organisation’s member states.

Additional opportunities for sharing best practices are offered to the countries of the region by the EAEU (Kazakhstan and Kyrgyzstan are members of the Union, while Uzbekistan has observer status). Thus, the Union is working on common standards governing climate regulation, organic products, and “green” financing. Those processes are coordinated with the EDB, which is implementing ESG standards in its investment operations in its member states — Kazakhstan, Kyrgyzstan, and Tajikistan.

It is crucial that all countries of the region disseminate and implement environmentally clean technologies for processing and disposal of household, industrial, agricultural, livestock, and

other types of waste. That includes reclamation of industrial waste disposal sites, and the use of economically and environmentally effective technologies for landfill gas and biogas utilisation with energy recovery.

Finally, a task of critical importance for the region is to expand the list of measures designed to reduce water with modern technologies and methods of irrigated farming and drip irrigation, and improvement of water metering systems. According to expert estimates, reduction of water intake from transboundary rivers by 20% could save the region 9 billion cubic metres of water per year by 2035 ([UNESCO, 2020](#)).

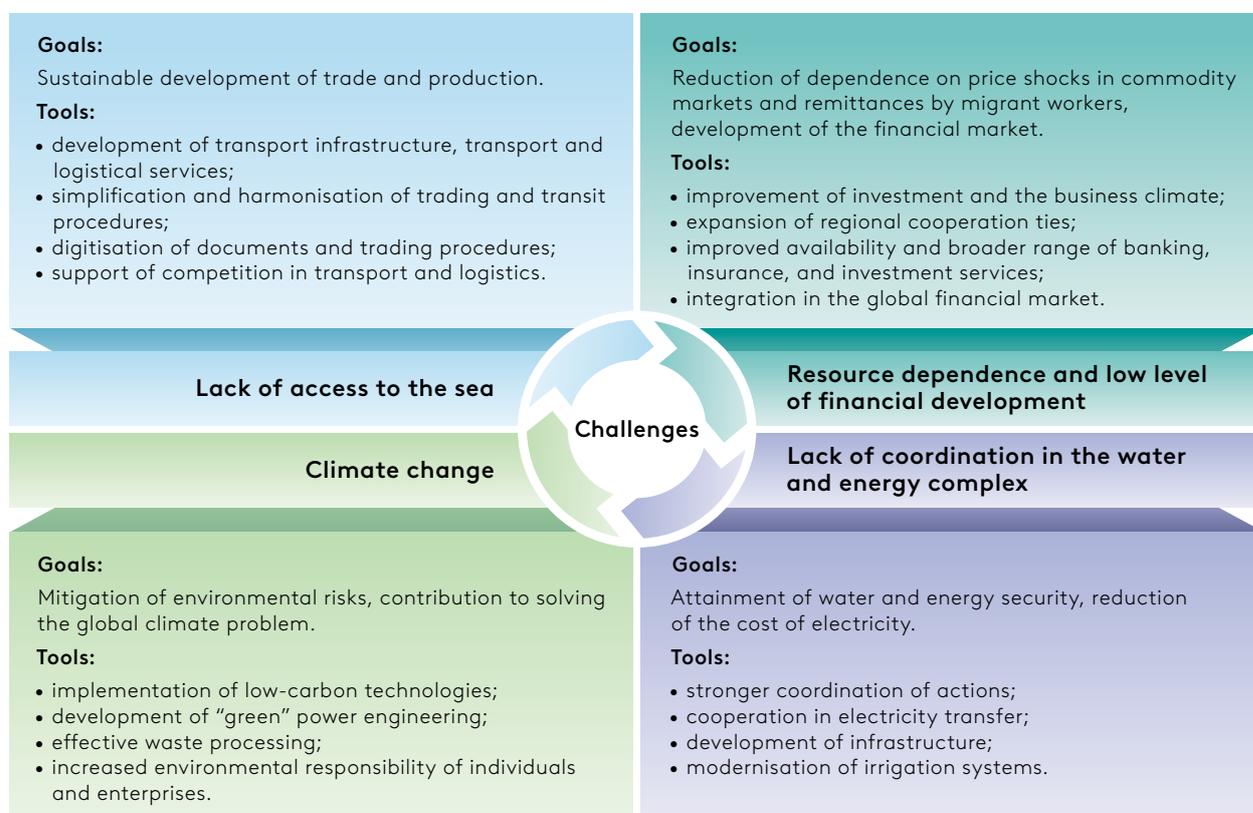
15. LOOKING TO THE FUTURE: DEVELOPMENT PROSPECTS AMID GLOBAL TRANSFORMATION

Structural Challenges and Mitigation Tools

The population of Central Asia is about 1% of the Earth’s population. Over the last several decades, it has been rapidly growing as part of the demographic explosion that started in the 1970s (Expert, 2021). The region’s GDP kept increasing during that period, as well. An integrated approach to its socioeconomic and spatial development is needed to fully unlock its potential. That is why a fresh perspective on Central Asia is so important.

The challenges posed by the geographic position of the region will be mitigated with the expansion of transport corridors. At the same time, its transit role will grow stronger, as it is situated at the trade and communication crossroads of Eurasia, surrounded by the dynamically growing economies of China, India, and Russia, and in relative communication proximity to Japan, South Korea, and the ASEAN countries, at the intersection of trade and economic flows between their economies and those of the EU, Turkey, other countries and associations. The powerful economies surrounding the region open up unique opportunities for the Central Asian countries.

↓ Figure 38. Structural Challenges and Mitigation Tools



Source: EDB.

The prospects of realisation of Central Asia’s economic potential depend on both external and internal factors. External factors are related to the rate of development of key trading

partners, the situation in the global financial and commodity markets, etc. Dependence on external factors can be reduced by fostering internal growth drivers. Following the policy of openness, mutually beneficial cooperation, and coordination of efforts will enable the Central Asian countries to achieve a qualitative breakthrough in the development of the whole region.

It will be necessary to create new and to improve existing mechanisms for joint regulation of the infrastructural sectors of the economy. To make an economic breakthrough and consolidate its stable position in the global economic system, Central Asia will need to overcome four key structural challenges (see Figure 38):

- 1) lack of access to the sea;
- 2) resource dependence and low level of financial development;
- 3) lack of coordination in management of the water and energy complex;
- 4) climate change.

Lack of Access to the Sea

The lack of access to the sea is a geographic feature which, together with the region's difficult terrain, increases transport costs. That constrains the trade development potential which, in turn, slows down the growth of agricultural and industrial output.

Expansion of the geography and increase of the volume of deliveries will be facilitated by the creation, with the participation of the EDB, of the Eurasian transport network that is fully compliant with the criteria and priorities of the Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014–2024. The region's resurgence as the crossroads of meridional and latitudinal transport corridors connecting the main economic centres of the Greater Eurasia will involve both the expansion of existing routes (INSTC, Europe–Western China, TITR, CAREC corridors, etc.) and the creation of new railway corridors (China–Kyrgyzstan–Uzbekistan, Kazakhstan–Uzbekistan–Afghanistan–Pakistan, Tajikistan–Afghanistan Turkmenistan, etc.).

This will necessitate creation and expansion of transport infrastructure, both physical and "soft" (regulatory). Priorities in the area of physical infrastructure include organisation of ramified networks (land, air, and multimodal), transport logistical centres, "dry ports", modernisation and improvement of the throughput capacity of border crossing points. The key tools that can be used for to develop "soft" infrastructure are expansion of forwarding and logistical services, simplification and harmonisation of trade, transit, and border crossing procedures, digitisation of freight and shipping documents, implementation of the "single window" principle, and support of competition in the sector.

That task can be completed through, among other things, participation in ongoing multilateral programmes such as CAREC and SPECA, in cooperation with other international organisations, including the UNECE, UNESCAP, ADB, IsDB, ECO, and especially the SCO, with its increasing focus on securing growth and liberalisation in the key trade and investment areas and improving infrastructural connectivity even beyond the borders of its member states.

Resource Dependence and Low Level of Financial Development

Structural transformation of national economic systems requires colossal efforts and cohesion of all countries of the region. Their exports are dominated by fuel and energy products,

ores, metals, and agricultural raw materials. The last decade's commodity price boom was not used to the full extent to diversify economies, which are still strongly dependent on commodity market price shocks. Realisation of structural shifts requires political will, ambitious goals, and consistent action.

A huge role is played by improvement of the investment and business climate: creation of an environment attractive for the development of small and medium-sized businesses, attraction of foreign and domestic investors, improved competitiveness of the key sectors of the economy. Cooperation on the basis of the mutual interests and advantages of the region's countries will help to minimise production costs, build regional cooperative ties, and increase the sophistication of exported products.

Remittances also represent a resource that can be used to promote development in certain countries of the region. Growth of the industrial potential and the services sector, together with creation of high-productivity jobs and basic and advanced personnel training systems, make it possible to reduce the countries' dependence on remittances and concurrently to strengthen social stability.

The domestic financial sector should become the basis for comprehensive development of the key sectors of the economy. In some countries, external financing should yield its dominant role to domestic sources. Growth of savings, in turn, will become possible with improvement of the well-being of the general population and development of the financial sector. International financial organisations will retain the function of accelerator of private investment, which will expand as the institutional environment improves.

In addition to financial services, reduction of resource dependence can be facilitated by other services — transport, education, medicine, IT, tourism. Implementation of mutual standards and classifications will encourage expansion of regional trade in services, boost competition, and increase the quality of services. With time, services will become the main growth driver for the economies of the region, opening Central Asia to the world, and making its economy more productive.

Enhancement of the regional transport and energy infrastructure is another significant factor in the sustainable development of non-commodity sectors.

Lack of Coordination in Management of the Water and Energy Complex

Lack of coordination in management of the water and energy complex inflicts heavy losses on the GDP of the countries of the region. Kyrgyzstan and Tajikistan are primarily interested in the use of water resources for energy generation, while Kazakhstan, Uzbekistan, and Turkmenistan give priority to irrigation because of severe shortage of fresh water. The countries of the region are improving their coordination of water and energy complex management through existing joint institutions; however, demand for water is increasing at an increasingly faster rate because of the growth of the population and of economic activity.

Better coordination of actions can create synergies by reducing capital expenditures of the countries of the region and providing sufficient resources to support the industry and population. Coordination of water and energy systems is the key driver of water, energy, and food security in the region. Implementation of power engineering projects will help both individual countries and the region as a whole to improve the energy mix and begin to export electricity. As electricity becomes more accessible and less expensive, it will promote development of relatively more energy-intensive production facilities, and create the multiplier effect that will affect all key sectors of the economy.

New approaches to creation and regulation of the regional water and energy market, cooperation in electricity transfers, and strategic planning of development of power grids could improve coordination of the actions taken by Central Asian countries in the water and energy sectors. It will also be necessary to invest more in infrastructure. Projects to upgrade irrigation systems – both to reduce water loss and alleviate the load on water resources – must become the priority development task for the region’s water sector.

Climate Change

The region is strongly vulnerable to climate change. Desertification, drying up of bodies of water, water and air pollution – all these factors degrade the living conditions of the population and restrain development of diverse sectors of the economy, primarily agriculture.

The “green” agenda of Central Asian countries and their key trading and economic partners has a major impact on shaping the region’s development paths. Its energy, transport, water, and agriculture sectors receive new growth incentives in the context of global environmental transformation and the performance of national economy decarbonisation obligations assumed by the countries of the region at the time of their accession to the Paris Climate Accords.

Investment in low-carbon technologies and “green” projects, development of “green” power engineering, including the use of the region’s huge hydropower and solar potential, implementation of household and industrial waste recycling projects, increase of the environmental responsibility of the population and enterprises – these steps will contribute to successful completion of environmental and climate tasks, and become additional factors in the improvement of living and working conditions.

Connectedness of Key Challenges

None of the challenges described above can be dealt with separately, because they are interconnected. Putting off resolution of one set of problems may make it more difficult to overcome others. For example, the course of structural transformation of the economy will be determined by the rate of development of the transport sector and the water and energy complex. In turn, modernisation of certain sectors and realisation of the significant RES development potential will improve the environmental situation, and increase the region’s contribution to dealing with the global climate issues. Success of the future development of the Central Asian countries will depend on overcoming other equally critical challenges, such as enhancement of the institutional framework, reduction of the informal sector, and mitigation of macroeconomic risks.

Central Asian Development Prospects

The strategic role of Central Asia on the economic map of the world will be increasing, particularly for Russia, China, and Turkey. Central Asia ceases to be the hinterlands for the large economic players in the vast Eurasian space. Transformation of the region largely depends on internal efforts, private investment, and large-scale multilateral programmes. Central Asia could become a financially stable and dynamically developing region of Greater Eurasia, which employs effective regional cooperation mechanisms, and could be actively involved in regional value chains built by national businesses offering competitive goods and services to both domestic and foreign consumers.

Overcoming structural challenges facing the region will most effectively unlock its economic potential. Improvement of transport connectivity will galvanise mutual trade and industrial cooperation, boost business activity along transport corridors, and, consequently, open the region for international trade. Coordinated water and energy management will contribute to reducing production costs, strengthening water and energy security, and realising the agricultural potential.

Infrastructure projects are highly capital intensive. The Central Asian countries need to modernize existing and create new infrastructure facilities, and in these conditions an integration-based development path is the optimal solution. Joint efforts to overcome structural challenges will enable the Central Asian countries to minimize costs at the national level, achieve better results, and create a coherent system to manage the region's infrastructure – the water and energy complex and the transport system. Geographic proximity creates conditions conducive to infrastructural integration (see Box 5).

Box 5

Having a common electricity grid in West Africa enables small countries to benefit from economies of scale and the risk-mitigating benefits of large electricity networks (Devarajan, 2017). The World Bank assesses the economic benefits received by the regional power market in West Africa due to lower production costs at \$5–8 billion per year (World Bank, 2018). Integrated development of the infrastructure produces a significant effect. According to World Bank estimates based on infrastructural development indicators of African countries, investing in roads greatly influences sectoral changes, encouraging workers to move from agriculture, a low-productivity sector, to the manufacturing industry and services. Concurrent investment in roads and electricity increases the overall impact by a factor of 2.5 (Herrera Dappe, Lebrand, 2021).

Cross-border infrastructural development will lay the foundation for close interaction with neighbouring countries in Greater Eurasia. Creation of the Eurasian transport network will expand trading ties among the countries of Central Asia and South Asia, while gaining access to the Indian Ocean seaports will support maritime trade with more distant countries. At the same time, the key trading benefits will continue to come from cooperation between the countries of the region on the one hand, and China, Russia, and Turkey on the other.

The significance of cooperation for the region will continue to increase. Dynamic growth of mutual trade turnover testifies to the successful development of regional cooperation. Expansion of internal trade and mutual investments triggered by economic liberalisation in Uzbekistan will continue. The deepening of industrial cooperation will promote increased openness of the economies of the region to each other, establishment of trust-based and transparent relations, harmonisation of rules and procedures, and commitment to shared sustainable development goals. Regional cooperation with an emphasis on cultural affinity of the peoples inhabiting the area will enable creation of products and services (e.g., tourism services) that consumers around the world will find unique. Regional cooperation will increase the mobility of the population within the region, and reinforce humanitarian cooperation among the Central Asian countries.

Cross-border cooperation should rely on a certain regional institutional structure. The countries of the region are connected with each other through various regional programmes and institutions, such as CAREC, SPECA, EAEU, SCO, ECO, etc. The EAEU (of which Kazakhstan and Kyrgyzstan are members) is the most formalised of those institutions.

For regional development purposes, it is important to make use of the opportunities emerging in the global economy, to attract and adapt global technologies, including digital and “green” technologies. The Central Asian countries are strongly influenced by modern trends that open up new prospects, and it is up to individual countries how they will use those trends. One of them is development of sustainable “smart” cities, and digital transformation.

Working together, the Central Asian countries will be better equipped to overcome structural development problems. The EAEU is the preferred format for expansion of economic integration of Central Asian countries. EAEU membership creates a single regulatory environment, provides access to an extensive common market for labour, capital, and services, eliminates barriers to mutual trade, and promotes industrial cooperation (see Box 6).

Box 6

The EAEU plays an important role in the Eurasian space. It seeks to harmonise regulation and create a single market for goods, services, capital, and labour. Joint actions by the EAEU member states minimize mutual trade obstacles, strengthen cooperation, and shape common markets, which reduce production costs and make products more competitive in foreign markets. The safety of products manufactured in the EAEU is ensured by technical regulations, sanitary, veterinary, and phytosanitary containment measures.

Cities are the main centres of development and trade, but urbanisation in Central Asia is proceeding at an uneven pace (Shaymergenov, Abisheva, Rakhimdzhanova, 2017). The highest urbanisation rate is in Kazakhstan, where about 60% of the population live in the cities (Review and Analytical Portal “Strategy 2050”, 2021a). Accordingly, “smart” transformation of cities in Kazakhstan is rapidly gaining momentum, and virtually all cities in the country are implementing projects designed to promote intellectual technologies (see Box 7). Concurrently, Kazakhstan is working to improve infrastructure in its rural settlements. That experience would be useful for the other countries of the region. “Smart” digital transformation of cities and rural areas will be instrumental to improving the quality of life of the people.

Box 7

In 2021, Kazakhstan, aided by the EDB, created a “smart lighting” system on the basis of energy-saving technologies (automated management of street lighting and LED light fixtures). New lighting lines with a total length of 242.6 km were installed on 238 streets and along one highway (Atyrau–Aktobe). As a result, electricity consumption by street lighting was reduced by 80%, maintenance costs by 36%, and annual carbon dioxide emissions by 0.6828 tonnes. The project received the prestigious international Environmental Finance’s 2021 IMPACT Award.

The digital agenda is being implemented in the countries of the region at different rates and on different levels, changing the appearance and sectoral structure of their economies. Kazakhstan made significant progress in e-commerce, with both simplification and digitisation of all customs and customer payments and execution of international trade transactions. Two important ongoing projects are development of an information system for farmers, and transition to “e-government” (QazTrade, 2022). Uzbekistan plans to increase the share of the digital economy in its GDP at least by a factor of 2.5 by 2026 (National Legislation Database of the Republic of Uzbekistan, 2022). Kyrgyzstan intends to become the digital hub of the Great Silk Road by 2040 (Ministry of Foreign Affairs of the Kyrgyz Republic, 2018; CIS Internet Portal, 2022a) and has opened a network of business incubators at 20+ universities

to support innovative start-ups ([CIS Internet Portal, 2022b](#)). Tajikistan and Turkmenistan support implementation of digital technologies in Trade, Finance, and other sectors of the economy ([FAOLEX, 2021](#); [Ministry of Economic Development and Trade of the Republic of Tajikistan, 2019](#); [CIS Internet Portal, 2022a](#)). The EDB assists Central Asian countries in their digital transformation efforts, including through partnership with the government bodies and development institutions in Kazakhstan, Kyrgyzstan, and Tajikistan, and intends to step up cooperation with Uzbekistan.

The above list of areas of development of the economies of Central Asian countries is not exhaustive. However, those aims and objectives may certainly be regarded as prerequisites for sustainable growth of the entire region and further improvement of its investment appeal.

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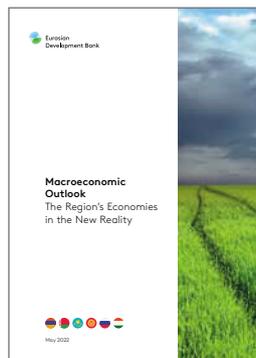
ACRONYMS AND ABBREVIATIONS

ADB – Asian Development Bank	NBT – National Bank of Tajikistan
AH – Asian Highway	NDC – nationally determined contribution
AIFC – Astana International Financial Centre	NPP – nuclear power plant
AIIB – Asian Infrastructure Investment Bank	OECD – Organisation for Economic Cooperation and Development
APAC – Asia-Pacific Region	PPP – public-private partnership
ASEAN – Association of Southeast Asian Nations	PPP – purchasing power parity
ATM – Automated Teller Machine	PRC – People’s Republic of China
BRI – Belt and Road Initiative	RES – renewable energy sources
BCE – Before the Current Era	RF – Russian Federation
BoP – balance of payments	RHA – right hand axis
CA – Central Asia	RK – Republic of Kazakhstan
CAPS – Central Asia Power System	RT – Republic of Tajikistan
CAREC – Central Asia Regional Economic Cooperation	RU – Republic of Uzbekistan
CIS – Commonwealth of Independent States	SCO – Shanghai Cooperation Organisation
CMR – waybill under the Convention on the International Carriage of Goods by Road	SDG – sustainable development goal
COVID-19 – coronavirus infection 2019	SHW – solid household waste
EAEU – Eurasian Economic Union	SME – small and medium-sized enterprise
EBRD – European Bank for Reconstruction and Development	SPECA – Special Programme for the Economies of Central Asia (UN)
ECO – Economic Cooperation Organisation	TEU – twenty-foot container equivalent unit
EDB – Eurasian Development Bank	TFA – WTO Trade Facilitation Agreement
EDB MMI – The EDB Monitoring of Mutual Investments	TITR – Trans-Caspian International Transport Route
EEC – Eurasian Economic Commission	TRACECA – Transport Corridor Europe–Caucasus–Asia
EFSD – Eurasian Fund for Stabilisation and Development	UN – United Nations Organisation
EIB – European Investment Bank	UNCTAD – United Nations Conference on Trade and Development
ESG – Environmental, Social, and Governance standards	UNDP – United Nations Development Programme
EU – European Union	UNECE – United Nations Economic Commission for Europe
EWC – Europe-Western China international transport corridor	UNESCAP – United Nations Economic and Social Commission for Asia and the Pacific
FDI – foreign direct investment	UNFCCC – UN Framework Convention on Climate Change
GDP – gross domestic product	USA – United States of America
GSR – Great Silk Road	USAID – United States Agency for International Development
GTrD – global transit document	USSR – Union of Soviet Socialist Republics
HPP – hydropower plant	VAT – value-added tax
IFI – international financial institution	WB – World Bank
IMF – International Monetary Fund	WHO – World Health Organisation
INSTC – International North–South Transport Corridor	WTO – World Trade Organisation
IsDB – Islamic Development Bank	% y/y – year-on-year growth rate
IT – information technologies	\$ – US dollar
ITC – international transport corridor	km – kilometre
KR – Kyrgyz Republic	m³ – cubic metre
LPI – logistics performance index	pkm – passenger-kilometre
MDB – multilateral development bank	pp – percentage point
MFA – Ministry of Foreign Affairs	
NB KR – National Bank of the Kyrgyz Republic	
NB RK – National Bank of the Republic of Kazakhstan	



Macroeconomic Review (RU)

A regular EDB publication, which provides an overview of the current macroeconomic conditions in the EDB member states and estimates their development in the short-term perspective.



Macroeconomic Outlook (RU/EN)

The Region's Economies in the New Reality

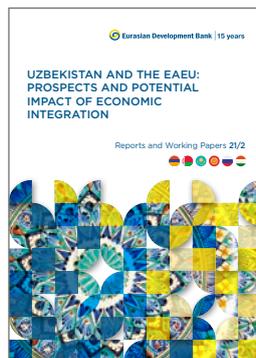
The analysis summarises economic developments in the Bank's member states in 2022 and provides key macroeconomic projections for the region's countries for 2022–2024.



Report 21/1 (RU)

Promoting the Role of the EAEU Currencies in Global Transactions

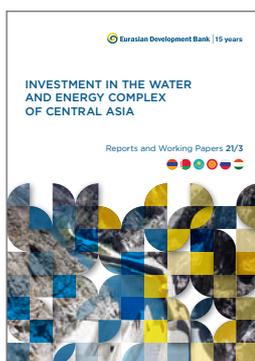
EAEU currencies service around 2% of global trade. As for the EAEU countries, payments in their currencies have notably increased over the past seven years — their share in trade flows jumped from 63% in 2013 to 74% in 2019.



Report 21/2 (RU/EN)

Uzbekistan and the EAEU: Prospects and Potential Impact of Economic Integration

The report estimates the potential effects of Uzbekistan's integration with the EAEU and outlines promising areas for cooperation between the current Union member states and Uzbekistan.



Report 21/3 (RU/EN)

Investment in the Water and Energy Complex of Central Asia

The report analyses Central Asia's water and energy complex after 30 years of independence of the five Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) and assesses their cooperation in the water and energy complex.



Working Paper WP/21/1 (RU/EN)

Evolution of Tools and Approaches within the Enlarged Global Financial Safety Net in Response to the COVID-19 Crisis

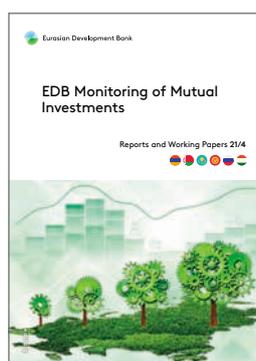
This working paper provides the analysis how the GFSN responded to pandemic on global level and on regional level (in the EFSD countries).



Working Paper WP/21/2 (RU/EN)

Total Debt is So Much More Than Just Sovereign Debt. Contingent Liabilities in Armenia, Belarus, Kyrgyz Republic, and Tajikistan

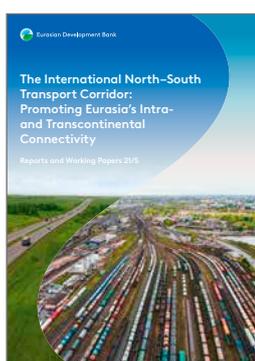
This study aims to contribute to understanding the potential risks and impacts of both explicit and implicit contingent liability shocks on government fiscal and debt positions in the EFSD recipient countries.



Report 21/4 (RU/EN)

EDB Monitoring of Mutual Investments

Mutual investments in Eurasia, calculated using a new methodology, reach US \$46 billion. FDI has been growing steadily since 2016.



Report 21/5 (RU/EN)

The International North-South Transport Corridor: Promoting Eurasia's Intra- and Transcontinental Connectivity

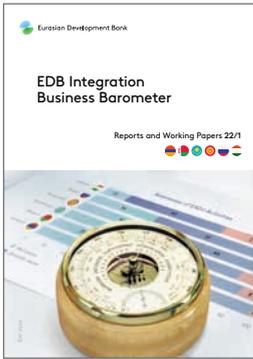
Linking up the INSTC with Eurasian latitudinal corridors could ensure around 40% of container traffic.



Joint report by the Eurasian Development Bank and the Global Energy Association (RU/EN)

Green Technologies for Eurasia's Sustainable Future

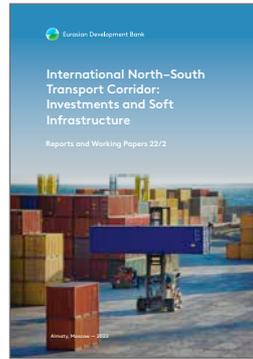
The report is prepared by the key international industry experts and young scholars. It contains the results of technical research aimed at solving today's energy challenges and helping to reduce the carbon footprint in Eurasia.



Report 22/1 (RU/EN)

EDB Integration Business Barometer

About 73% of companies feel positive about the EAEU and say it makes doing business easier.



Report 22/2 (RU/EN)

International North-South Transport Corridor: Investments and Soft Infrastructure

The study assesses the investment potential of the INSTC, identifies barriers to its development and provides recommendations on how to eliminate them.



Eurasian Development Bank

**RESEARCH DEPARTMENT
EURASIAN DEVELOPMENT BANK**

Your comments and suggestions
concerning this document are welcome at:
pressa@eabr.org



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