REPORT ON TURKIC ECONOMIES 2024

# STRENGTHENING TRANSPORT AND ENERGY CONNECTIVITY AMONG TURKIC STATES

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# Strengthening Transport and Energy Connectivity among Turkic States

**Turkic Academy – ERCNET**
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**Report on Turkic Economies 2024**

**Strengthening Transport and Energy Connectivity among Turkic States**

*Project Manager:* Prof. Dr. Shahin Mustafayev, President of the Turkic Academy

*Author:* Group of authors
*Editor:* Assoc. Prof. Dr. Erhan Türbedar
*Contributing Editors:* Participating institutions of the ERCNET

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For inquiries, contact the Turkic Academy:
E-179 Street, No. 32, Diplomatic Town, Astana, Kazakhstan
Telephone: +7 7172 57 49 82
Web page: https://turkicacademy.org
E-mail: officetwesco@gmail.com

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# Contents

# Acronyms

| | |
|---|---|
| ASCO | Azerbaijan Caspian Shipping Company |
| Bcm | Billion cubic meters |
| BOTAŞ | Petroleum Pipeline Transportation Corporation |
| BRI | Belt and Road Initiative |
| BSEC-URTA | Union of Road Transport Associations in the Black Sea Economic Cooperation Region |
| BTC | Baku-Tbilisi-Ceyhan Pipeline |
| BTE | Baku-Tbilisi-Erzurum Natural Gas Pipeline |
| BTK | Baku-Tbilisi-Kars Railway Line |
| CAREC | Central Asia Regional Economic Cooperation |
| CASCA+ | Multimodal transport project |
| CPC | Caspian Pipeline Consortium |
| CPI | Consumer Price Index |
| EAEU | Eurasian Economic Union |
| EBRD | European Bank for Reconstruction and Development |
| EDB | Eurasian Development Bank |
| EEZ | Exclusive Economic Zone |
| EIB | European Investment Bank |
| e-Permit | Electronic Permit |
| ERCNET | Turkic Network of Official Economic Policy Research Centers |
| EU | European Union |
| FDI | Foreign Direct Investment |
| FTA | Free Trade Agreement |
| GDP | Gross Domestic Product |
| GNI | Gross National Income |
| GW | Gigawatt |
| GWh | Gigawatt-hour |
| HPP | Hydroelectric Power Plant |
| HVDC | High-Voltage Direct Current |
| IATA | International Air Transport Association |
| IFAS | International Fund for Saving the Aral Sea |
| INSTC | International North-South Transport Corridor |
| IRF | International Road Federation |
| IWEC | International Water and Energy Consortium |
| Km | Kilometer |
| kV | Kilovolt |
| kWh | Kilowatt-hour |
| LNG | Liquefied Natural Gas |
| LPI | Logistics Performance Index |
| Mcm | Million cubic meters |
| MENR | Ministry of Energy and Natural Resources of the Republic of Türkiye |
| Middle Corridor | Trans-Caspian International Transport Route |
| MoU | Memorandum of Understanding |
| Mtoe | Million tonnes of oil equivalent |
| MW | Megawatt |

| | |
|---|---|
| MWh | Megawatt-hour |
| NAI KR | National Investment Agency under the President of the Kyrgyz Republic |
| NGL | Natural Gas Liquids |
| NPP | Nuclear Power Plant |
| OECD | Organisation for Economic Co-operation and Development |
| OTS | Organization of Turkic States |
| PPP | Public-private partnership |
| PV | Photovoltaic |
| R&D | Research & Development |
| RES | Renewable energy sources |
| RO-RO | Roll on, roll off |
| SDGs | Sustainable Development Goals |
| SCO | Shanghai Cooperation Organization |
| SCP | South Caucasus Pipeline |
| SGC | Southern Gas Corridor |
| SGP | South Caucasus Pipeline |
| SMEs | Small and Medium-Sized Enterprises |
| SOCAR | State Oil Company of the Republic of Azerbaijan |
| TANAP | Trans-Anatolian Natural Gas Pipeline |
| TAP | Trans-Adriatic Pipeline |
| TCDD | Turkish State Railways Company |
| TEN-T | Trans-European Transport Network |
| TEU | Twenty-foot equivalent unit |
| TIR | International Road Transport |
| TITR | Trans-Caspian International Transport Route |
| TOGG | Türkiye's Automobile Initiative Group |
| TPAO | Turkish Petroleum Corporation |
| TPP | Thermal Power Plant |
| TRACECA | Transport Corridor Europe-Caucasus-Asia |
| TRNC | Turkish Republic of Northern Cyprus |
| TURANSEZ | TURAN Free Economic Zone |
| TWh | Terawatt-hour |
| UKDF | Uzbek-Kyrgyz Development Fund |
| UN | United Nations |
| UNCTAD | United Nations Conference on Trade and Development |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UK | United Kingdom |
| US | United States |
| Vision 2040 | The Turkic World Vision-2040 |
| VSC | Voltage Source Converter |
| WPP | Wind Power Plant |
| YEKA | Renewable Energy Resource Area |

# PREFACE

It is a pleasure to present to you the second edition of the Report on Turkic Economies for 2024, jointly prepared by the Turkic Academy and the Turkic Network of Official Economic Policy Research Centers (ERCNET). This report emphasizes our commitment to enhancing transport and energy connectivity among the Turkic states. The interconnectedness of our economies is not merely a goal; it is a necessity in an increasingly globalized world.

Transport and energy connectivity serve as the backbone of economic growth and prosperity. The Organization of Turkic States (OTS) places a special emphasis on bolstering transport linkages among Member States across the Trans-Caspian International East-West Transport Corridor, commonly referred to as the Middle Corridor. This strategic route facilitates trade and serves as a vital artery connecting Europe and Asia. By enhancing this corridor, we aim to create a seamless flow of goods and services that will benefit all Member States.

To achieve these objectives, OTS encourages Turkic governments to take proactive measures to reduce transport costs, increase transit permits, and eliminate non-physical barriers that hinder efficient transportation. Initiatives such as the Sister Ports process and the Caravanserai Project ensure that the Middle Corridor operates smoothly.

OTS organizes regular meetings in the area of transportation involving various stakeholders. These include Meetings of Ministers of Transport, the Coordination Council on Transport, Heads of Railway Administrations, Meetings of Heads of Customs Administrations, and dedicated Working Group meetings.

In pursuit of its transport-related objectives, several vital documents have been adopted by the OTS, including a) the Transport Connectivity Program of the Organization of Turkic States and its Action Plan; b) Agreement on International Combined Freight

Transport among the Governments of the Member States of the Organization of Turkic States, and c) Agreement on the Establishment of Simplified Customs Corridor among the Governments of the Organization of Turkic States.

The OTS encourages its Member States to embrace innovative technologies that streamline transport and transit procedures. The implementation of the "e-Permit" project stands as a testament to our commitment to modernizing these processes. The OTS is also actively promoting multimodal transport routes, focusing on creating a well-developed and interconnected hard and soft transport infrastructure and enhancing air connectivity. Additionally, the OTS encourages dialogue and collaboration among stakeholders in the transport sector by organizing different thematic forums.

It is also imperative to recognize the vital role that energy connectivity plays in fostering economic growth and regional cooperation among Turkic states. The OTS has consistently prioritized energy collaboration, and this report, among other things, encapsulates our collective efforts and aspirations in this domain.

Many OTS Member States have abundant natural resources, including petroleum and natural gas. Additionally, the strategic Baku-Tbilisi-Ceyhan crude oil pipeline and the Baku-Tbilisi-Erzurum natural gas pipeline—along with the Southern Gas Corridor and its components such as the Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP)—contribute significantly to both the sustainable development and energy security of the OTS Member States and partner nations. These projects enhance energy sustainability and bolster European and global energy security. Furthermore, several other pipeline initiatives are underway, extending the energy connectivity of Turkic states to broader regions.

In our commitment to enhancing energy cooperation, we have established a framework for regular meetings among the Ministers of Energy from our Member States. The adoption of the OTS Program on Energy Cooperation for 2023-2027 and its Action Plan marks a significant milestone in our pursuit of integrated energy systems across Turkic states. OTS attaches foremost importance to clean and green energy solutions, mainly focusing on renewable energy sources such as solar, wind, and hydroelectric power.

As we continue to advance our collective efforts and achievements in enhancing transport and energy connectivity, as detailed in this report, I am confident that our initiatives will yield considerable progress.

This report is a result of a substantial investment in time, effort, and dedication of the ERCNET member institutions. I would like to acknowledge their contributions in the hope that you will enjoy reading this report and benefit from its findings.

**Amb. Kubanychbek Omuraliev**
Secretary General of the
Organization of Turkic States


# FOREWORD

I am pleased to introduce the Report on Turkic Economies 2024 - Strengthening Transport and Energy Connectivity among Turkic States. This report is the product of the research project of the Turkic Academy and represents a significant collaborative effort among the Turkic Network of Official Economic Policy Research Centers (ERCNET) members. The Turkic Academy acts as the Secretariat for this initiative in close collaboration with the Organization of Turkic States, highlighting our commitment to fostering economic growth and enhancing connectivity across our Member States.

In today's interconnected world, transport infrastructure and energy supply are not merely components of economic systems; they are the very backbone that supports sustainable growth and development. The ability to move goods efficiently across borders and ensure reliable energy supplies is essential for fostering trade, attracting investment, and enhancing overall economic resilience.

It is heartening to observe that Turkic states actively invest in developing their transport and energy infrastructure. These efforts are crucial for fostering an interconnected economy among Turkic states. In transportation, the emphasis on the Trans-Caspian International East-West Transport Corridor is particularly noteworthy. As global supply chains face unprecedented volatility, this corridor has emerged as a critical artery for international trade. Projections indicate that by 2030, improvements in infrastructure along this route could lead to a threefold increase in cargo transportation capacity. Such developments promise economic benefits and strengthen Turkic states' collective position in international trade dynamics.

While it is customary for countries rich in fossil fuels to rely heavily on these resources for power generation, the necessity for diversification through investments in renewable

energy cannot be overstated. The anticipated population growth and rapid urbanization within Turkic states will lead to an unprecedented rise in energy demand. Moreover, as the global energy landscape shifts towards sustainability, reducing dependency on fossil fuels becomes essential. Turkic states must prioritize the transition to cleaner energy systems to ensure their economic resilience and environmental stewardship in the years to come.

This report is vital for understanding the intricate dynamics of transport and energy connectivity and their profound impact on economic collaboration among Turkic states. The report highlights successful case studies, innovative practices, and strategic initiatives that have emerged within Turkic states, serving as valuable lessons for future endeavors. Further, the report serves as both a reflection of current achievements in enhancing connectivity among Turkic states and a roadmap for subsequent actions. All chapters outline actionable recommendations aimed at overcoming existing challenges while maximizing the potential benefits of collaboration.

The first chapter of this report meticulously tracks the performance of economic relations among Turkic states, offering a comprehensive regional overview. It presents comparable statistics illuminating the current state of transport and energy connectivity. This foundational analysis highlights existing strengths and identifies areas where improvements are necessary.

Subsequent chapters delve into national perspectives, each contributing valuable insights into specific connectivity issues individual Turkic states face. These country-specific analyses underscore a shared readiness among Turkic states to enhance trade and investment through significant transport and energy infrastructure improvements. The findings affirm that by working together, Turkic states can create a robust framework for economic cooperation that benefits all member states.

The Turkic Academy remains committed to monitoring various sectors within the Turkic economies. Our dedication to publishing dedicated reports will continue to support the economic integration efforts among Turkic states.

On behalf of the Turkic Academy, I thank the ERCNET members for their dedication and hard work in preparing the report. Their collective efforts have undoubtedly contributed to a more profound understanding of the current state of transport and energy connectivity between Turkic economies.

I am confident that this report will prove invaluable in shaping future economic policies and strategies. I encourage all stakeholders to engage with its findings actively and contribute to realizing our shared goals.

**Prof. Dr. Shahin Mustafayev**
President of the Turkic Academy

# Acknowledgments

We want to express our deepest gratitude to all the individuals and organizations that contributed to creating the Report on Turkic Economies 2024 - Strengthening Transport and Energy Connectivity among Turkic States. This comprehensive report could not have been possible without their invaluable insights, support, and significant contributions.

First, we sincerely thank the Turkic Network of Official Economic Policy Research Centers (ERCNET) and its participating institutions. The dedication of their teams of researchers and analysts has been instrumental in gathering and analyzing the critical information necessary for this report.

We are also grateful to the various ministries and government agencies for providing critical feedback to the ERCNET participating institutions. Their willingness to share valuable information has enriched the content of this report.

Additionally, we would like to acknowledge the essential support of Turkic Academy staff for coordinating the preparation of the report and editing efforts to ensure clarity, coherence, and accuracy.

Our sincere gratitude goes to the Turkic Investment Fund for their contributions to Chapter I, which includes valuable data that establishes a comprehensive overview and provides a comparative regional analysis of the trends and conditions of Turkic economies, including in the transport and energy sectors.

Lastly, we would like to thank our Member States and Observers for their continued trust and support, which was instrumental in establishing the ERCNET and producing this report.

We want to acknowledge the significant contributions made by the following institutions:

| | |
|---|---|
| Chapter I | Turkic Academy and Turkic Investment Fund<br>*Assoc. Prof. Dr. Erhan Türbedar* |
| Chapter II | Center for Analysis of Economic Reforms and Communication of the Republic of Azerbaijan<br>*Vusala Cafarova* |

| | |
|---|---|
| Chapter III | Economic Scientific Research Institute of the Ministry of Economy of the Republic of Azerbaijan<br>*Sabina Mammadli, Intizar Rustamova, Turan Jafarov and Azer Huseynli* |
| Chapter IV | Economic Research Institute of the Ministry of National Economy of the Republic of Kazakhstan<br>*Dolores Tyulebekova and Alibek Raipov* |
| Chapter V | National Institute of Strategic Studies under the President of the Kyrgyz Republic<br>*S. T. Mukanbetov, K. D. Irgebaeva and S. M. Omurov* |
| Chapter VI | General Directorate of Trade Research and Risk Analysis under the Ministry of Trade of the Republic of Türkiye |
| Chapter VII | Center for Economic Research and Reforms under the Administration of the President of the Republic of Uzbekistan<br>*Dr. Obid Khakimov, Khurshed Asadov, Ph.D., Fazliddin Nasriddinov, Jamshid Akhmatov and Islombek Saparmatov* |
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| Chapter IX | Eastern Mediterranean University<br>*Prof. Dr. Mustafa Tümer and Assoc. Prof. Dr. Burak Erkut* |

CHAPTER

I

# Overview of Turkic Economies

# I.A Performance of Turkic economies

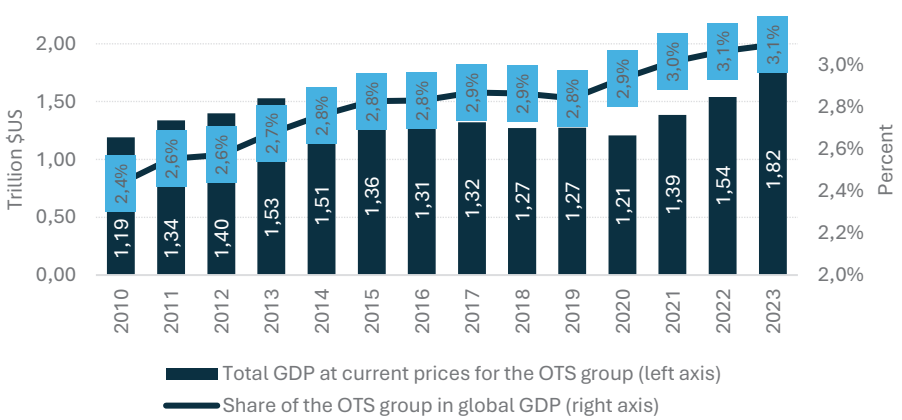
The OTS countries, as a group, have experienced economic fluctuations over the past decade; however, they are now on a path toward recovery and growth, as evidenced by both total GDP increases and an expanding share of global GDP. While the OTS has demonstrated impressive GDP growth from 2022 to 2023, further efforts are necessary to enhance its competitive position on a global scale. The latest trends in the OTS economies indicate positive momentum that could be harnessed through strategic policy initiatives to sustain this economic growth.

## I.A.1 Market Size

The data provided in Figure I.1 outlines the total Gross Domestic Product (GDP) at current prices for the OTS from 2010 to 2023, alongside its share in global GDP. The total GDP figures show a general upward trend, with notable fluctuations over the years. In 2010, the total GDP was approximately $1.19 trillion, steadily increasing to about $1.82 trillion by 2023.

The 2010-2014 period shows a gradual increase in OTS GDP, with a significant jump from $1.19 trillion in 2010 to around $1.51 trillion by 2014. This period reflects a recovery phase after the global financial crisis and indicates economic stabilization within member states.

Figure I.1: Total GDP of the OTS group and its share in global GDP
*(trillion $US at current prices and percent)*




Source: World Bank, World Development Indicators; IMF, World Economic Outlook, April 2024 update; TRNC Statistical Institute; 2023 GDP value for TRNC is an estimation.
Note: All OTS member states and observers are included. The share in the global GDP is expressed in percent of world GDP in PPP dollars.

Following this growth, there was a noticeable decline in OTS GDP during 2015-2020, dropping to approximately $1.21 trillion by 2020. A resurgence is evident post-2020,

with GDP rising again to reach roughly $1.82 trillion by 2023. This rebound suggests recovery efforts after the COVID-19 pandemic and effective policies implemented by OTS economies in response to previous downturns.

The data provided in Figure I.1 indicates that the total GDP for the OTS economies increased from $1.54 trillion in 2022 to $1.82 trillion in 2023. This represents a growth of approximately 18.3% year-over-year, which is a significant increase and suggests a robust economic performance.

*The OTS economies have demonstrated impressive GDP growth from 2022 to 2023, reaching $1.82 trillion by the end of 2023 and maintaining their share of global GDP at 3.1%.*

The share of the OTS group in global GDP has also shown an upward trajectory over the years. Starting at about 2.4% in 2010 and increasing gradually to around 2.8% by 2015, it indicates that while the absolute size of the Turkic economies was growing, it was also gaining a slightly larger proportionate share of the global economy. The OTS group's share in global GDP remained stable at around 2.8% to 2.9% in 2016-2020. This stability amidst declining absolute GDP figures suggests that while individual economies faced challenges, their relative performance compared to global trends remained consistent.

In 2021-2023, a notable increase was observed as the share of the OTS group in the global economy reached about 3.1% by 2023. This increase indicates recovery and potentially improved competitiveness or growth rates relative to other regions globally.

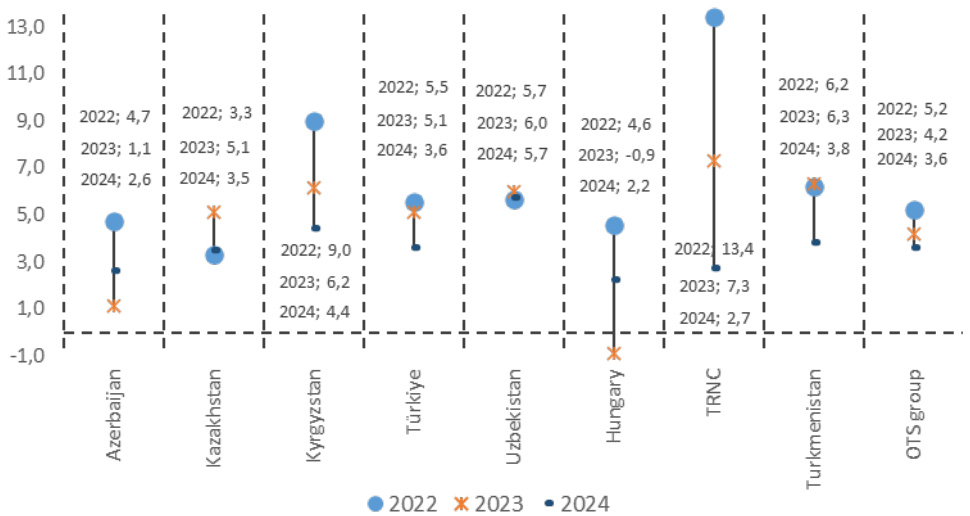
The actual and projected real GDP growth rates for OTS economies at the individual level are presented in Figure I.2. In 2022, Azerbaijan experienced a robust growth rate of 4.7%. However, this value significantly dropped to 1.1% in 2023. The forecast for 2024 suggests a recovery with an expected growth rate of 2.6%. Azerbaijan is actively working to diversify its economy, which has traditionally relied on natural resources.

Azerbaijan's real GDP growth is projected to accelerate gradually in the medium term, driven by increased gas production to meet supply commitments to the EU. Furthermore, growth in the non-oil and gas sectors and enhanced trade along the Trans-Caspian International Transport Route are expected to boost further Azerbaijan's economic development (EIU, 2024).

Kazakhstan's economy grew by 3.3% in 2022 and saw a notable increase to 5.1% in 2023. However, the forecast for 2024 indicates a decrease to 4.0% of growth. In the medium term, Kazakhstan's average annual growth is projected to remain robust, bolstered by energy, industrial, and construction activity. Additionally, the

diversification of exports through the Trans-Caspian International Transport Route is anticipated to enhance further Kazakhstan's economy's growth (EIU, 2024).

Figure I.4: Real GDP growth
*(percent change)*




Source: World Bank, World Development Indicators; TRNC Statistical Institute; World Bank (2024) provides estimates for the TRNC data for 2023 and 2024, while the remaining 2024 data is based on estimates from the Economist Intelligence Unit.
Note: The OTS average is computed as a weighted average, with the weights reflecting the relative importance of each economy within the group's total GDP in PPP.

The Kyrgyz Republic exhibited impressive growth rates, with a remarkable 9.0% in 2022, followed by a robust performance of 6.2% in 2023. The projection for 2024 at 4.4% still reflects substantial growth but indicates a potential cooling off from the previous highs. The Kyrgyz economy is susceptible to fluctuations in the economies of its major trading partners, including Russia, China, and Kazakhstan. The proposed construction of a railway link connecting China, Uzbekistan, and the Kyrgyz Republic presents significant opportunities for the construction industry and can potentially enhance the Kyrgyz Republic's trade and investment prospects in the long term (Kwan, 2024).

Despite the elevated geopolitical and trade tensions, macroeconomic headwinds, and COVID-19's second-order impacts on the global economy during the last few years, Türkiye's economic growth has remained resilient. Being the 17$^{th}$ largest economy in the world and 7$^{th}$ in Europe, the Turkish economy grew by 5.1% in 2023 with a GDP of $1.13 trillion at current prices. Although the growth rate is expected to slow down to 3.6% in 2024 as a result of the macroeconomic rebalancing, Türkiye's growth momentum is set to continue in the coming years, thanks to its dynamic economic structure, which is underpinned by highly diversified industrial, manufacturing, services, tourism, and

agricultural sectors, alongside a strategic geographical location with a young and well-educated population.

Uzbekistan maintained steady growth with rates of 5.7% in both years (2022 and projected for 2024) while experiencing a slight dip to 6.0% in 2023. This consistency suggests resilience within its economic structure. Uzbekistan's economy is projected to experience robust annual average growth in the mid-term, driven by private consumption, investment, remittance flows, steady population growth, and performance in retail trade, construction, and mining sectors (EIU, 2024).

*The average GDP growth for the OTS group shows stability with value around 4.2% in 2023, which is projected to decline at around 3.6% in 2024.*

Hungary presents a contrasting scenario with an initial growth rate of 4.6% in 2022 followed by a contraction of -0.9% in 2023 before rebounding slightly to an expected growth of 2.2% in 2024 (Figure I.2). The growth of the Hungarian economy is expected to accelerate in the medium term as Hungary's primary EU trading partners begin to recover more robustly, significantly benefiting key industries such as automotive, electronics, and machinery (IMF, October 2024).

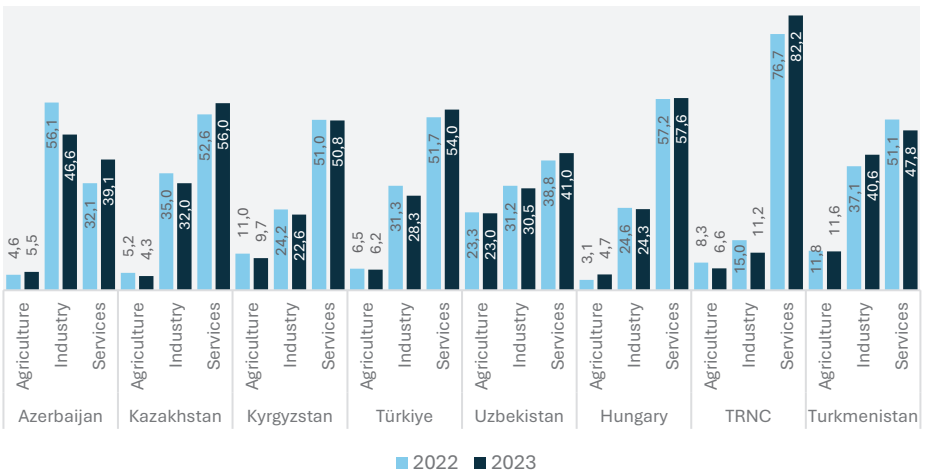
The Turkish Republic of Northern Cyprus (TRNC) experienced remarkable economic growth in 2022, achieving a staggering rate of 13.4%. However, this growth is projected to decelerate significantly to just 2.7% in 2024, following a recorded rate of 7.3% in 2023 (Figure I.2).

On the other hand, Turkmenistan's economy grew steadily at rates above 6% in 2022 and 2023, with expectations set lower at 3.8% by the end of 2024 (Figure I.2). Fixed investment, robust public spending, and active agricultural and industrial sectors will continue to drive economic growth in Turkmenistan (EIU, 2024).

Figure I.3 illustrates the contributions of agriculture, industry, and services to the GDP of OTS economies. From 2022 to 2023, these economies saw a clear trend toward increasing reliance on the services sector as part of their GDP composition while experiencing varying degrees of decline or stabilization in the agriculture and industrial sectors.

Almost all OTS countries, except for Turkmenistan, experienced an upward trend in service contributions in 2023. Again, all OTS economies, except for Turkmenistan, have experienced reductions in industrial contributions to GDP during the same period. Agriculture appears less dynamic than other sectors but varies by country (Figure I.3). For example, in 2022 and 2023, the contribution of the agriculture sector to the GDP of Uzbekistan was around 23%, while in the Kyrgyz Republic and Turkmenistan, it was around 11%.

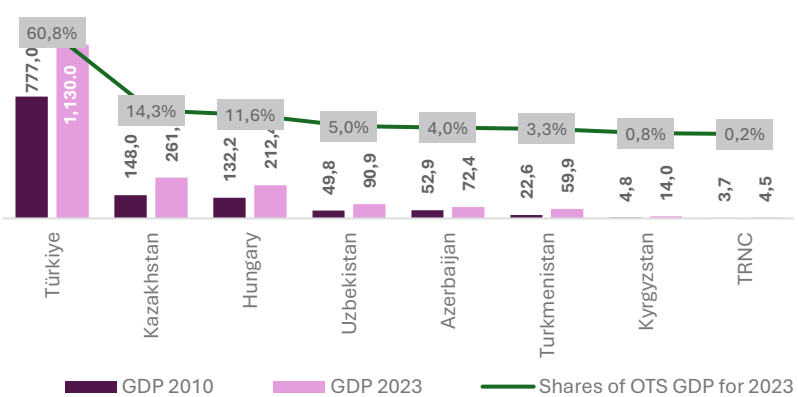
Figure I.3: Sectoral Breakdown of GDP
*(percent)*




Source: World Bank, World Development Indicators; TRNC Statistical Institute.
Note: Values for the TRNC and Turkmenistan are from 2021 and 2022. Agricultural values encompass forestry and fishing, while industrial values include construction. Due to the inclusion of Financial Intermediation Services Indirectly Measured (FISIM) in GDP but not in gross value added, the defined shares of the three sectors may not sum to exactly 100%.

In 2010, Türkiye's GDP was approximately $777 billion, which grew to about $1,130 billion by 2023. This represents a significant increase in economic output, highlighting Türkiye's dynamic economy. Türkiye accounts for 60.8% of the total OTS GDP in 2023, indicating its prominent economic position (Figure I.4).

Figure I.2: GDP of OTS economies and their intra-group shares
*(billion $US at current prices and percent)*



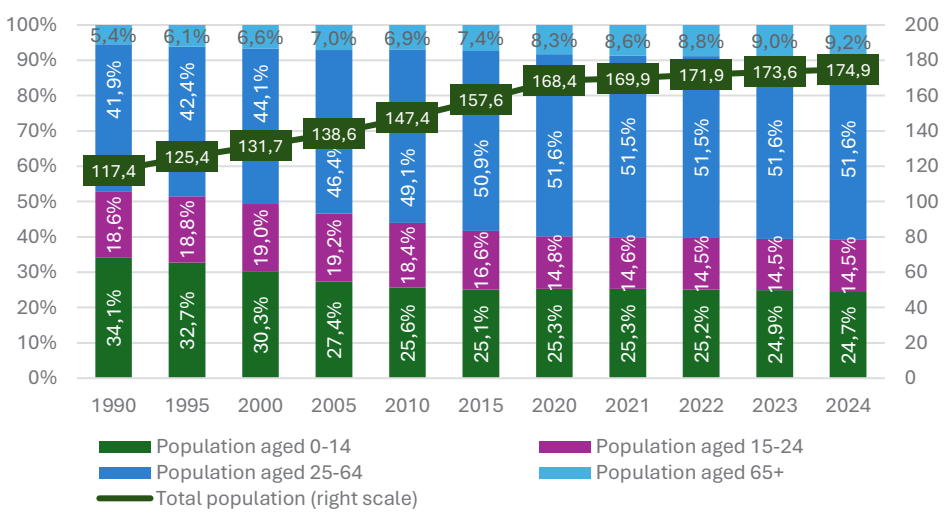

Source: World Bank, World Development Indicators; IMF, World Economic Outlook, April 2024 update; TRNC Statistical Institute.

Kazakhstan's nominal GDP rose from $148 billion in 2010 to $261.4 billion in 2023. With a share of 14.3%, Kazakhstan remains the second biggest economy of the OTS group. Hungary experienced growth from $132.2 billion to $212.4 billion over the same period and holds an 11.6% share of OTS GDP. Uzbekistan's economy grew from $49.8 billion in 2010 to $90.9 billion in 2023. Its share of the OTS GDP stands at 5%, reflecting its growing economic significance. Azerbaijan's GDP increased from $52.9 billion to $72.4 billion in the same period, contributing 4% to the total OTS GDP. The contribution of Turkmenistan, the Kyrgyz Republic, and the TRNC within the OTS GDP was 4.3%, as shown in 2023 (Figure I.4).

*While the OTS group is experiencing overall population growth, significant demographic changes are occurring that could influence future socio-economic dynamics within these states.*

The total population of the OTS countries rose from approximately 117.4 million in 1990 to an estimated 174.9 million by 2024. In 1990, the population aged 0-14 constituted 34.1% of the OTS population, which has decreased to an estimated 24.7% by 2024. This decline suggests a decreasing birth rate and/or changes in family planning practices within the OTS countries, indicating a potential future challenge regarding workforce sustainability and support for aging populations. The percentage of individuals aged 15-24 has also declined from 18.6% in 1990 to about 14.5% in 2024.

Figure I.5: Population of the OTS group
*(Percent by age groups and total)*



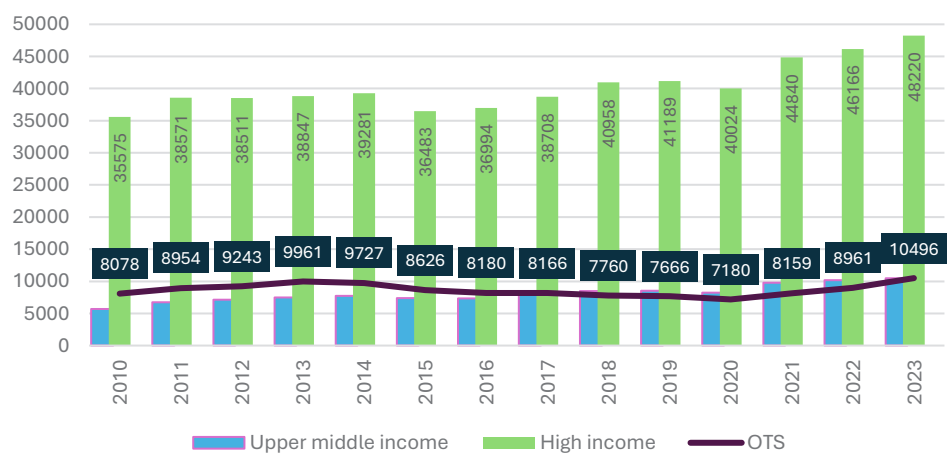

Source: UN, World Population Prospects 2024; TRNC Statistical Institute.
Note: All OTS member states and observers are included; the 2024 data are estimations.

Conversely, the OTS population aged 25-64 has increased significantly from 41.9% in 1990 to a stable estimate of around 51.6% by 2024. This rise indicates a growing working-age population, which can benefit economic productivity if provided with jobs and resources. The proportion of older adults (65+) has risen from just 5.4% in 1990 to an estimated 9.2% by 2024, reflecting global trends towards aging populations due to improved healthcare and longevity.

GDP per capita is a crucial economic indicator that reflects the average economic output per person. It is often used to gauge populations' economic performance and living standards. The data provided in Figure I.6 shows GDP per capita in current US dollars for three categories: the OTS group, Upper Middle-Income countries, and High-Income countries.

The OTS group shows a fluctuating trend in GDP per capita over the years. Starting at $8,078 in 2010, there was a notable increase to $10,496 by 2023. However, this growth was not consistent. The overall trajectory indicates that, while there were periods of growth—particularly between 2010 and 2013 and again from 2021 to 2023—the average GDP per capita of the OTS group decreased from 2014 to 2020. Still, the last three years show a strong recovery and growth trajectory that surpasses pre-pandemic levels by 37% in 2023 compared to 2019.

Figure I.6: GDP per capita
*(US$ at current prices)*




Source: World Bank, World Development Indicators; TRNC Statistical Institute. All OTS member states and observers are included.

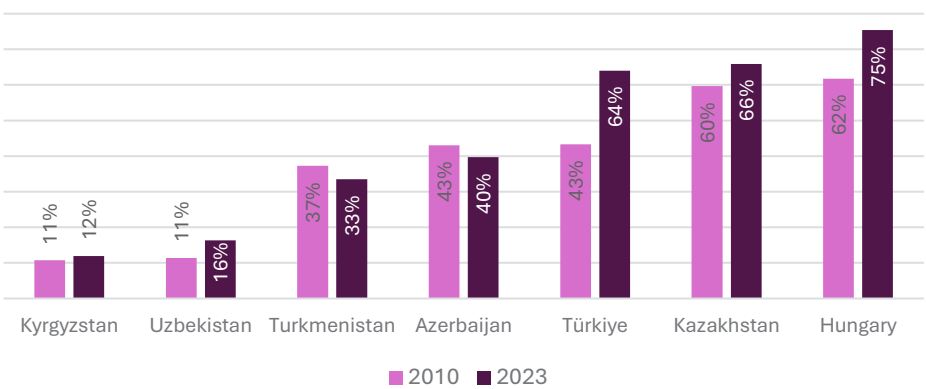
As of 2023, the average GDP per capita of the OTS group ($10,496) was slightly higher than that of Upper Middle-Income countries ($10,462). Although the Upper Middle-Income group initially demonstrated a strong recovery following the COVID-19 pandemic, it has since experienced stagnation characterized by declining growth

rates in GDP per capita. Nevertheless, the average GDP per capita of the OTS group remains significantly lower than that of High-Income countries, which reached $48,220 in 2023 (Figure I.6).

*While the OTS group is experiencing overall population growth, significant demographic changes are occurring that could influence future socio-economic dynamics within these states.*

Figure I.7 illustrates the changes in real GDP per capita for OTS countries in relation to the European Union average, measured in terms of purchasing power parity (PPP) at constant 2021 international dollars. The data highlights diverse trajectories among OTS economies regarding their economic development relative to the EU average. Countries like Türkiye, Kazakhstan, and Hungary exemplify successful growth strategies, leading them closer to EU standards.

Figure I.7: Real GDP per capita as a percent of the European Union average
*(EU=100, PPP at constant 2021 international $)*




Source: World Bank, World Development Indicators. IMF, World Economic Outlook estimations for Turkmenistan. Data for TRNC not available.

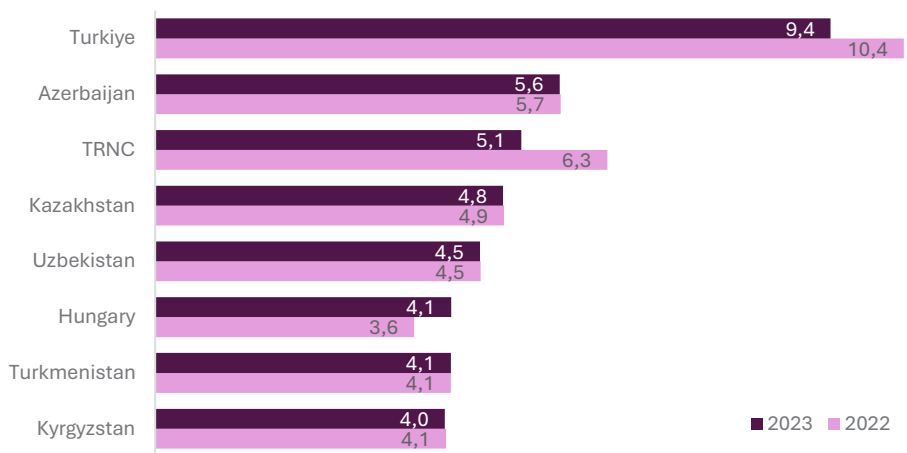
The most remarkable improvements from 2010 to 2023 are seen in Türkiye and Hungary, indicating more favorable conditions for growth. Kazakhstan's performance shows some volatility but reflects an upward trajectory. Starting at 60% in 2010, its GDP per capita reached 68% of the EU average in 2013-2014 and again in 2020 before declining to around 64%-66% from 2021 onwards. On the other hand, although Uzbekistan's GDP per capita remains significantly below the EU average (Figure I.7), it demonstrates promising growth trajectories that could indicate emerging market potential if these trends are sustained.

Conversely, both Turkmenistan and Azerbaijan have faced declines despite their initial higher percentages in GDP per capita relative to the EU average (Figure I.7).

Azerbaijan's GDP per capita as a percentage of the EU average has fluctuated over the years. Starting at 43% in 2010, it dipped to a low of 39% between 2017 and 2022 before recovering slightly to 40% in 2023.

The unemployment rates for the OTS economies from 2022 to 2023 show varying trends. While Azerbaijan, Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan maintained stable unemployment rates, Türkiye and TRNC exhibit positive trends toward reducing unemployment rates. Hungary stands out with an increase in its unemployment figure, whereas the TRNC demonstrates the most substantial improvement among the OTS group (Figure I.8).

Figure I.8: Total unemployment
*(percent of total labor force)*




Source: International Labour Organization (modeled ILO estimate); TRNC Statistical Institute.

## I.A.2 Macroeconomic stability

Table I.1 indicates a general trend of rising inflation rates in most OTS economies during 2022, followed by a decreasing rate in 2023. In 2022, many OTS economies experienced peak inflation rates, primarily driven by global economic disruptions. Türkiye's average inflation rate was 19,6% in 2021, peaked at 72,3% in 2022, and then declined to 53,9% in 2023. The TRNC also exhibits extreme volatility, with a high inflation rate peaking at 94.5% in 2022 before slightly declining to 83.6% in 2023.

*In 2022, most OTS economies experienced rising inflation rates, followed by a decrease in 2023.*

Hungary's inflation rose from 5.1% in 2021 to 14.6% in 2022, peaking at 17.1% in 2023. This consistent increase suggests underlying issues such as supply chain disruptions and

energy price hikes, particularly exacerbated by geopolitical tensions affecting energy supplies.

Kazakhstan's inflation rate was 8% in 2021, surged to 15% in 2022, and slightly decreased to 14.6% in 2023. Azerbaijan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan demonstrated some resilience with declining inflation rates in 2023 (Table I.1).

Table I.1: Annual average rate of inflation in the OTS Countries

| | 2000 | 2005 | 2010 | 2015 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|
| Azerbaijan | 1.8% | 9.6% | 5.7% | 4.0% | 2.8% | 6.7% | 13.9% | 8.2% |
| Hungary | 9.8% | 3.6% | 4.9% | -0.1% | 3.3% | 5.1% | 14.6% | 17.1% |
| Kazakhstan | 13.2% | 7.5% | 7.1% | 6.7% | 6.8% | 8.0% | 15.0% | 14.6% |
| Kyrgyzstan | 19.7% | 4.3% | 8.0% | 6.5% | 6.3% | 11.9% | 13.9% | 10.8% |
| Türkiye | 55.0% | 8.2% | 8.6% | 7.7% | 12.3% | 19.6% | 72.3% | 53.9% |
| Turkmenistan | 8.0% | 10.7% | 4.4% | 7.4% | 6.1% | 19.5% | 11.2% | -1.7% |
| Uzbekistan | 25.0% | 10.7% | 12.3% | 8.5% | 12.9% | 10.8% | 11.4% | 10.0% |
| TRNC | 53.2% | 2.7% | 3.2% | 7.8% | 15.0% | 46.1% | 94.5% | 83.6% |

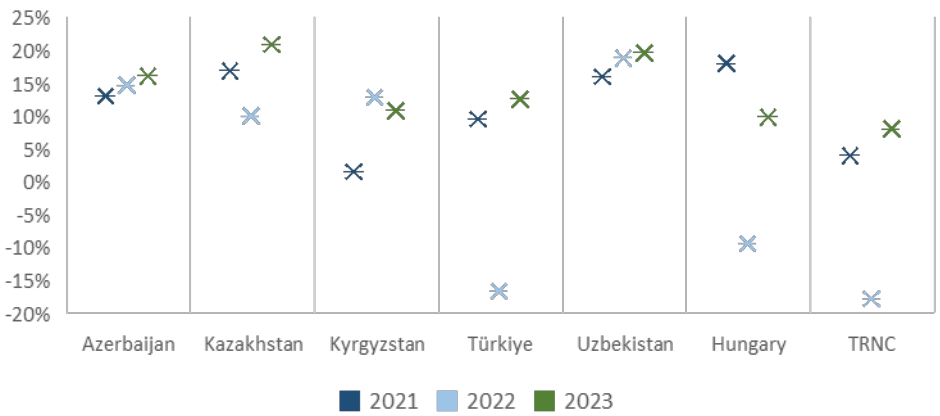
Source: IMF, World Economic Outlook database, April 2024 update; TRNC Statistical Institute.

The growth of domestic credit to the private sector is a crucial indicator of economic health and development. It plays several significant roles in fostering economic activity, enhancing financial stability, and promoting overall growth. Sustainable growth in domestic credit supports long-term economic stability by providing businesses with the necessary resources for continuous development while ensuring that households can maintain their living standards through responsible borrowing practices.

Azerbaijan, Kazakhstan, and Uzbekistan have demonstrated a stable increase in domestic credit to the private sector from 2021 to 2023. Throughout this period, Azerbaijan and Uzbekistan consistently recorded strong credit growth, reflecting robust economic policies aimed at supporting private sector development (Figure I.9). Kazakhstan experienced a significant decline in the growth of domestic credit to the private sector from 2021 to 2022. However, it rebounded impressively in 2023, achieving a remarkable growth rate of 20.9%.

The Kyrgyz Republic's private sector credit growth was modest in 2021 but saw substantial improvement in subsequent years, although it slightly declined in 2023 compared to the previous year. In contrast, Türkiye, Hungary, and TRNC faced significant challenges that led to negative growth rates in domestic credit to the private sector in 2022. The recovery seen in 2023 suggests some stabilization in all three economies (Figure I.9).

Figure I.9: Growth of domestic credit to private sector
*(percent change)*




Source: World Bank, World Development Indicators; TRNC Central Bank.

The average lending interest rate is a critical indicator that reflects the cost of borrowing money from financial institutions. It serves as a barometer for the overall health of an economy. When rates are low, it typically indicates that central banks are trying to stimulate economic growth by making borrowing cheaper. Conversely, high rates may signal attempts to curb inflation or cool down an overheating economy. Higher interest rates can reduce consumer spending and business activities due to increased costs.

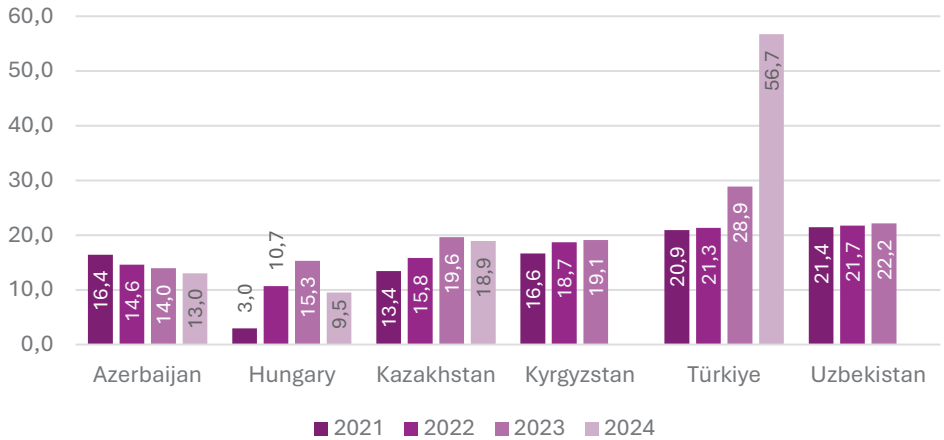
The trends in Figure I.10 suggest that while some OTS economies are moving towards lower interest rates, others face escalating costs. The average lending rate decreased from 16.4% in 2021 to 14.0% in 2023 in Azerbaijan, indicating a trend towards lower borrowing costs. The projection for 2024 suggests a decline to 13.0%.

*While some OTS economies are transitioning towards lower interest rates, others are grappling with rising costs that are putting pressure on overall economic stability.*

Kazakhstan's lending rates rose from 13.4% in 2021 to a peak of 19.6% in 2023, with a slight decrease projected for 2024 at 18.9%. Uzbekistan's lending rates have remained relatively stable but high, starting at 21.4% in 2021 and slightly increasing to around 22.2% by 2023.

In 2023, Türkiye recorded the highest average lending rate among OTS economies. The country's average lending interest rate stood at 20.9% in 2021, rising slightly to 21.3% in 2022, then increasing to 28.9% in 2023. It is further projected to reach 56.7% in 2024.

Figure I.10: Average lending interest rate
*(percent)*




Source: IMF, International Financial Statistics; Kazakhstan and Türkiye data from the Economist Intelligence Unit (EIU), along with EIU estimates for 2024.
Note: Lending rate is the bank rate that usually meets the short- and medium-term financing needs of the private sector.

Hungary experienced significant fluctuations in its lending rates, starting at a low of 3% in 2021 and rising sharply to 15.3% by 2023 before dropping to an estimated 9.5% in 2024. The sharp rate increase during this period correlates with inflationary pressures and adjustments in monetary policy aimed at stabilizing the economy.

The government budget balance as a percentage of GDP measures the difference between a government's revenues and expenditures relative to the country's GDP. A positive balance indicates a surplus, where revenues exceed expenditures, while a negative balance indicates a deficit. This indicator serves as a vital sign of a country's fiscal health. When deficits occur over extended periods, they contribute to rising national debt as governments borrow to cover shortfalls.

Throughout the 2020-2024 period, Kazakhstan (except for 2022), the Kyrgyz Republic (apart from 2023), Türkiye, Uzbekistan, Hungary, and the TRNC have consistently faced government budget deficits. In contrast, Azerbaijan and Turkmenistan have maintained relatively stable budget balances during the same period (Table I.2).

The TRNC has exhibited relatively stable but negative balances, ranging from -2.0% in 2022 to projected values of approximately -1.5% for 2023 and -2.3% for 2024. This relative stability also indicates the financial support received from Türkiye, the most significant funding source to help TRNC alleviate the financing gap between revenues and budget expenditures (World Bank, 2024: 12).

Table I.2: Government budget balance as a percentage of GDP
*(percent)*

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| Azerbaijan | -6.4 | 4.2 | 6.0 | 1.7 | -1.1 |
| Kazakhstan | -7.0 | -5.0 | 0.1 | -1.5 | -2.2 |
| Kyrgyzstan | -3.1 | -0.7 | -0.3 | 2.0 | -1.4 |
| Türkiye | -4.7 | -3.0 | -1.1 | -5.5 | -5.4 |
| Uzbekistan | -3.3 | -4.6 | -4.3 | -4.9 | -3.7 |
| Hungary | -7.6 | -7.2 | -6.2 | -6.7 | -5.2 |
| TRNC | -5.2 | -4.8 | -2.0 | -1.5 | -2.3 |
| Turkmenistan | -0.1 | 0.5 | 2.5 | 1.3 | 0.9 |

Source: IMF, World Economic Outlook database, April 2024 update; TRNC Statistical Institute; World Bank (2024) estimates the TRNC data for 2023 and 2024.

The increasing demands of countries are often not matched by the necessary resources to fulfill them. Many developing nations struggle with insufficient investment capital due to low national savings from households, governments, and corporations. Typically, investment financing comes from domestic savings (both private and public) or foreign savings. However, in many developing countries, generating enough domestic savings to meet the funding requirements for investment projects is nearly impossible. This situation heightens a country's dependence on external financial flows.

*OTS countries with total investments that exceeded their gross national savings are more dependent on external financial flows and more vulnerable to external shocks.*

Ordinary neoclassical growth models posit that foreign savings are ideal substitutes for domestic investment financing. However, some empirical studies indicate that the sustainability of economic growth is at considerable risk when the share of foreign savings in total funding is excessively high. Under such circumstances, national economies may become more vulnerable to external shocks (Prasad et al., 2007).

As shown in Table I.3, in 2023, Kazakhstan, the Kyrgyz Republic, Türkiye, and Uzbekistan had total investments that exceeded their gross national savings. In these countries, the existing level of savings was insufficient to meet national economic objectives, necessitating reliance on foreign savings for economic development. The savings-investment gap appears to be most pronounced in the Kyrgyz Republic.

Table I.3: Domestic savings-investment gap

| | | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| Azerbaijan | Total investment (% GDP) | 17.1 | 12.6 | 21.8 |
| | Gross national savings (% GDP) | 31.5 | 38.8 | 27.8 |
| Kazakhstan | Total investment (% GDP) | 26.5 | 24.9 | 25.9 |
| | Gross national savings (% GDP) | 25.2 | 28.1 | 22.1 |
| Kyrgyzstan | Total investment (% GDP) | 23.4 | 22.7 | 23.3 |
| | Gross national savings (% GDP) | 15.4 | -20.9 | -7.1 |
| Türkiye | Total investment (% GDP) | 31.4 | 35.0 | 29.4 |
| | Gross national savings (% GDP) | 30.6 | 30.0 | 26.0 |
| Uzbekistan | Total investment (% GDP) | 40.1 | 39.3 | 42.8 |
| | Gross national savings (% GDP) | 33.1 | 38.5 | 37.9 |
| Hungary | Total investment (% GDP) | 30.5 | 33.6 | 25.5 |
| | Gross national savings (% GDP) | 26.4 | 25.5 | 25.9 |

Source: IMF, International Financial Statistics.
Note: A negative number indicates that the economy as a whole is spending more income than it produces, thus drawing down national wealth.

Azerbaijan's figures show an interesting trend where total investment surged dramatically from just 12.6% of GDP in 2022 to a notable rise at 21.8 % by 2023, despite experiencing a decrease in gross national savings from 38.8 % down to 27.8% during this period.

Kazakhstan's data for 2022 and 2023 shows stable levels of total investment, which increased marginally from 24.9% to 25.9% of GDP, while gross national savings fell from 28.1% in 2022 to 22% of GDP in 2023. Türkiye experienced a decline in both total investment and gross national savings between 2022 and 2023, whereas, in Uzbekistan, total investment rose significantly from 39.3% of GDP in 2022 to 42.8% in 2023, while gross national savings slightly decreased (Table I.3).

*Total reserves of OTS economies have increased from 2022 to 2023, indicating a strengthening of their economic stability.*

Total reserves refer to the assets a country's central bank or monetary authority holds that can be used to back liabilities and influence monetary policy. As such, total reserves play a crucial role in maintaining economic stability. A higher level of reserves indicates that a country has sufficient assets to manage its currency's value and meet international payment obligations. Countries with substantial reserves are better positioned to withstand shocks during economic turmoil.

The data provided in Table I.4 outlines the total reserves, which include gold holdings, for six OTS countries with available data. Azerbaijan, Kazakhstan, and Türkiye show a consistent increase in total reserves from 2021 to 2023. Türkiye, which holds the highest absolute value of reserves, has experienced significant growth in total reserves, rising from $109.5 billion in 2021 to $140.9 billion in 2023.

Kazakhstan's reserves have also increased steadily but slower than those of Azerbaijan and Türkiye. In contrast, the reserves of the Kyrgyz Republic, Uzbekistan, and Hungary have shown minimal fluctuation during the same period.

Table I.4: Total reserves

| | Total reserves (includes gold) *(billion US$)* | | | Total reserves (includes gold) *(percent of GDP)* | | |
|---|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | *2021* | *2022* | *2023* |
| Azerbaijan | 8.3 | 11.3 | 13.7 | *15%* | *14%* | *19%* |
| Kazakhstan | 34.4 | 35.1 | 36.0 | *17%* | *16%* | *14%* |
| Kyrgyzstan | 3.0 | 2.8 | 3.2 | *32%* | *23%* | *23%* |
| Türkiye | 109.5 | 123.7 | 140.9 | *13%* | *14%* | *13%* |
| Uzbekistan | 35.4 | 35.8 | 34.6 | *51%* | *44%* | *38%* |
| Hungary | 43.5 | 41.2 | 45.7 | *24%* | *23%* | *22%* |

Source: World Bank, World Development Indicators.

In evaluating the economic stability of countries based on their total reserves as a percentage of GDP, Uzbekistan, despite experiencing a decline from an exceptionally high level of 51% in 2021, still holds the highest percentage among all analyzed OTS economies, with 38% in 2023.

On the other hand, Azerbaijan shows promising recovery, the Kyrgyz Republic maintains relatively high levels compared with others, whereas Kazakhstan shows trends with decreasing reserves relative to GDP. Türkiye and Hungary remain solid despite minor fluctuations. However, Hungary appears more stable than some OTS countries due to its higher absolute level of reserves relative to GDP.

### I.A.3 External sector

The current account balance reflects a country's financial transactions with the rest of the world. When expressed as a percentage of GDP, the current account balance provides valuable insights into a nation's economic health, including an indication of the country's level of international competitiveness. A country's current account balance primarily consists of its trade balance, but it is also influenced by foreign direct investment flows and remittances sent home by citizens living abroad.

While a current account deficit may initially seem detrimental, this is not always true. However, if the deficit results from an excess of imports over exports, it could indicate underlying competitiveness issues. On the other hand, maintaining a current account surplus enables countries to allocate those excess funds toward investments or to bolster their foreign currency reserves (Ghosh and Ramakrishnan, 2006).

Table I.5: Current Account Balance
*(Percentage of GDP)*

| | 2021 | 2022 | 2023 |
|---|---|---|---|
| Azerbaijan | 15.0% | 29.8% | 11.5% |
| Turkmenistan | 8.0% | 9.7% | 6.1% |
| Hungary | -4.0% | -8.2% | 0.3% |
| Kazakhstan | -1.4% | 3.1% | -3.3% |
| Türkiye | -0.8% | -5.0% | -3.6% |
| TRNC | -2.7% | 4.1% | -5.4% |
| Uzbekistan | -7.0% | -0.8% | -8.6% |
| Kyrgyzstan | -8.0% | -42.7% | -51.3% |

Source: IMF, Balance of Payments and International Investment Position Statistics; EIU estimates for Kyrgyzstan data in 2023; TRNC 2024 data based on World Bank (2024) estimates.

Azerbaijan, Turkmenistan, and Kazakhstan, which have significant energy exports, generally show better current account balances (Table I.5). Azerbaijan and Turkmenistan have experienced a substantial current account surplus from 2021 to 2023. Driven by the country's significant oil and gas exports, Azerbaijan's current account surplus reached a remarkable peak of 29.8% in 2022 before declining to 11.5% in 2023. The current account surplus in Turkmenistan has slightly decreased to 6.1% in 2023, yet the country maintains a favorable external position bolstered by its energy exports.

*Energy-exporting OTS economies tend to maintain a better current account balance compared to those that are energy-importing.*

The Kyrgyz Republic has experienced significant and worsening deficits over the past three years. In 2021, the deficit was -8%, but by 2022, it had surged to -42.7% and reached -51% in 2023. These numbers indicate a worsening trade imbalance, primarily driven by decreased net remittance inflows, lower gold exports, and unrecorded re-exports. The government of the Kyrgyz Republic decided to temporarily reduce gold exports in order to boost domestic production and improve export infrastructure (EIU, 2024). Still, the balance of payments of the Kyrgyz Republic recorded exceptionally large and positive errors and omissions, amounting to 37% of GDP in 2022 and 23.3% in 2023, which are reflected within the current account balance

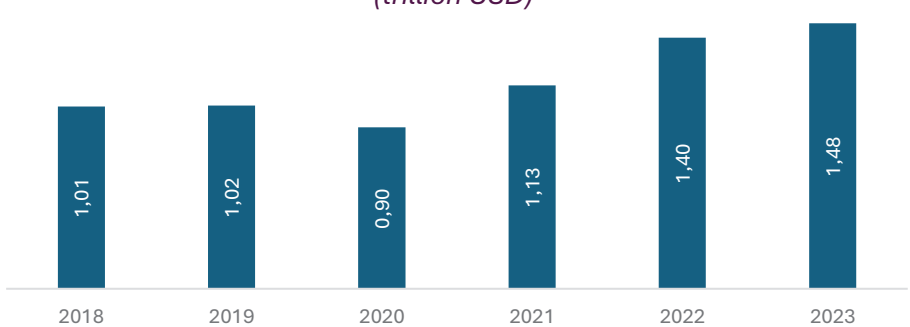
deficit. According to the IMF, these errors and omissions may indicate significant unrecorded re-exports to Russia that are not captured in trade statistics, as trade within the Eurasian Customs Union is exempt from customs declarations (IMF, January 2024: 3-4).

In 2023, Kazakhstan, Uzbekistan, and TRNC have seen worsening current account deficits. The share of the current account deficit in GDP in Türkiye increased from 0,8% to 5.0% in 2022, mainly due to international energy and commodity price hikes stemming from the escalated geopolitical tensions fueled by the war between Russia and Ukraine. However, in 2023, the current account deficit of Türkiye has declined to 3,6% of GDP. Hungary's shift to a balanced current account in 2023 suggests a positive adjustment due to more balanced import-export dynamics (Table I.5).

*The foreign trade turnover of OTS economies has increased from $1 trillion in 2018 to nearly $1.5 trillion in 2023, demonstrating the expanding trade partnerships of Turkic nations.*

Total trade turnover refers to the combined value of imports and exports over a specific period. The foreign trade turnover of goods and services for the OTS economies has shown a steady upward trend from 2018 to 2023. The COVID-19 pandemic disrupted international trade, supply chains, and economic activities globally, leading to a decline in the OTS group's trade turnover, which dropped to $0.90 trillion in 2020. Trade turnover rebounded sharply, reaching $1.13 trillion in 2021 and $1.40 trillion in 2022 (Figure I.11). The foreign trade turnover further increased to $1.48 trillion, showing continued growth. This suggests that the OTS group has recovered from the pandemic-induced downturn and made notable progress in expanding its trade volumes.

Figure I.11: Foreign trade turnover of goods and services of the OTS group *(trillion USD)*




Source: Data from UN Comtrade; UNCTAD for Turkmenistan; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC. The data regarding services is sourced from the UNCTAD. Service figures for Turkmenistan are based on estimations provided by UNCTAD. Services data for the TRNC is unavailable.

The export of goods and services from OTS economies to the world has shown a consistent upward trajectory from 2018 to 2023, with a slight dip in 2020 due to the global disruptions caused by the COVID-19 pandemic. Exports grew from $515.1 billion in 2018 to $722.0 billion in 2023, representing a significant increase of nearly 40% over the six years (Figure I.12).

*Total exports of OTS economies grew from $515.1 billion in 2018 to $722.0 billion in 2023, representing an increase of nearly 40%, while total imports rose by 51.3% in the same period from $499 billion in 2018 to $755.3 billion in 2023.*

Global imports of goods and services of OTS economies followed a similar growth pattern to exports, though at a more pronounced rate. From 2018 to 2023, imports rose from $499 billion to $755.3 billion, an increase of 51.3%. Import growth slowed slightly between 2019 and 2020, but the trend resumed in 2022 and 2023, indicating rising demand for goods and services from the global market.

Figure I.12: Trade balance of the OTS group
*(billion USD)*


Source: Data from UN Comtrade; UNCTAD for Turkmenistan; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC. The data regarding services is sourced from the UNCTAD. Service figures for Turkmenistan are based on estimations provided by UNCTAD. Services data for the TRNC is unavailable.

The OTS group experienced fluctuating trade balances from 2018 to 2023. In 2018, the group had a positive trade balance of $16.1 billion, which improved in 2019 to $32.3 billion. However, this shifted to a negative balance in 2020, recording a deficit of $21.8 billion. The trade balance saw a modest improvement in 2021, reaching $8.7 billion, but turned negative again in 2022 with a trade deficit of $13.0 billion. By 2023, the trade deficit deepened to $33.3 billion, reflecting a growing gap between imports and exports (Figure I.12).

Figure I.13: Export and import of goods and services of the OTS group
*(billion USD)*


Source: Data from UN Comtrade; UNCTAD for Turkmenistan; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC. The data regarding services is sourced from the UNCTAD. Service figures for Turkmenistan are based on estimations provided by UNCTAD. Services data for the TRNC is unavailable.

The share of services exports in total exports of OTS economies has remained relatively stable, with a noticeable increase in 2019 (22.4% of total exports, or $117.6 billion) and again in 2023 (22.4%, or $161.8 billion). The low point occurred in 2020 (16.4% of total exports, or $71.7 billion), which reflects the global economic slowdown caused by the COVID-19 pandemic (Figure I.13).

The share of services imports in total imports of OTS economies follows a similar trend, with the highest share in 2019 (16.4% of total imports, or $81 billion) and the lowest share in 2022 (13.2% of total imports, or $93.2 billion). In 2023, the share of services increased, reaching 14.7% of OTS imports, or $110.7 billion (Figure I.13).

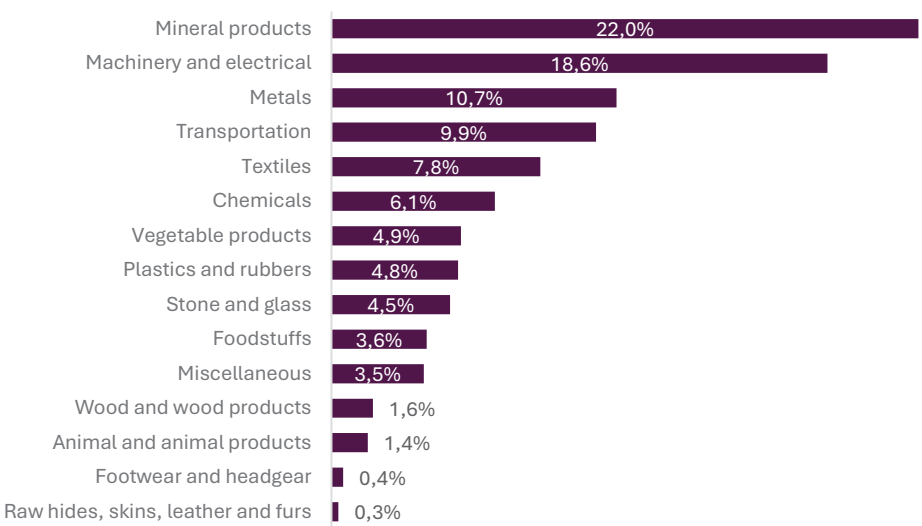
*From 2018 to 2023, the OTS economies exported significantly more services than they imported, with service exports totaling $161.8 billion and service imports amounting to $110.7 billion in 2023.*

The composition of goods exported by the OTS economies in 2023 reveals a diverse range of sectors, with mineral products being the dominant export category, accounting for 22% of OTS exports. This reminds that some OTS economies heavily rely on natural resources, particularly in the energy and mining sectors.

*In 2023, OTS economies' export structure primarily focuses on natural resource exports like minerals and energy but also sees a trend towards diversification from machinery, transportation, and manufacturing sectors.*

A significant share of exports (18.6%) comes from machinery and electrical products, highlighting the significant industrial capacity in some OTS economies. Metals (10.7%) also contribute substantially to total exports, which are crucial for global industries such as construction and manufacturing. Transportation (9.9%) is another important category, while textiles (7.8%) and chemicals (6.1%) also play a notable role in the export profile of the OTS group of economies (Figure I.14). Other sectors, including vegetable products (4.9%), plastics and rubbers (4.8%), stone and glass (4.5%), and foodstuffs (3.6%), contribute smaller, but still significant, portions to export of goods of OTS group.

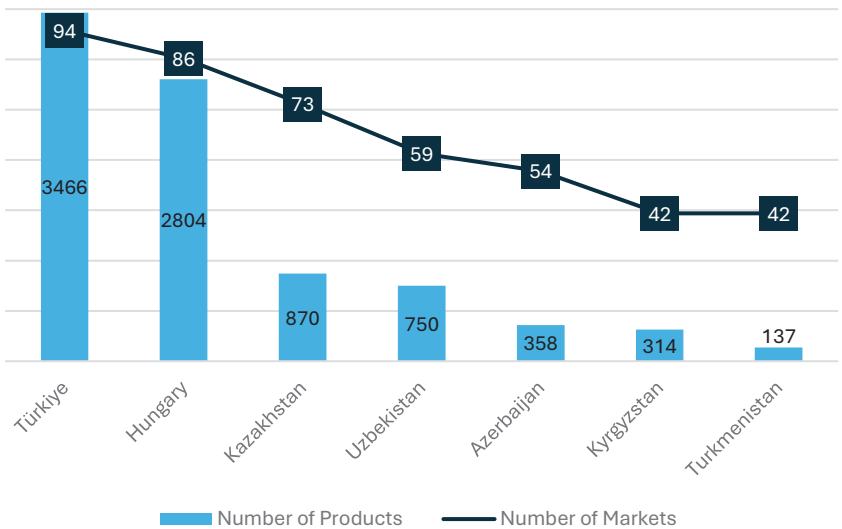
Figure I.14: Export of the OTS economies by commodity groups
*(2023, percent of total exports)*




Source: Euromonitor International based on UN International Merchandise Trade Statistics. Data for TRNC not available.

The export structure of the OTS economies in 2023 underscores the reliance on natural resource exports, mainly mineral and energy products. However, there is also a clear trend toward diversification, with growing contributions from machinery, transportation, and manufacturing sectors. This reflects ongoing efforts to industrialize and modernize the economies, reducing reliance on raw materials.

Figure I.15: Number of products and markets in exports (2023)




Source: WITS based on Uncomtrade.
Note: This indicator gives the number of partner markets and number of products exported. A market is counted if the exporter ships at least one product to that destination in the given year with a trade value of at least $10,000. A product is counted if it is exported to at least one destination in the selected year with a value of at least $10,000.

The 2023 export data for the OTS economies reveals significant variation in the number of products and markets each member country engages with, reflecting the differing levels of economic diversification, industrial development, and global trade integration.

Türkiye stands out with the highest number of products (3,466) and markets (94), indicating its highly diversified export base. This reflects Türkiye's advanced industrial and manufacturing sectors, enabling it to export various goods across various industries. Türkiye's well-developed infrastructure, strategic location, and robust trade networks have contributed to its ability to access a broad range of markets worldwide.

Hungary follows closely with 2,804 products and 86 markets. Like Türkiye, Hungary's export profile is diverse, reflecting its advanced industrial and agricultural production capabilities. Hungary is well integrated into European markets due to its membership in the European Union, facilitating easy access to a wide array of markets within Europe and beyond.

With 870 products and 73 markets, Kazakhstan demonstrates a more moderate level of export diversification. The country is rich in natural resources such as oil, gas, and minerals, accounting for many of its exports.

With 750 products and 59 markets, Uzbekistan is similarly focused on expanding its export diversity. Azerbaijan, with a relatively lower number of products (358) and markets (54) in 2023, indicates that its export structure is still focused on a limited set of sectors, with energy dominating its export portfolio.

The Kyrgyz Republic, with 314 products and 42 markets, has a less diversified export base, largely driven by agricultural products, gold, and some manufactured goods. Turkmenistan, whose exports are primarily focused on natural gas and oil, has the fewest export products (137) and markets (42) among the OTS economies presented in Figure I.15.

In 2023, foreign trade performance among the OTS economies showed significant variation. That year, Azerbaijan achieved a positive trade balance of $14.29 billion despite a 7% decrease in exports compared to 2022. In 2023, the country experienced a significant import increase, which rose by 16.2%.

In 2023, Hungary also achieved a positive trade balance of $19.81 billion, with exports increasing by 7.4% while imports decreased by 4% year-on-year. Kazakhstan's trade balance stood at $15.76 billion in 2023, benefiting from a modest export increase of 5.8%, although imports surged dramatically by 81%, reflecting increased domestic consumption or investment needs.

The Kyrgyz Republic and Uzbekistan reported negative trade balances of -$9.53 billion and -$18.72 billion, respectively, indicating that their imports exceeded exports significantly in 2023 despite notable increases in both categories.

Table I.6: Foreign trade performance of individual OTS economies
*(billion USD)*

| | Export of goods and services | | | Import of goods and services | | | Trade balance (billion USD) |
|---|---|---|---|---|---|---|---|
| | 2022 | 2023 | y-o-y change | 2022 | 2023 | y-o-y change | 2023 |
| Azerbaijan | 43,21 | 40,18 | -7% | 22,29 | 25,89 | 16,2% | 14,29 |
| Kazakhstan | 84,11 | 89,02 | 5,8% | 40,47 | 73,26 | 81% | 15,76 |
| Kyrgyzstan | 3,63 | 5,62 | 54,9% | 11,29 | 15,16 | 34,3% | -9,53 |
| Türkiye | 347,19 | 357,31 | 2,9% | 403,78 | 411,08 | 1,8% | -53,76 |
| Uzbekistan | 19,76 | 25,55 | 29,3% | 35,56 | 44,27 | 24,5% | -18,72 |
| Hungary | 180,76 | 194,18 | 7,4% | 181,70 | 174,37 | -4% | 19,81 |
| TRNC | 0,140 | 0,176 | 25,5% | 2,26 | 2,82 | 24,7% | -2,64 |
| Turkmenistan | 16,29 | 13,36 | -18% | 7,91 | 8,42 | 6,4% | 4,93 |

Source: Data from UN Comtrade; UNCTAD for Turkmenistan; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC. The data regarding services is sourced from UNCTAD. Service figures for Turkmenistan are based on estimations provided by UNCTAD. Services data for the TRNC is unavailable.

Notably, Türkiye's trade balance was significantly negative at -$53.76 billion, with slight growth in exports (2.9%) against rising imports (1.8%), which suggests ongoing challenges in achieving a favorable trade position due to dependence on energy imports.

The trade balance for Turkmenistan stood at $4.93 billion for 2023, indicating that despite the drop in exports that year, the country still maintains a positive trade balance due to import levels being relatively lower than exports.

The TRNC experienced an increase in exports from $140 million in 2022 to $176 million in 2023, marking a substantial growth of 25.5%. However, in 2023, the value of imports in the TRNC was nearly 16 times higher than its exports, which raises concerns about economic sustainability.

Table I.7: Top 15 destinations for export of goods of the OTS Group
*(billion USD)*

| 2022 | | 2023 | | 2023 share in OTS exports |
|---|---|---|---|---|
| Germany | 60,6 | Germany | 64,3 | 11,7% |
| Italy | 52,4 | Italy | 51,8 | 9,4% |
| China | 33,9 | China | 37,2 | 6,8% |
| Russia | 23,6 | Russia | 26,8 | 4,9% |
| US | 22,6 | US | 21,2 | 3,8% |
| UK | 19,3 | France | 20,4 | 3,7% |
| Netherlands | 19,1 | Romania | 19,2 | 3,5% |
| France | 19,1 | UK | 18,5 | 3,4% |
| Romania | 18,3 | Netherlands | 17,1 | 3,1% |
| Spain | 17,0 | Spain | 16,9 | 3,1% |
| Iraq | 13,9 | Türkiye | 14,5 | 2,6% |
| Poland | 12,8 | Poland | 14,0 | 2,5% |
| Türkiye | 12,0 | Iraq | 12,9 | 2,3% |
| Israel | 10,0 | Czechia | 10,1 | 1,8% |
| Czechia | 9,3 | Greece | 9,6 | 1,7% |

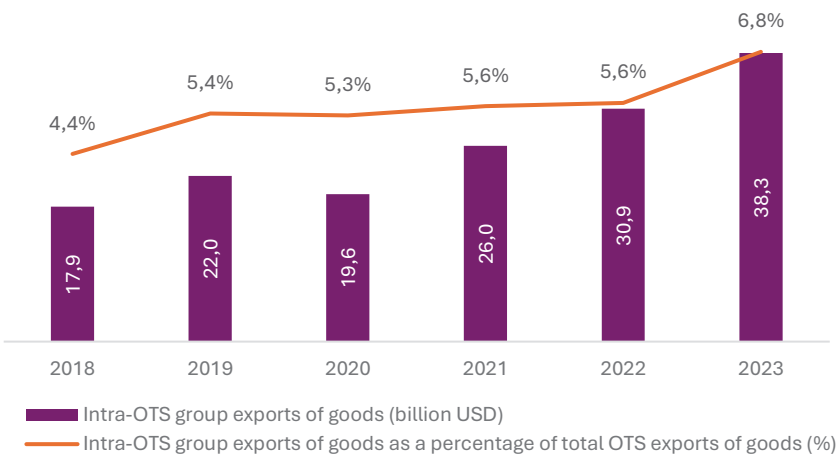
Source: IMF, Direction of Trade Statistics; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC.

*Germany was the leading destination for exports from the OTS economies in 2023, followed by Italy, China, Russia, and the United States.*

Germany continues to be the leading destination for exports from the OTS group, demonstrating a substantial increase in export value from 2022 to 2023. In 2023, the export value to Germany reached $64.3 billion, representing 11.7% of the total OTS

exports of goods. Following Germany, Italy is the second-largest destination, with an export value of $51.8 billion in 2023, representing 9.4% of total OTS exports of goods. China ranks third with an export value of $37.2 billion, making up 6.8% of OTS exports in goods. Other major export destinations for the OTS group are detailed in Table I.7. The top 15 export destinations for OTS goods accounted for 64.4% of the total exports of the OTS group.

Figure I.16: Intra-group trade of OTS economies
*(billion USD and percent)*




Source: IMF, Direction of Trade Statistics; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC.

The intra-OTS group exports of goods refer to the trade among the member states and observers of the OTS. The data provided in Figure I.16 outlines the volume of intra-OTS group trade from the perspective of exports of goods from 2018 to 2023. The overall trend indicates a steady increase in intra-OTS group exports over this period, except for 2020, which was marked by the COVID-19 pandemic and related shutdowns. The substantial growth observed from 2022 to 2023 saw exports surge from $30.9 billion to $38.3 billion, representing an impressive increase of approximately 23.8%.

*The volume of intra-group trade has increased from 4.4% in 2018 to 6.8% in 2023 as a percentage of total OTS exports of goods.*

The percentage of intra-OTS group exports of goods relative to total OTS exports of goods has also shown an upward trajectory, gradually rising from 4.4% in 2018 to a notable peak of 6.8% in 2023. This increase signifies that intra-group trade is becoming increasingly important within the overall context of OTS trade dynamics.

Comparing the growth in intra-OTS trade with other groups of countries helps understand this growth better. For instance, in 2023, intra-group trade constituted 58% of all G20 exports, 60% of exports from the EU, and 73% of OECD countries' exports. When comparing these ratios, it is evident that intra-OTS trade has risen to 6.8% of total OTS goods exports in 2023; however, this ratio remains significantly lower than the levels observed within organizations such as the EU or OECD.

The overall trends indicate that Türkiye, Azerbaijan, Kazakhstan, and Turkmenistan significantly increased their contributions to intra-OTS exports in 2023. The Kyrgyz Republic slightly increased its exports to other OTS economies by $76.1 million from 2022 to 2023. During the same period, the TRNC doubled its exports to Türkiye, while Hungary's exports to the OTS group increased by only 1%. In contrast, Uzbekistan's exports to other OTS economies slightly decreased by $40.8 million in 2023 compared to 2022 (Table I.8).

*The overall trends demonstrate that Türkiye, Azerbaijan, Kazakhstan, and Turkmenistan made significant increases in their contributions to intra-OTS exports in 2023.*

Türkiye's exports to OTS economies reached $13.44 billion in 2023, with 22% directed to Kazakhstan, 21% to Azerbaijan, 15% to the TRNC, and 14% to Uzbekistan. Türkiye was the leading exporter, accounting for a 35.1% share of total intra-OTS exports in 2023 (see Table I.8). Out of $2.34 billion increase in Türkiye's intra-group exports in 2023, $1.35 billion went to Kazakhstan, $452.6 billion to TRNC, $298.1 billion to the Kyrgyz Republic and $292.4 billion to Azerbaijan (Table I.9-D).

Table I.8: Contributions by individual economies to intra-OTS exports of goods *(billion USD and percent)*

| | 2021 | 2022 | 2023 | 2022/2023 change | Share in intra-OTS exports (2023) | Share in a country's total exports of goods (2023) |
|---|---|---|---|---|---|---|
| Azerbaijan | 2.93 | 3.73 | 5.66 | 52% ($1.93 billion) | 14,8% | 16.7% |
| Hungary | 2.50 | 2.61 | 2.63 | 1% ($21.9 million) | 6,9% | 1.7% |
| Kazakhstan | 4.60 | 7.16 | 9.05 | 26% ($1.89 billion) | 23,6% | 11.5% |
| Kyrgyzstan | 0.66 | 0.83 | 0.90 | 9% ($76.1 million) | 2,4% | 27.2% |
| Türkiye | 9.59 | 11.11 | 13.44 | 21% ($2.34 billion) | 35,1% | 5.3% |
| Turkmenistan | 1.50 | 2.19 | 3.29 | 50% ($1.1 billion) | 8,6% | 15.7% |
| Uzbekistan | 4.15 | 3.25 | 3.21 | -1% (-$40.8 million) | 8,4% | 33.2% |
| TRNC | 0.06 | 0.06 | 0.13 | 100% ($63.3 million) | 0,3% | 73.8% |

Source: Data from UN Comtrade; IMF, Direction of Trade Statistics; UNCTAD for Turkmenistan; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC.

The second country with the largest share in intra-OTS trade is Kazakhstan, which accounted for 23.6% in 2023. That same year, Kazakhstan's intra-group exports reached $9.05 billion, reflecting a 26% increase compared to the previous year. Additionally, in 2023, 43.9% of Kazakhstan's exports to Turkic economies were sent to Türkiye, 34.7% to Uzbekistan, and 11.9% to the Kyrgyz Republic. Out of the $1.89 billion increase in intra-group exports of Kazakhstan that occurred in 2023, nearly $877 million was exported to Uzbekistan, $331.4 million to the Kyrgyz Republic, and $312.5 million to Türkiye (Table I.9-B).

*In 2023, Türkiye's exports of goods to OTS markets totaled $13.44 billion, with Kazakhstan following in second place at $9.05 billion and Azerbaijan in third place at $5.66 billion in intra-OTS goods exports.*

In 2023, Azerbaijan accounted for the third largest share of intra-OTS exports, with a contribution of 14.8% and a total value of $5.66 billion. This represented a significant increase of 52% compared to 2022. However, Azerbaijan's intra-OTS exports were predominantly directed towards Türkiye, with nearly $5.4 billion exported to that market in 2023 (Table I.9-A).

Table I.8 shows that the exports of the TRNC, Uzbekistan, and the Kyrgyz Republic are heavily dependent on OTS markets, with 73.8% of TRNC's goods exports, 33.2% of Uzbekistan's goods exports, and 27.2% of the Kyrgyz Republic's goods exports occurring in OTS economies. However, bilateral trade patterns should be examined to evaluate whether these three economies are best integrated intra-regionally. Exports of goods from Hungary and Türkiye are least dependent on other OTS markets (see Table I.8)

Table I.9 indicates that exports from Azerbaijan, Hungary, and the TRNC to OTS economies are heavily concentrated in the Turkish market, while exports to other OTS economies remain marginal. In the case of the TRNC, trade with Turkic economies other than Türkiye is virtually non-existent.

*The findings indicate that while regional intra-OTS exports have increased, the concentration of exports in specific markets suggests significant potential for bilateral trade growth among most OTS economies.*

On the other hand, Kazakhstan's intra-OTS exports are significantly concentrated in Türkiye and Uzbekistan, while the Kyrgyz Republic's exports primarily target the markets of Kazakhstan and Uzbekistan. Most of Uzbekistan's intra-OTS exports are directed towards Kazakhstan and Türkiye.

These findings in Table I.8 and Table I.9 suggest that while total intra-OTS exports have increased at the regional level, the concentration of exports in specific markets indicates significant potential for trade growth at the bilateral level for most OTS economies.

Table I.9: Distribution of intra-OTS trade at bilateral levels
*(export of goods, million USD and percent)*

| A. Export of Azerbaijan *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Türkiye | 3,544.8 | 5,359.3 | 51.2% ($1,814.6) | 94.8% |
| Kazakhstan | 104.0 | 98.5 | -5.3% ($-5.5) | 1.7% |
| Turkmenistan | 25.7 | 86.1 | 235.2% ($60.4) | 1.5% |
| Kyrgyzstan | 4.7 | 59.3 | 1152.7% ($54.6) | 1.0% |
| Uzbekistan | 46.5 | 47.1 | 1.4% ($0.7) | 0.8% |
| Hungary | 2.3 | 4.8 | 106.4% ($2.5) | 0.1% |
| TRNC | 0.00007 | .. | .. | .. |
| TOTAL | 3,728.0 | 5,655.2 | 51.7% ($1,924.2) | |

| B. Export of Kazakhstan *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Türkiye | 3,656.6 | 3,969.1 | 8.5% ($312.5) | 44% |
| Uzbekistan | 2,267.6 | 3,144.3 | 38.7% ($876.7) | 35% |
| Kyrgyzstan | 745.3 | 1,076.7 | 44.5% ($331.4) | 12% |
| Azerbaijan | 293.3 | 456.7 | 55.7% ($163.4) | 5% |
| Turkmenistan | 190.3 | 397.2 | 108.7% ($206.8) | 4% |
| Hungary | 9.3 | 4.7 | -49.0% ($-4.5) | 0.05% |
| TRNC | 0.004 | 0.01 | 179.1% ($ 0.007) | 0.0001% |
| TOTAL | 7,162.4 | 9,048.8 | 26.3% ($1,886.3) | |

| C. Export of Kyrgyzstan *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Kazakhstan | 438.2 | 449 | 2.5% ($10.8) | 44% |
| Uzbekistan | 236.7 | 290.8 | 22.9% ($54.1) | 35% |
| Türkiye | 140.7 | 153.1 | 8.8% ($12.4) | 12% |
| Turkmenistan | 4.7 | 4.6 | -2.5% ($-0.1) | 5% |
| Azerbaijan | 5.7 | 3.8 | -32.9% ($-1.9) | 4% |
| Hungary | 0.96 | 1.7 | 72.1% ($0.7) | 0.05% |
| TRNC | 0.002 | 0.0035 | 71.5% ($0.001) | 0.0001% |
| TOTAL | 826.9 | 903 | 9.2% ($76.1) | |

| D. Export of Türkiye *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Kazakhstan | 1,606.3 | 2,960.3 | 84.3% ($1,354) | 22.0% |
| Azerbaijan | 2,504.4 | 2,796.9 | 11.7% ($292.4) | 20.8% |
| TRNC | 1,518.6 | 1,971.3 | 29.8% ($452.6) | 14.7% |
| Uzbekistan | 1,877.5 | 1,872.5 | -0.3% ($-5.0) | 13.9% |
| Hungary | 1,597.2 | 1,629.7 | 2.0% ($32.5) | 12.1% |
| Kyrgyzstan | 902.7 | 1,200.9 | 33.0% ($298.1) | 8.9% |
| Turkmenistan | 1,099.8 | 1,011.6 | -8.0% ($-88.2) | 7.5% |
| TOTAL | 11,106.6 | 13,443.2 | 21.0% ($2,336.5) | |

| E. Export of Uzbekistan *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Kazakhstan | 926.8 | 1,233.80 | 33.1% ($307) | 38.50% |
| Türkiye | 1,397.20 | 1,123.10 | -19.6% ($-274.2) | 35.00% |
| Kyrgyzstan | 729.5 | 578.6 | -20.7% ($-151) | 18.00% |
| Turkmenistan | 96.8 | 146.9 | 51.8% ($50.1) | 4.60% |
| Azerbaijan | 95.7 | 123 | 28.5% ($27.3) | 3.80% |
| Hungary | 2.4 | 2.6 | 8.5% ($0.2) | 0.10% |
| TRNC | 0.2 | .. | .. | .. |
| TOTAL | 3,248.70 | 3,207.90 | -1.3% ($-40.8) | |

| F. Export of Hungary *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Türkiye | 2,236.1 | 2,213.3 | -1.0% ($-22.9) | 84.0% |
| Kazakhstan | 196.5 | 204.3 | 4.0% ($7.8) | 7.8% |
| Uzbekistan | 94.8 | 107.7 | 13.6% ($12.9) | 4.1% |
| Azerbaijan | 55.6 | 66.7 | 19.9% ($11.1) | 2.5% |
| Kyrgyzstan | 20.9 | 31.5 | 50.6% ($10.6) | 1.2% |
| Turkmenistan | 6.3 | 6.7 | 6.2% ($0.4) | 0.3% |
| TRNC | 1.1 | 3.1 | 180.9% ($2.0) | 0.1% |
| TOTAL | 2,611.4 | 2,633.4 | 0.8% ($21.9) | |

| G. Export of Turkmenistan *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Türkiye | 912.3 | 1,566.0 | 71.6% ($653.6) | 47.6% |
| Uzbekistan | 632.8 | 865.5 | 36.8% ($232.6) | 26.3% |
| Azerbaijan | 480.9 | 648.9 | 34.9% ($168.0) | 19.7% |
| Kazakhstan | 89.4 | 156.4 | 74.9% ($653.6) | 4.8% |
| Kyrgyzstan | 73.0 | 55.6 | -23.9% ($-17.5) | 1.7% |
| TRNC | 0.03 | 0.002 | -91.8% ($-0.03) | 0.0001% |
| Hungary | 0.1 | 0.0 | -98.3% ($-0.07) | 0.00004% |
| TOTAL | 2,188.6 | 3,292.3 | 50.4% ($653.6) | |

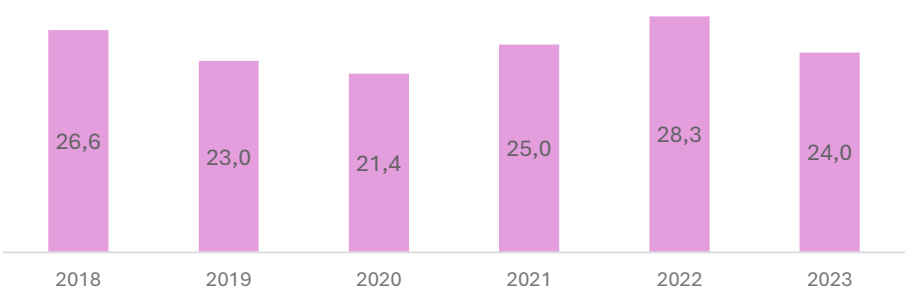
| H. Export of TRNC *(million USD)* | 2022 | 2023 | 2022/2023 change | Share in export to OTS economies (2023) |
|---|---|---|---|---|
| Türkiye | 63.4 | 126.9 | 100% | 100% |
| Azerbaijan | 0.01 | .. | .. | .. |
| Hungary | .. | .. | .. | .. |
| Kazakhstan | 0.02 | .. | .. | .. |
| Kyrgyzstan | .. | .. | .. | .. |
| Turkmenistan | 0.1 | .. | .. | .. |
| Uzbekistan | .. | .. | .. | .. |
| TOTAL | 63.6 | 126.9 | 100% | |

Source: IMF Direction of Trade Statistics; Trade Department of the TRNC Ministry of Economy and Energy for the TRNC.

*In 2021, FDI inflows to the OTS group increased by 13.5% to $25 billion. In 2022, these inflows rose further to $28.3 billion; however, in 2023, they declined by 15.3% to $24 billion.*

Foreign Direct Investment (FDI) inflows are a crucial indicator of an economy's attractiveness to foreign investors. From 2018 to 2020, there was a decline in FDI inflows to OTS economies from $26.6 billion in 2018 to $21.4 billion in 2020. A recovery began in 2021 when FDI inflows to the OTS group rose to $25 billion (Figure I.17).

Figure I.17: FDI inflows to OTS group
*(billion USD)*

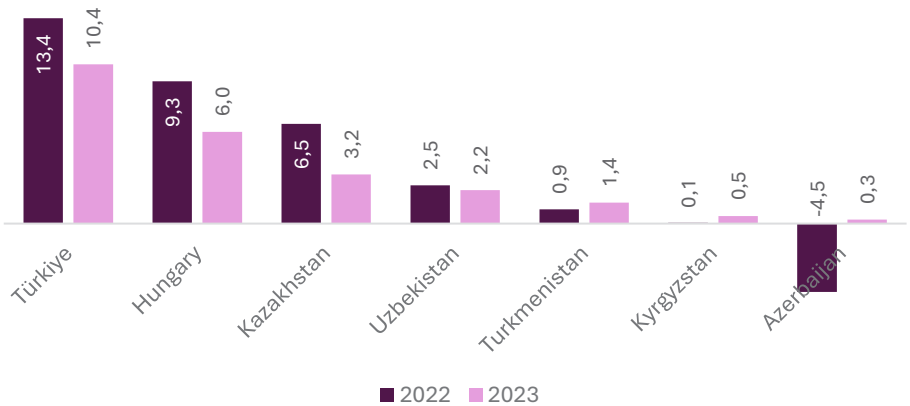



Source: UNCTAD FDI/MNE database. Data for TRNC not available.

The upward trend continued into 2022, with inflows reaching $28.3 billion, representing an increase of about 13.5% from the previous year. However, in 2023, there was a noticeable decline as FDI inflows fell to $24 billion, a decrease of approximately 15.3% compared to 2022 (Figure I.17). This downturn in FDI inflows in 2023 suggests potential challenges ahead for OTS economies regarding attracting foreign investments. Factors contributing to this decrease may include ongoing geopolitical issues, changes in global economic conditions, inflationary pressures

affecting investment decisions, or shifts in policy within member states that may have impacted foreign investor sentiment.

Figure I.18: FDI inflows to OTS economies
*(billion USD)*




Source: UNCTAD FDI/MNE database. Data for TRNC not available.

*In 2022, the intra-OTS FDI stock was almost $28 billion, which made up 5.1% of all inward FDI stock for the OTS group.*

Türkiye continues to be the largest recipient of FDI among OTS economies, followed by Hungary, Kazakhstan, and Uzbekistan (see Figure I.18). However, these countries have seen a decline in FDI inflows in 2023 compared to 2022. Kazakhstan's FDI inflows fell sharply by approximately 51% in 2023. Hungary also saw a significant decrease, with FDI inflows dropping by about 35%. In the same year, Türkiye's FDI inflows decreased by around 22%, while Uzbekistan attracted 12.5% less FDI than the previous year. Azerbaijan had a modest recovery to positive inflows of $0.3 billion in 2023 after experiencing substantial disinvestment in the previous year (Figure I.18).

Measuring bilateral FDI flows between OTS economies is challenging due to a lack of comprehensive data. Furthermore, leading international sources that provide partial data often report different FDI figures for the same bilateral relationships, raising concerns about the overall statistics' reliability.

To present a more accurate picture of bilateral FDI, which has been significantly rising but is not recorded appropriately for various reasons, Table I.10 has been prepared. This Table utilizes the highest values reported by relevant sources, including mirror data, to calculate the inward FDI stock realized among the OTS economies.

Table I.10 provides a snapshot of the inward FDI stock among the OTS economies as of 2022. It also includes the share of intra-group investments relative to these

economies' total inward FDI stock. The FDI stock between the OTS economies in 2022 amounted to nearly $28 billion, representing 5.1% of the total inward FDI stock for the OTS group. This indicates a moderate but growing role for these economies in the global FDI landscape.

Türkiye is the largest recipient of inward FDI from other OTS economies, with an FDI stock of $13.9 billion (Table I.10). This amount constitutes almost half of the total inward FDI stock from OTS economies. Nearly $13.5 billion of this stock comes from investments made by Azerbaijan, while $333 million originates from Kazakhstan (Table I.11).

Azerbaijan ranks second with an intra-group Foreign Direct Investment (FDI) stock of $8.3 billion. Of this total, $8.1 billion is attributed to Türkiye, while Kazakhstan accounts for $98 million and Hungary contributes $31 million. The share of OTS economies in Azerbaijan's total inward FDI stock was 29.1% in 2022, which is significantly high (Table I.11).

On the other hand, the Kyrgyz Republic has an intra-group FDI stock of $1.4 billion, representing 41.3% of its total inward FDI stock, indicating a higher dependency on economies within the OTS for foreign investment. Kazakhstan has a moderate inward FDI stock from other OTS economies, amounting to $3 billion in 2022. However, the country benefits significantly from investments made by other nations. In contrast, Turkmenistan and Hungary contribute minimally to investments among the Turkic economies (Table I.10 and Table I.11).

Table I.10: Intra-OTS foreign direct investment
*(billion USD and percent)*

| | Total inward FDI stock (2022, billion) | Inward FDI stock from OTS economies (2022, billion) | Share of OTS economies in total inward FDI stock (2022, percent) |
|---|---|---|---|
| Azerbaijan | 28.5 | 8.3 | 29.1% |
| Hungary | 107.6 | 0.170 | 0.2% |
| Kazakhstan | 154.4 | 3.0 | 1.9% |
| Kyrgyzstan | 3.5 | 1.4 | 41.3% |
| Türkiye | 202.5 | 13.9 | 6.8% |
| Turkmenistan | 41.5 | 0.1 | 0.4% |
| Uzbekistan | 13.6 | 1.2 | 8.5% |
| TOTAL | 551.7 | 28.0 | 5.1% |

Source: IMF, Coordinated Direct Investment Survey; UNCTAD FDI/MNE Database; EDB MMI Database; Central Bank of the Republic of Türkiye.
Note: The highest values indicated by these sources, including mirror data, were utilized to calculate the inward FDI stock of the OTS economies. FDI data for the TRNC is not available.

Table I.11: Distribution of intra-OTS FDI stock by economies
*(2022, million USD and percent)*

| | | Recipients (inward FDI stock) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Azerbaijan | Kazakhstan | Kyrgyzstan | Türkiye | Uzbekistan | Hungary | Turkmenistan |
| Investor | Azerbaijan | N/A | 200 | 26 | 13,477 | 22 | .. | .. |
| | Kazakhstan | 98 | N/A | 658 | 333 | 285 | .. | 1 |
| | Kyrgyzstan | 3 | 28 | N/A | .. | .. | .. | .. |
| | Türkiye | 8,137 | 2,643 | 743 | N/A | 852 | 170 | 147 |
| | Uzbekistan | 19 | 17 | 6 | .. | N/A | .. | .. |
| | Hungary | 31 | 62 | 16 | 19 | .. | N/A | .. |
| | Turkmenistan | 1 | 1 | .. | .. | 0 | .. | N/A |

Source: IMF, Coordinated Direct Investment Survey; UNCTAD FDI/MNE Database; EDB MMI Database; Central Bank of the Republic of Türkiye.
Note: The highest values indicated by these sources, including mirror data, were utilized to calculate the inward FDI stock of the OTS economies. FDI data for the TRNC is not available.

For a more reliable evaluation of FDI among the OTS economies, the Secretariat of the Organization of Turkic States should collect bilateral FDI data by origin and sector/industry using a consistent methodology. This approach will help address the issue of insufficient data and enable a more accurate and comprehensive analysis of the existing investment landscape among Turkic economies.

## I.B Transport infrastructure and connectivity

Transportation is a crucial component of a country's infrastructure, significantly influencing the development, prosperity of its citizens, and competitiveness on the international stage. The transportation system reflects a nation's progress (Nayak, 2000: 5).

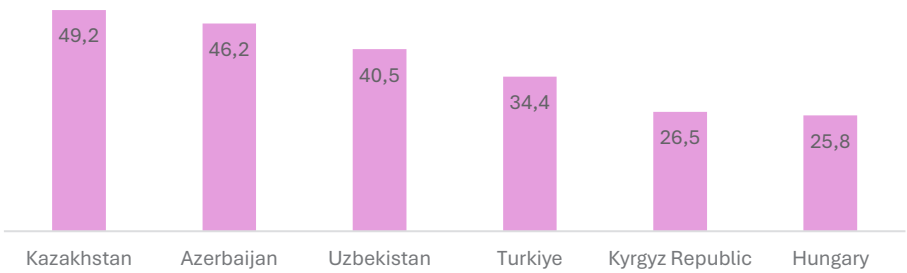
The transport sector is not goods-producing; instead, it is a service sector that significantly impacts the productivity of other sectors. Transport facilitates mobility, which serves as the driving force of a robust economy. It encompasses the movement of people, goods, and materials from one location to another, along with related supporting and auxiliary services.

Figure I.19 illustrates that transport services are essential components of service exports for OTS economies. In 2023, the share of transportation within service exports was particularly high in Azerbaijan, Kazakhstan, and Uzbekistan, ranging from 40% to 50%.

The transportation market is made up of three distinct markets. The land transportation market (road, rail, and pipelines), the water transportation market (sea routes, rivers, and canals), and the air transportation market. When considered

independently, the various modes of transport form distinct “transport networks” (e.g., road network, rail network, etc.), while when viewed collectively, they constitute a unified “transportation system.”

Figure I.19: Transport services as a percentage of service exports (2023, BoP)




Source: World Bank.

Each transport network possesses distinct characteristics, advantages, and disadvantages. Regarding freight transport, lighter goods with higher shipment values are increasingly better suited for road and air transportation. In contrast, railways and sea routes provide cost advantages for transporting heavier cargo over long distances.

*In 2022, maritime shipping accounted for 90% of the volume and 48.4% of the value of global trade, while air transport represented less than 1% of the volume but 25.8% of the value.*

In international transportation, sea transportation is the most preferred mode of moving goods. In 2022, nearly 90% of globally traded goods were shipped by sea (WEF, 2024). However, the value of goods shipped by sea accounted only for 48.4% of the value of all goods traded globally. On the other hand, while less than 1% of the global volume of traded goods was transported by air in the same year, these goods represented 25.8% of the total value of world trade (WEF, 2023). When transporting energy resources such as oil and natural gas, pipelines are superior to other modes of transportation in terms of speed, cost, and safety.

Land transportation is crucial to moving goods, particularly for landlocked countries. A landlocked country is a state that does not have direct access to an ocean or a sea that is not landlocked. Different studies show that landlocked developing countries tend to have higher trade costs, even over 1.5 times higher, than transit coastal countries (WB, 2014: 13; Arvis, J. F., Raballand, G., & Marteau, J. F., 2007: 8).

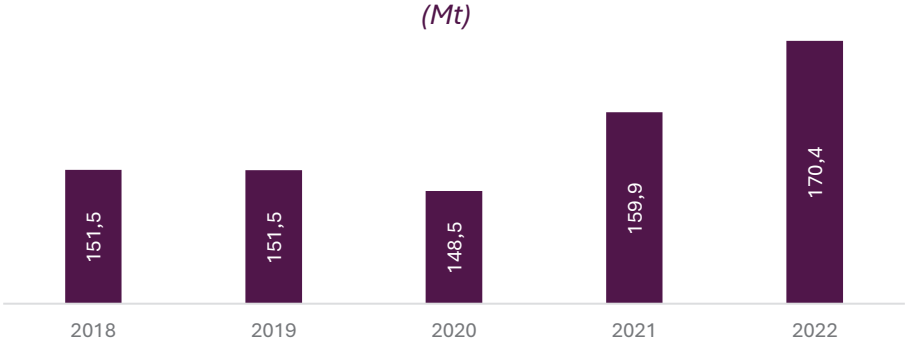
According to the United Nations, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Turkmenistan, and Uzbekistan are classified as landlocked countries. However, Azerbaijan, Kazakhstan, and Turkmenistan have access to the Caspian Sea, a landlocked body of water. While such inland seas are often viewed as large lakes, this classification has been debated. If the Caspian Sea is regarded as a lake, then Uzbekistan is considered doubly landlocked because all its neighboring countries—Afghanistan, Kazakhstan, the Kyrgyz Republic, and Tajikistan—are also landlocked.

The economic disadvantages of being landlocked can either be mitigated or exacerbated based on several factors, including the level of development, the accessibility and efficiency of surrounding trade routes, the degree of trade freedom, linguistic commonality, and other relevant considerations.

On the other hand, transportation is closely interconnected with advancements in achieving the Sustainable Development Goals. The primary driver of global warming continues to be greenhouse gas emissions, particularly carbon dioxide and methane; the transport sector accounts for approximately one-quarter of these emissions. In land transportation, the share of CO2 emissions attributed to roads was 86% in 2023 (Statista, 2024).

The overall trend of greenhouse gas emissions from transport in OTS economies shows that, following a slight decline during the year affected by the COVID-19 pandemic (2020), there has been a consistent increase in emissions over the subsequent two years (2021 and 2022) (Figure I.20).

Figure I.20: CO2 and CH4 emissions from transport in OTS economies
*(Mt)*




Source: World Bank.

The challenge today is to provide more mobility with less environmental impact. Therefore, the transportation industry is currently facing a crucial turning point. Furthermore, there is a growing demand for transportation services, largely fueled by the significant increase in e-commerce and supply chain logistics, which are driven by shifts in consumer behavior and the expansion of online shopping (see Turkic

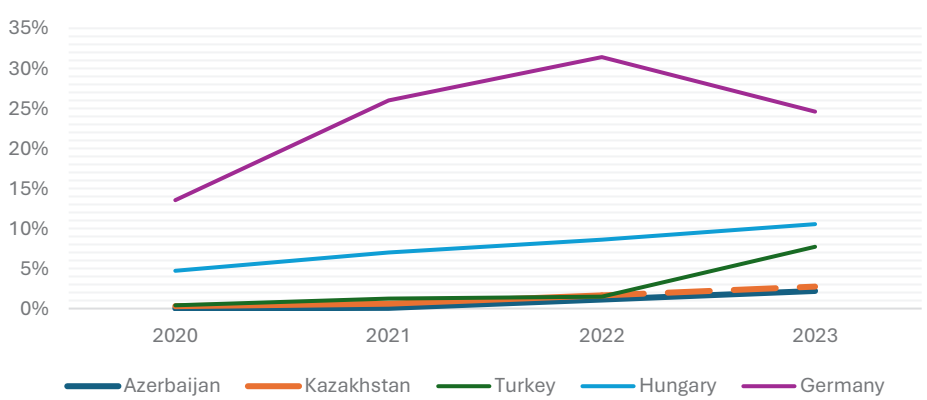
Academy and OTS (2023). Additionally, emerging technologies necessitate ongoing investments in digitalization. For example, the road transportation sector is modernizing its fleets by transitioning to electric vehicles. IoT sensors for predictive maintenance are also being adopted to reduce downtime and enhance operational efficiency. Moreover, blockchain technology is being investigated to strengthen security and improve traceability throughout transportation operations (Statista, 2024).

*The transition to electric vehicles in Turkic economies is considerably trailing behind that of many developed nations.*

Figure I.21 illustrates that the transition to electric vehicles in Turkic economies is significantly lagging behind that of Germany, which serves as a benchmark for comparison. As global concerns about climate change intensify, shifting towards alternative fuels and prioritizing energy-efficient transportation modes and vehicles will become increasingly essential for Turkic economies.

Furthermore, multimodal transportation methods—defined as cargo movement from origin to destination using several modes of transportation under a single contract or bill of lading—will become crucial for operational efficiency. In this context, digitalization and cross-border standardization will be key enablers for intermodal operations. However, such transitioning to carbon-neutral transportation solutions necessitates substantial investments in new infrastructure.

Figure I.21: New electric-vehicle registrations
*(as a percentage of new passenger-car registrations)*

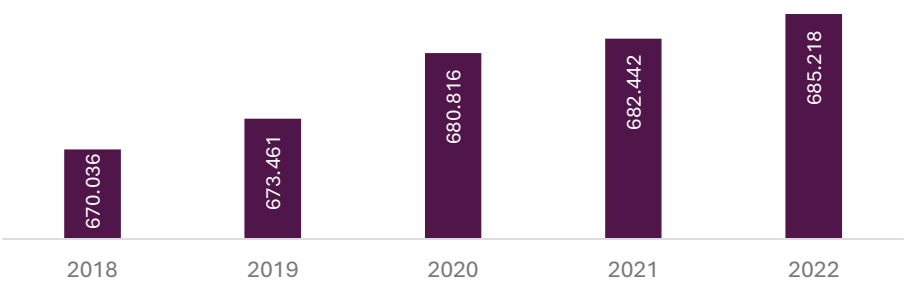



Source: Economist Intelligence Unit.

## I.B.1 Transport infrastructure and performance

As a group, Turkic economies have steadily increased their total length of the road network, reflecting ongoing investments in infrastructure development from 2018 to 2022 (Figure I.22). Türkiye added a total of 11,519 km to its road network over this period. Hungary also contributed an additional 5,413 km to its road network. The combined contributions from Türkiye and Hungary represent a significant portion of the overall increase in the road networks of OTS economies during this period, highlighting that these two countries have invested in infrastructure that enhances both domestic mobility and international trade routes.

Figure I.22: Length of total official road network of OTS economies
*(kilometres)*




Source: IRF World Road Statistics, 2024 edition. All OTS member states and observers are included. Local data sources for TRNC are used.

The density of road networks is a critical indicator of a country's infrastructure development and accessibility. Table I.12 reflects the extent to which roads are available relative to land area and population.

Table I:12: Density of road network
*(2022)*

| | km of official road per 1000 km$^2$ | km of official roads per 1 million people |
|---|---|---|
| Azerbaijan | 218 | 1,866 |
| Kazakhstan | 35 | 4,827 |
| Kyrgyzstan | 170 | 4,875 |
| Türkiye | 330 | 3,049 |
| Uzbekistan | 100 | 1,254 |
| Hungary | 2,347 | 22,640 |
| TRNC | 492 | 4,131 |
| Turkmenistan | 28 | 2,142 |

Source: IRF World Road Statistics, 2024 edition; World Bank data, National sources.

When analyzing the kilometers of official road per 1000 km², Hungary stands out significantly with a density of 2347 km/1000 km². In contrast, Turkmenistan has the lowest density at just 28 km/1000 km². Kazakhstan (35 km/1000 km²) also exhibits low density in this metric, which could reflect its vast land area relative to its road infrastructure.

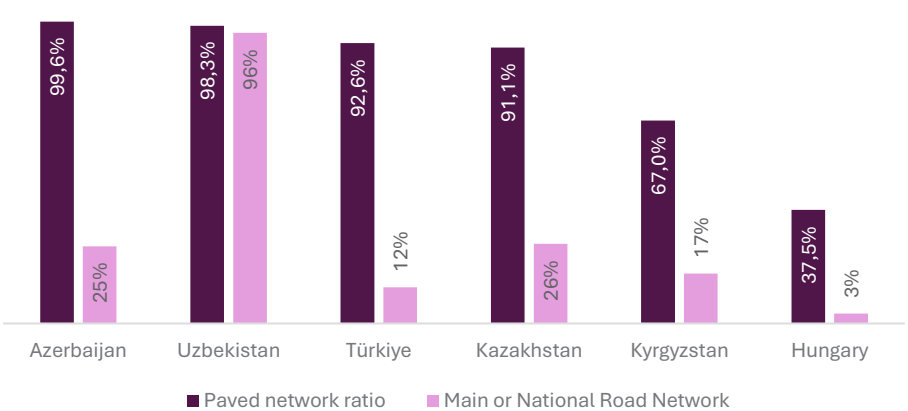
Looking at the second metric—kilometers of official roads per 1 million people—Hungary again leads with 22,640 km/million people. Meanwhile, Uzbekistan has the lowest number at 1,254 km/million people (Table I.12).

Countries with lower road densities may face challenges such as increased transportation costs and limited access to markets for rural populations. This can exacerbate regional inequalities within these nations as urban areas often benefit from better infrastructure than rural regions.

The paved network ratio is a critical indicator of the quality and accessibility of a country's road infrastructure. It reflects the percentage of paved roads, which typically correlates with better transportation efficiency, safety, and economic development.

More than 90% of the roads in Azerbaijan, Kazakhstan, Türkiye, and Uzbekistan are paved. In contrast, the Kyrgyz Republic has a paved road network ratio of 67%, indicating challenges in infrastructure development that may affect rural access. Hungary, which performs best within the OTS group regarding road network density, has the lowest paved road ratio at 37.5% (Figure I.23)

Figure I.23: Quality of road network
*(2022)*




Source: IRF World Road Statistics, 2024 edition.
Note: Main or national road network refers to A-level roads outside urban areas that are not motorways but belong to the top-level road network. A-level roads are characterized by a comparatively high quality standard, either non-divided roads with oncoming traffic or similar to motorways.

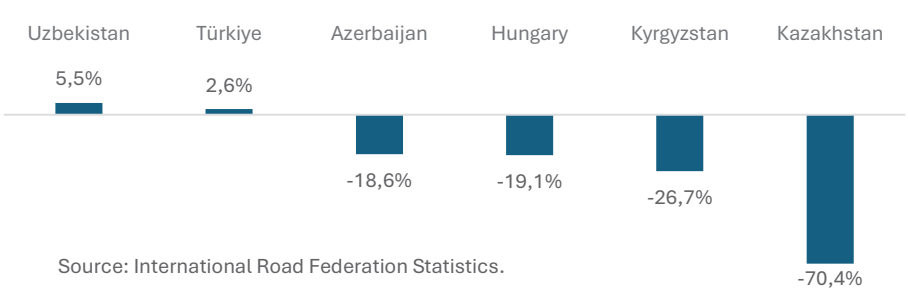
Motorways and highways are significant indicators of a country's road network quality. However, only Türkiye (3,633 kilometers) and Hungary (2,422 kilometers) reported to the International Road Federation (IRF) in 2022 that they possess motorways and highways as defined by IRF methodology. From 2018 to 2022, Türkiye expanded its motorway and highway network by 37%, while Hungary increased it by 25%.

The main or national road network percentage provides insight into how much of the total road infrastructure is designated for major traffic routes that are essential for national connectivity. In this category, Uzbekistan stands out with an impressive 96%, indicating that most of its primary roads are well-maintained and likely serve as vital arteries for commerce and travel. In Hungary, just 3% of its roads are classified as main or national routes (Figure I.23).

*As of 2022, the performance of the passenger transport sector in many OTS economies was still below pre-COVID-19 levels, awaiting recovery.*

While Uzbekistan and Türkiye have begun to recover from the impacts of COVID-19 on their road passenger transport sectors, other countries shown in Figure I.24 in 2022 remain significantly behind pre-pandemic levels. Kazakhstan exhibits an alarming decrease of 70.4% in 2022 compared to 2019, marking the most drastic decline among all listed countries. The stark contrast between Uzbekistan and Kazakhstan underscores differing national responses and levels of resilience regarding transportation recovery post-COVID-19.

Figure I.24: Percentage change in total road passenger transport
*(2019-2022, million passenger kilometres per year)*

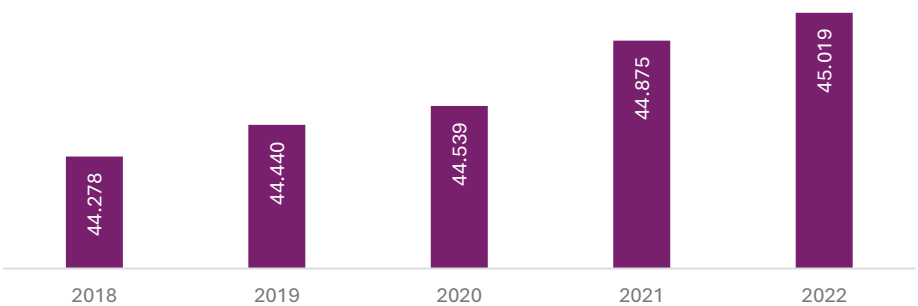



Source: International Road Federation Statistics.

The total length of the public railway network operated by the OTS economies increased from 44,278 kilometers in 2018 to 45,019 kilometers in 2022, indicating an overall growth trend. Hungary expanded its railway network by 4.2% compared to its size in 2018, while Türkiye achieved a growth rate of 3.3% for its rail network, and Uzbekistan recorded a growth rate of 2.9% during the same timeframe.

Hungary has the highest rail network density among OTS countries at 85 km of lines per 1,000 km². Azerbaijan follows with 24.7 km per 1,000 km², and Türkiye with a density of 13.6 km per 1,000 km². The density of rail lines per 1,000 km² is lower in Uzbekistan (10.6 km), Turkmenistan (6.4 km), and Kazakhstan (5.9 km).

Figure I.25: Length of public railway network operated by OTS economies
*(total route-km)*




Source: World Bank and Euromonitor International. There is no train service in TRNC.

When analyzing the density of rail lines per million people, Hungary leads at 820 km. Hungary is followed by Kazakhstan with 815 km per million people, suggesting that despite its lower overall land-based density, it has developed an extensive network relative to its population size. Turkmenistan shows a significant figure at 484 km per million people, while other Turkic countries from Table I.13 exhibit lower densities in terms of population the railway system serves.

Table I.13: Density of the rail network
*(2022)*

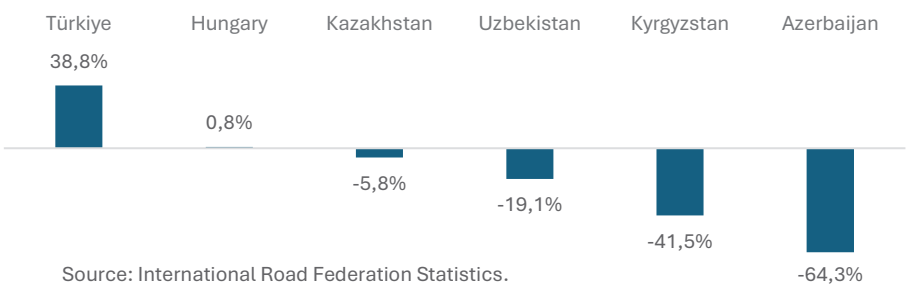
| | km of lines per 1000 km² | km of lines per 1 million people |
|---|---|---|
| Azerbaijan | 24.7 | 211 |
| Kazakhstan | 5.9 | 815 |
| Kyrgyzstan | 2.1 | 61 |
| Türkiye | 13.6 | 125 |
| Uzbekistan | 10.6 | 134 |
| Hungary | 85.0 | 820 |
| Turkmenistan | 6.4 | 484 |

Source: World Bank and Euromonitor International

Figure I.26 shows the growth rates of rail passenger transport in Turkic economies comparing 2019 with 2022, highlighting significant disparities in recovery following the COVID-19 pandemic. In 2022, only Türkiye and Hungary were above the pre-

pandemic levels of 2019. In contrast, rail passenger transport levels in 2022 remained below pre-pandemic figures in Kazakhstan (-5.8%), Uzbekistan (-19.1%), the Kyrgyz Republic (-41.5%), and Azerbaijan (-64.3%).

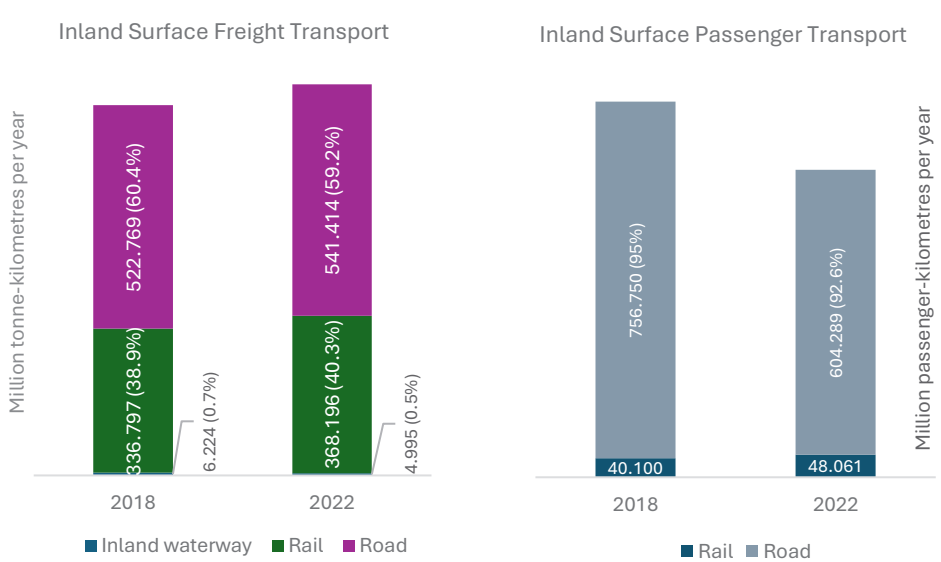
Figure I.26: Change in rail passenger transport
*(2019 versus 2022, million passenger kilometres per year)*




Source: International Road Federation Statistics.

In the context of inland surface freight transport within OTS economies, road transport remains dominant, although its share has slightly decreased from 62.4% in 2018 to 59.2% in 2022 (Figure I.27). Conversely, rail transport's share in freight increased from 38.9% in 2018 to 40.3% in 2022. This trend suggests that, as a group, OTS economies are progressing towards more sustainable goods transportation. Notably, in 2022, the share of inland waterway transport within the total inland surface freight transport for the OTS group was only 0.5%. Regarding inland surface

Figure I.27: Inland surface freight and passenger transport performance of OTS economies




Source: International Road Federation Statistics. Data for TRNC and Turkmenistan are unavailable.

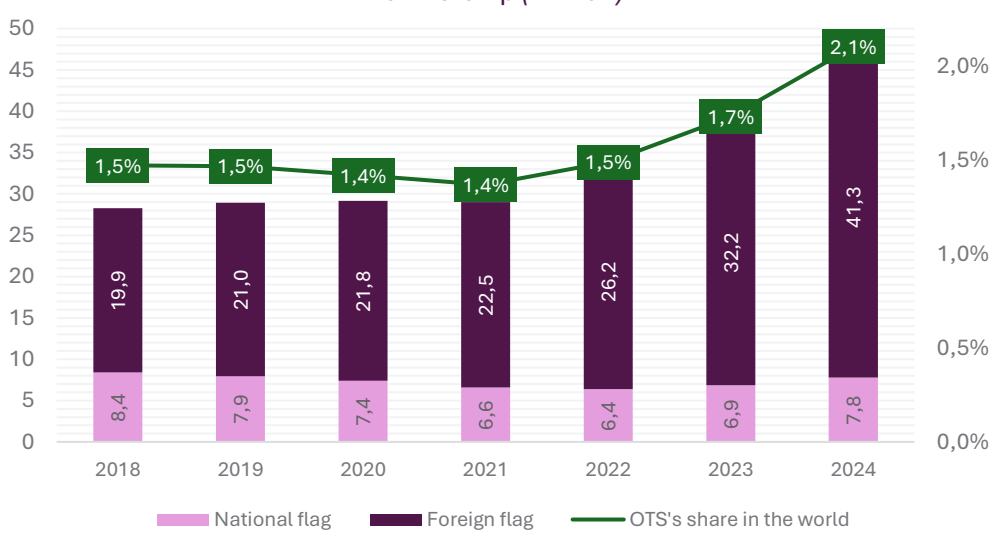
passenger transport, roads accounted for 92.6% of the market share in 2022, representing a slight decrease from 95% in 2018.

*As a group, OTS economies are making progress towards more sustainable goods transportation, as the share of road transport has slightly decreased while the share of rail transport has increased from 2018 to 2022.*

The deadweight tonnage carried by merchant fleet companies (both national and foreign-flagged) operating in Azerbaijan, Kazakhstan, Türkiye, and Turkmenistan is steadily increasing, as shown in Figure I.28. Their share of global deadweight tonnage carried by merchant fleets has risen from 1.4% in 2021 to 2.1% in 2024. However, foreign-flagged merchant fleets are increasingly dominating maritime freight transport in these Turkic countries.

It should be noted that the companies with primary commercial responsibility for the vessels located in Türkiye (both national and foreign-flagged) have carried 95% of the OTS freight referenced in Figure I.28.

Figure I.28: Dead weight tons carried by merchant fleet of beneficial ownership *(million)*



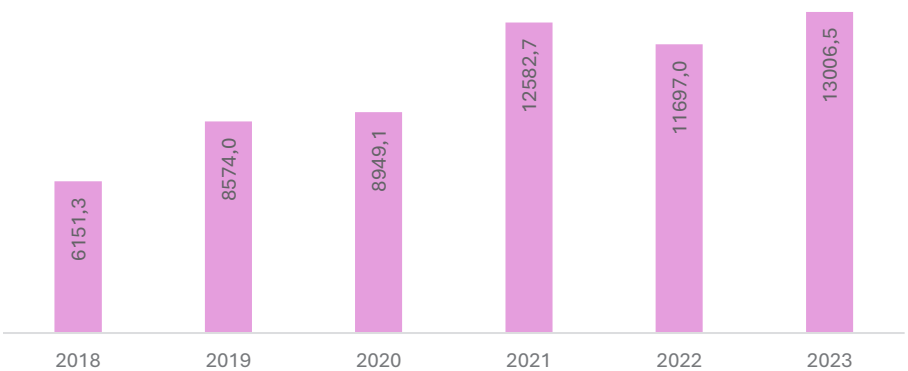

Source: UNCTADstat.
Note: Azerbaijan, Kazakhstan, Türkiye and Turkmenistan are included. Beneficial ownership location indicates the economy in which the company that has the main commercial responsibility for the vessel is located. The economy of beneficial ownership may be different from the country in which the vessel is registered.

In Türkiye, the number of ships increased from 1,548 in 2018 to 2,030 in 2024. As of 2024, there were 401 ships registered under the national flag with beneficial

ownership in Türkiye, while 1,619 ships were registered under foreign flags, according to UNCTAD statistics.

The air freight transport performance of the OTS economies shows a significant upward trend from 2018 to 2023. The data in Figure I.29 indicates that total air freight transported in a million tonne-kilometers increased from 6,151.3 in 2018 to 13,006.5 in 2023. This represents a growth of approximately 111% over the five years.

Figure I.29: Air freight transport performance of OTS economies
*(million tonne-kilometres)*




Source: World Bank. Misssing values are completed from Euromonitor International.

In terms of contributions from individual OTS economies, Türkiye accounted for 72.9% of the total air freight transported by the OTS group in 2023, and Azerbaijan accounted for 24%. This distribution emphasizes Türkiye's leading position within the OTS regarding air freight capabilities and infrastructure, highlighting its strategic significance in regional logistics networks. In 2022, according to data from the International Civil Aviation Organization, Istanbul International Airport ranked 5$^{th}$ globally in terms of international air passengers carried.

### I.B.1 Transport connectivity

Transport connectivity is a key factor in economic development. It increases growth potential by linking people to opportunities and businesses to markets. Improved transport connectivity enhances mobility and acts as a catalyst for both national and cross-border integration. Therefore, improved transport links are essential to lower trade costs, boost competitiveness, and foster regional integration.

Transport connectivity can be improved by upgrading both hard and soft infrastructure. Hard infrastructure refers to the physical structures and facilities, while soft infrastructure involves the non-tangible elements that support the

development and operation of hard infrastructure. This includes policies, regulations, governance, and institutional frameworks.

All Turkic countries are interested in improving transport connectivity to enhance national competitiveness, foster economic development, and promote cross-border trade and investment among the Turkic economies.

Developing cross-border hard infrastructure is essential for improving cooperation and economic integration among Turkic countries. The Turkic States should also adopt an intermodal approach to transport planning, enhance logistics, and facilitate transportation at borders. This can be achieved by implementing the latest information and communication technologies to eliminate bottlenecks and simplify administrative processes related to customs and other border-crossing procedures. These topics have been on the working agenda of the Organization of Turkic States for several years.

Further, air connectivity, the only mode of transport that can provide quick connections over long distances, should also be enhanced among Turkic countries by introducing more frequent flights at lower prices. Improved air connectivity will also facilitate Turkic countries' tourism movements, creating a more positive and enjoyable environment for visitors.

Several indexes have been developed to assess the transport connectivity of countries; however, many well-known indexes do not include most Turkic countries. Nonetheless, the following indicators that encompass Turkic countries are valuable because they offer insights into transport connectivity.

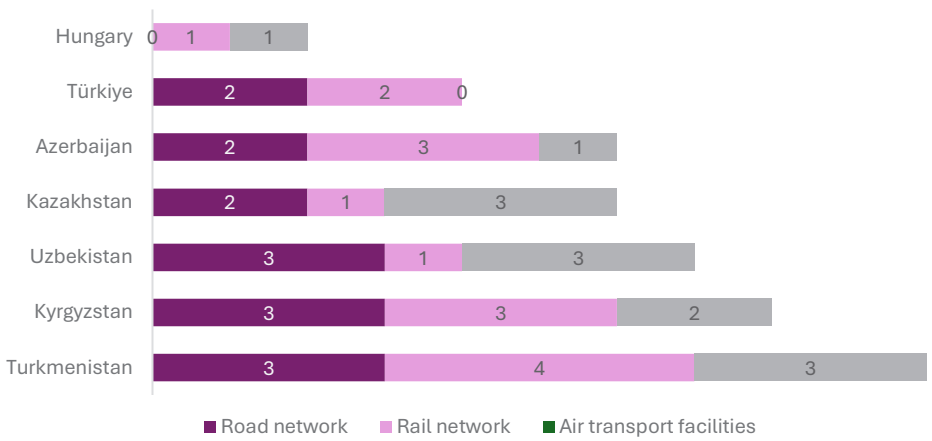
The Economist Intelligence Unit has developed an index that measures the operational risk of transport networks. This index evaluates whether the network is adequate to meet business needs. It assesses risk based on three criteria: the degree of obsolescence, maintenance levels, and the ability to supply enough resources to meet demand. The operational risk of transport networks is rated on a scale from 0 to 4, with 4 indicating a high level of risk.

As shown in Figure I.30, Türkiye and Hungary show relatively low operational risks across all transport sectors, suggesting that their transport networks are modern, well-maintained, and capable of meeting demand. With a score of zero, Türkiye's air transport facilities and Hungary's road network seem to be free from operational risks.

Azerbaijan, Hungary, Kazakhstan, and Türkiye have relatively low risks in their road networks, indicated by an index score of 2. For rail networks, Hungary, Kazakhstan, and Uzbekistan have an operational risk index score of 1, which signifies minimal operational risk. Additionally, Azerbaijan, Hungary, and Türkiye experience the lowest

operational risks in their air transport facilities (Figure I.30). Turkmenistan has the highest overall operational risk of its transport networks, and the Kyrgyz Republic follows it.

Figure I.30: Operational risk of transport networks
*(2024, scale from 0 to 4, where 4 indicates a high risk)*




Source: Economist Intelligence Unit.

The Logistics Performance Index (LPI) is a benchmarking tool developed by the World Bank that helps countries identify the challenges and opportunities they face in trade logistics performance, as well as what actions they can take to improve it. The LPI is the weighted average of the country scores on the six key dimensions: 1) Efficiency of the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs; 2) Quality of trade and transport related infrastructure (e.g., ports, railroads, roads, information technology); 3) Ease of arranging competitively priced shipments; 4) Competence and quality of logistics services (e.g., transport operators, customs brokers); 5) Ability to track and trace consignments; 6) Timeliness of shipments in reaching destination within the scheduled or expected delivery time (Arvis, J. F., et al., 2023).

The LPI 2023 facilitates comparisons among 139 countries. The LPI scores are based on survey perceptions, which raises noise concerns, as a limited number of respondents may influence country-level outcomes.

There is a significant disparity between the logistics performance of Turkic countries. Türkiye and Hungary have relatively high LPI scores, indicating that they have modern and efficient logistics systems. In contrast, the Kyrgyz Republic, Uzbekistan, and Kazakhstan face some challenges, reflected in their lower scores and rankings. With the lowest score and rank among Turkic countries shown in Table I.14, the Kyrgyz Republic faces significant logistics challenges that could hinder its business

development and international trade. Uzbekistan and Kazakhstan are improving but still lag behind the logisitcs performance of Hungary and Türkiye.

Table I.14: Logistics Performance Index
*(2023, scale from 1 to 5, where 5 indicates the best performance)*

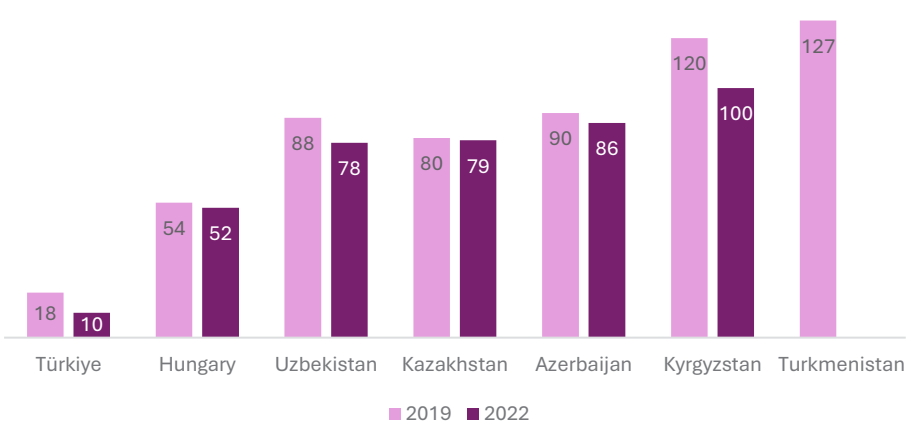
| | Overall LPI Score | Overall LPI rank |
|---|---|---|
| Kyrgyzstan | 2,3 | 123 |
| Uzbekistan | 2,6 | 88 |
| Kazakhstan | 2,7 | 79 |
| Hungary | 3,2 | 51 |
| Türkiye | 3,4 | 38 |

Source: Arvis, J. F., et al., 2023

The International Air Transport Association's (IATA) Air Connectivity Index offers a crucial overview of a country's air transport network. A lower ranking indicates better connectivity, characterized by more flight routes, efficient infrastructure, and enhanced access to international markets, all of which contribute to economic growth. In contrast, higher rankings suggest less developed air transport infrastructure, potentially limiting travel options and trade opportunities.

The IATA Air Connectivity Index analysis reveals that while many Turkic countries are improving their air connectivity, Türkiye stands out as a leading performer, solidifying its position as the 10th global air transport hub in 2022. Hungary's ranking indicates that although it is well-connected, its growth rate is not keeping pace with that of Türkiye. In 2022, Uzbekistan (ranked 78), Kazakhstan (ranked 79), and Azerbaijan (ranked 86) exhibit moderate rankings, reflecting solid connectivity. Conversely, the

Figure I.31: Air connectivity index: international connectivity
*(Global ranking)*




Source: IATA.

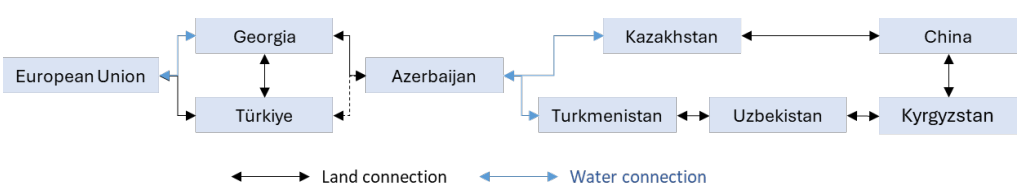
Kyrgyz Republic and Turkmenistan have relatively low rankings and must enhance air connectivity (see Figure I.31).

Under the Soviet Union, the economic model of Azerbaijan, Kazakhstan, the Kyrgyz Republic, Uzbekistan, and Turkmenistan was highly centralized, and their economies were largely specialized in specific industries or agricultural production. This resulted in a system of one-sided economies where, for example, some Turkic countries focused on heavy industry, others on agriculture, and some on raw materials extraction. Consequently, this specialization diminished the incentive for diversified trade, leading to an over-reliance of Turkic countries on Russian transportation and energy infrastructure (Dadabaev and Djalilova, 2021: 107).

*Türkiye and Hungary exhibit strong transport networks, high logistics performance, and excellent air connectivity, with Türkiye ranking 10th globally in air connectivity in 2022. Uzbekistan, Kazakhstan, and Azerbaijan show moderate performance, improving but still lagging behind. The Kyrgyz Republic and Turkmenistan face significant challenges, requiring improvements in both logistics and air connectivity to enhance their trade and business potential.*

In recent years, Turkic countries have intensified their efforts to diversify their transport routes and enhance connectivity among themselves by investing in the Trans-Caspian International Transport Route, commonly known as the Middle Corridor (Eldem, 2022). Before the Ukraine conflict, from 2019 to 2021, 86% of overland trade between Europe and China passed through Russia via the Northern Corridor. Today, as global supply chains are experiencing heightened volatility, the Middle Corridor has become increasingly important (see Image I.1).

Image I.1: Schematic route of the Middle Corridor




Source: Author's visualization based on OECD 2023.

The World Bank's report "Middle Trade and Transport Corridor" (WB, 2023:7) predicts that by 2030, infrastructure improvements could lead to a threefold increase in cargo transportation through the Middle Corridor, reaching 11 million tons annually. Recognizing its potential, the EU and the U.S. strongly support enhancing

the Middle Corridor's efficiency, as this corridor benefits everyone. The European Union, for example, will gain a shorter alternative route, build economic resilience, and decrease dependency on corridors through specific territories.

The Middle Corridor's success can be significantly enhanced if it transforms into a genuine economic corridor, incorporating logistics, energy, and industrial activities alongside the transport route, thereby generating substantial added value for local economies. Further, with the Zangezur Corridor's opening and its extension's construction via the Kars–Nakhchivan railway line project, Türkiye will gain a direct route to the Caspian Basin and Central Asia. This development will also facilitate unimpeded transit for Azerbaijan.

Turkic countries are not interested in becoming merely transit territories for manufactured Chinese and European goods. Instead, they aim to leverage their transportation infrastructure to unlock new export routes and enhance their status as a logistics hub for goods and technology. This strategy is expected to lead to the production of certain industrial goods that can be re-exported to other countries.

## I.C Energy resources and prospects

The energy demand is steeped upward, particularly in the developing world. Meeting the growing demand for energy in a safe and environmentally responsible manner is a great challenge. The OTS economies contain various natural resource endowments, with some member states like Azerbaijan, Kazakhstan, and Turkmenistan emerging as significant players in global energy markets.

When combined, the OTS countries collectively hold a substantial amount of oil (5,253 million tonnes), gas (18,581 billion cubic meters), and coal reserves (69,904 million metric tonnes). However, the resource wealth is unevenly distributed.

### I.C.1 Energy balance and independence

Azerbaijan, Kazakhstan, and Turkmenistan are the key players in oil and natural gas. Kazakhstan leads the OTS in terms of oil reserves, with 4,081 million tonnes, accounting for the bulk of the OTS total oil reserves. Azerbaijan holds 952 million tonnes of proven oil reserves, contributing notably to the OTS's energy landscape (Table I.15).

*The OTS countries hold substantial natural resource, with Azerbaijan, Kazakhstan, and Turkmenistan emerging as key players in global energy markets. These nations possess significant oil, natural gas, and coal reserves, alongside Kazakhstan's leadership in uranium production.*

Turkmenistan's dominance in natural gas reserves is unparalleled, making it one of the largest holders of this resource globally. As of 2023, Turkmenistan has the world's 5th largest natural gas reserves (13,950 billion cubic meters) and is the 7th largest gas exporter. Azerbaijan (1,917 billion cubic meters), Kazakhstan (1,830 billion cubic meters), and Uzbekistan (867 billion cubic meters) also possess substantial natural gas reserves. The Kyrgyz Republic, with 28.499 million metric tonnes of coal reserves, and Kazakhstan, with 25.605 million metric tonnes, are both rich in coal resources, ranking 9th and 11th globally in terms of coal reserves, respectively (Table I.15). Kazakhstan also holds around 15% of the world's uranium resources, and in 2023, it was the world's largest uranium producer with over 46% of the world's production.

The data presented in Table I.16 provides insights into the self-sufficiency of each country in terms of coal, oil, and natural gas production, which is a key indicator of energy independence. The self-sufficiency percentages reflect each country's ability to meet its energy demands from domestic production.

Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan are largely energy self-sufficient, meaning they can rely on domestic energy production to meet most of their needs. Hungary and Türkiye heavily depend on energy imports, with Türkiye relying significantly on foreign oil and natural gas. Hungary also faces challenges in terms of energy security, especially in natural gas. The Kyrgyz Republic is highly self-sufficient in coal but highly dependent on oil and gas imports (Table I.16).

Table I.15: Oil, gas and coal reserves of OTS economies *(2023)*

| | AZE | KAZ | KGZ | TUR | UZB | HUN | TKM | Total |
|---|---|---|---|---|---|---|---|---|
| Proven oil reserves (mt) | 952 | 4081 | 5 | 50 | 81 | 2 | 82 | 5253 |
| Proven natural gas reserves (bcm) | 1917 | 1830 | 6 | 6 | 867 | 5,4 | 13950 | 18581 |
| Coal reserves (mmt) | 0 | 25605 | 28499 | 10975 | 1375 | 2649 | 800 | 69904 |

Source: Enerdata and EIA.
mt=million tonnes; bcm=billion cubic meters; mmt: million metric tonnes.

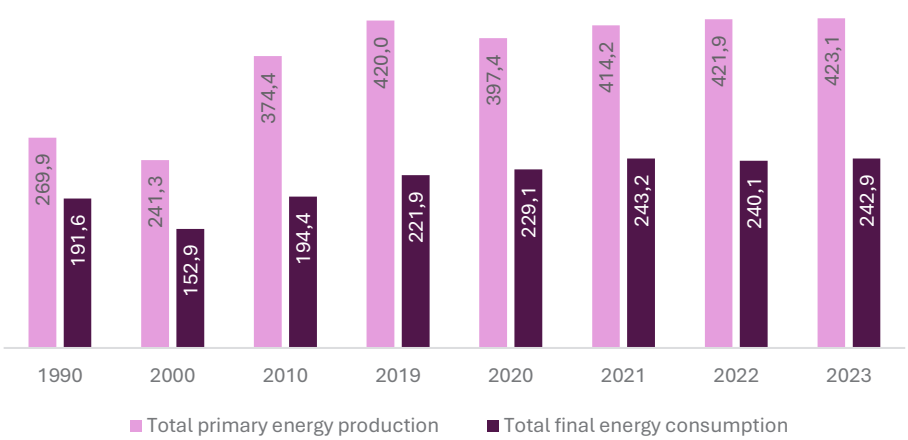
Table I.16: Energy independence ratios
*(2022, percent)*

| | AZE | KAZ | KGZ | TUR | UZB | HUN | TKM |
|---|---|---|---|---|---|---|---|
| Total self-sufficiency | 100% | 100% | 60% | 33% | 100% | 42% | 100% |
| Coal self-sufficiency | 0 | 100% | 96% | 45% | 63% | 62% | 0 |
| Oil self-sufficiency | 100% | 100% | 20% | 8% | 73% | 14% | 100% |
| Gas self-sufficiency | 100% | 100% | 6% | 1% | 100% | 15% | 100% |

Source: IEA World Energy Statistics, 2024 Edition.

The total primary energy production in OTS economies has steadily increased from 269.9 Mtoe in 1990 to 423.1 Mtoe in 2023, while final energy consumption has also risen, reaching 242.9 Mtoe in 2023. This trend reflects growing energy production and demand within the OTS region (Figure I.32).

Figure I.32: Total energy balance of OTS economies
*(Mtoe-million tonnes of oil equivalent)*




Source: Enerdata - Global Energy & CO2 Data - November 2024.

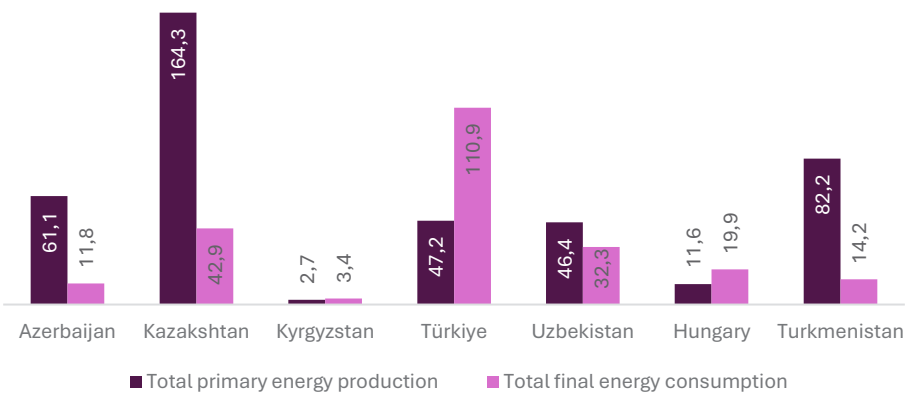
The OTS group of economies has maintained a consistent surplus in primary energy production over final energy consumption, indicating that the OTS region is a net energy producer.

While the energy balance of the OTS group of economies is a positive indicator of economic growth and energy security, future efforts should focus on managing growing demand and pursuing sustainable energy solutions to support long-term energy independence and environmental responsibility.

Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan produce significantly more energy than they consume, indicating that they are energy exporters. In contrast,

Hungary, the Kyrgyz Republic, and Türkiye consume more energy than they produce. From 2023 to 2029, Kazakhstan had the highest primary energy production in the OTS group at 164.3 million tonnes of oil equivalent (Mtoe), followed by Turkmenistan at 82.2 Mtoe and Azerbaijan at 61.1 Mtoe. Hungary's energy production was lower at 11.6 Mtoe during the same period, while the Kyrgyz Republic recorded the smallest primary energy production at just 2.7 Mtoe (Figure I.33).

Figure I.33: Total energy balance of individual economies
*(2019-2023 average, Mtoe-million tonnes of oil equivalent)*




Source: Enerdata - Global Energy & CO2 Data - November 2024.

Türkiye has the highest final energy consumption at 110.9 Mtoe, which aligns with its larger population, industrial base, and economic activity. Kazakhstan also demonstrates significant final energy consumption at 42.9 Mtoe, while Uzbekistan consumes 32.3 Mtoe, indicating a growing industrial base in these countries.

*The OTS economies have become net energy producers, with primary energy exports consistently exceeding imports. While Kazakhstan, Turkmenistan, and Azerbaijan are energy exporters, Türkiye and Hungary face increasing energy import dependencies.*

Figure I.34 shows the dynamics of OTS economies' energy exports and imports, as well as the resulting trade balance. Primary energy exports from the OTS economies have shown a clear upward trend, increasing from 131.3 Mtoe in 1990 to 224.9 Mtoe in 2023. However, export levels have remained relatively stable in recent years, ranging from 217 Mtoe to 224 Mtoe.

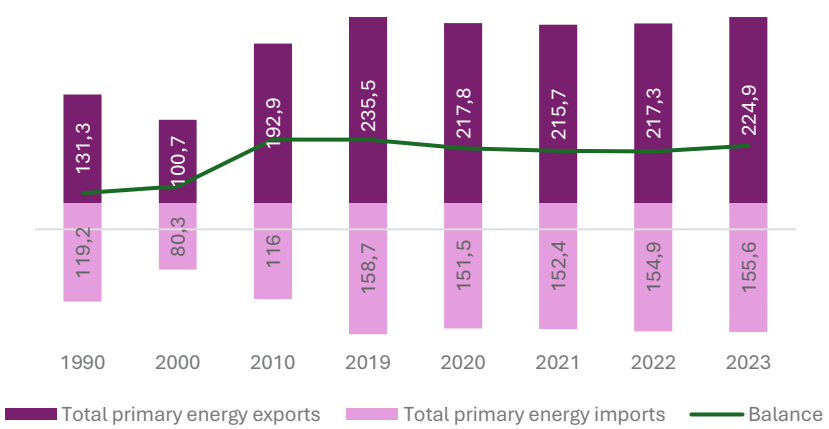
From 2019 to 2023, Kazakhstan accounted for 45.2% of OTS energy exports, followed by Turkmenistan with 25.8%, and Azerbaijan, which contributed 20.3% to OTS energy exports.

Total primary energy imports by OTS economies exhibited fluctuations, with imports increasing steadily from 80.3 Mtoe in 2000 to 158.7 Mtoe in 2019 and stabilizing at around 152 to 155 Mtoe in recent years (Figure I.34). Despite the strong export capacity, the increasing import levels suggest growing energy demand from some OTS economies to satisfy growing domestic energy consumption.

From 2019 to 2023, the largest energy importers within the OTS group were Türkiye and Hungary. Türkiye accounted for 78% of OTS energy imports during this period, while Hungary represented 13%.

The OTS economies have maintained a positive trade balance in primary energy, meaning that exports consistently exceed imports. The balance grew from 12.1 Mtoe in 1990 to 76.8 Mtoe in 2010, averaging 67.6 Mtoe over the last five years (Figure I.34).

Figure I.34: Energy trade of the OTS economies
*(Mtoe-million tonnes of oil equivalent)*




Source: Enerdata - Global Energy & CO2 Data - November 2024.

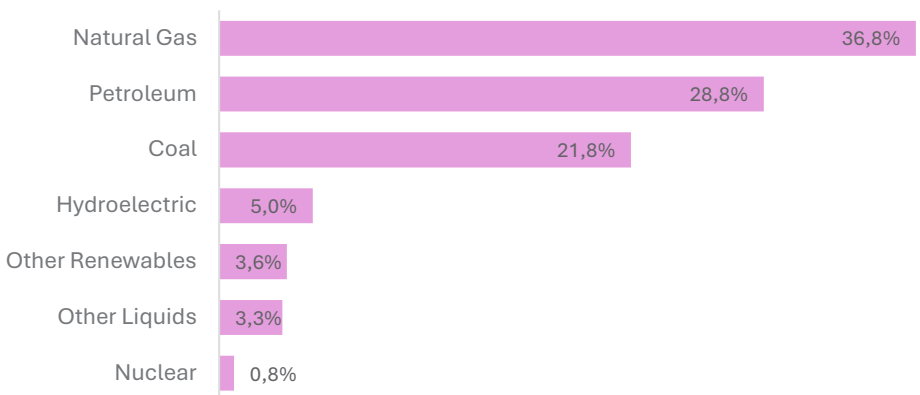
## I.C.2 Energy supply and demand

The data presented in Figure I.35 shows the distribution of total energy production across various categories for the OTS group in 2023. The percentages indicate the share of each energy source in the overall energy production mix. Natural gas is the largest contributor to the energy production mix in the OTS economies, making up nearly 37% of total energy production.

Petroleum accounts for nearly 29% of total energy production in the OTS region, making it the second-largest energy source. Coal constitutes 21.8% of energy production in OTS countries, which is notable but lower than natural gas and petroleum.

Hydroelectric power accounts for 5% of total energy production. Other renewable energy sources (including wind, solar, and geothermal) account for 3.6% of energy production. This is a relatively small percentage, highlighting the still-nascent role of renewables in the OTS economies' energy sectors (Figure I.35).

Figure I.35: Total energy production of OTS economies by categories
*(2023, percent)*



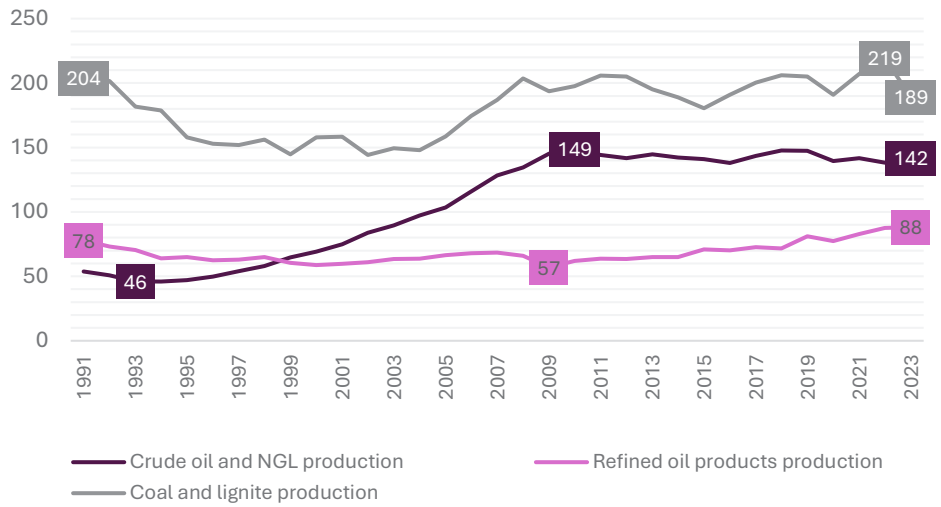

Source: CountryWatch. Calculation based on energy production defined in Quads units for all categories as presented by source.

There has been a gradual increase in crude oil and NGL production in OTS economies from 54 Mtoe in 1991 to a peak of 149 Mtoe in 2010. After that, production slightly decreased in subsequent years. By 2023, crude oil and NGL production was recorded at 142 Mtoe, showing a slight decline from the 2010 peak but still maintaining a robust output level (Figure I.36).

The production of refined oil products has seen a more fluctuating trend, starting at 78 Mtoe in 1991 and peaking at 88 Mtoe in 2023. While crude oil production and NGLs steadily increased, refined oil production experienced a more cyclical pattern, with notable decreases in the late 1990s (Figure I.36).

Coal and lignite production saw significant variability but generally followed a declining trend from 204 Mtoe in 1991 to a peak of 207 Mtoe in 2021. By 2023, coal and lignite production of the OTS group was recorded at 189 Mtoe.

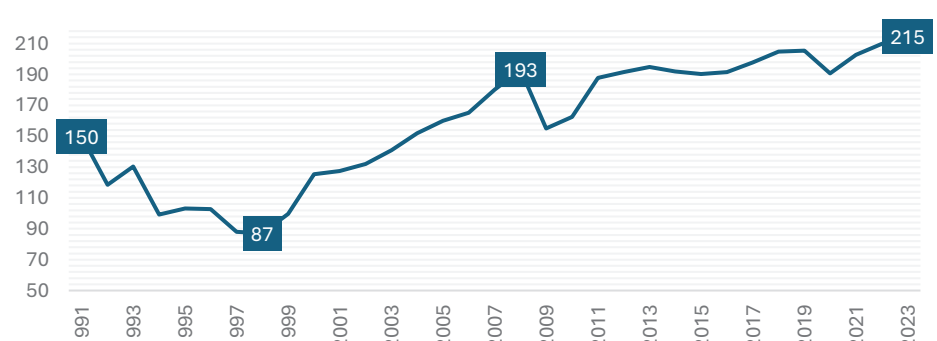
Figure I.36: Oil and coal production of OTS countries
*(Mtoe-million tonnes of oil equivalent)*




Source: Enerdata - Global Energy & CO2 Data - November 2024.

Natural gas production in the OTS countries was 150 billion cubic meters (Bcm) in 1991, but it saw a declining trend until 1998. After this initial dip, production gradually increased, stabilizing around 100-130 Bcm by the late 1990s and early 2000s. Starting from 125 Bcm in 2000, natural gas production steadily increased, reaching 193 Bcm in 2008. After the peak in 2008, production levels fluctuated within a range of 155 Bcm to 255 Bcm. The highest recorded production occurred in 2023 at 215 Bcm, continuing the upward trend in natural gas output observed over the past few years (Figure I.37).

Figure I.37: Natural gas production of OTS countries
*(Bcm-billion cubic meters)*

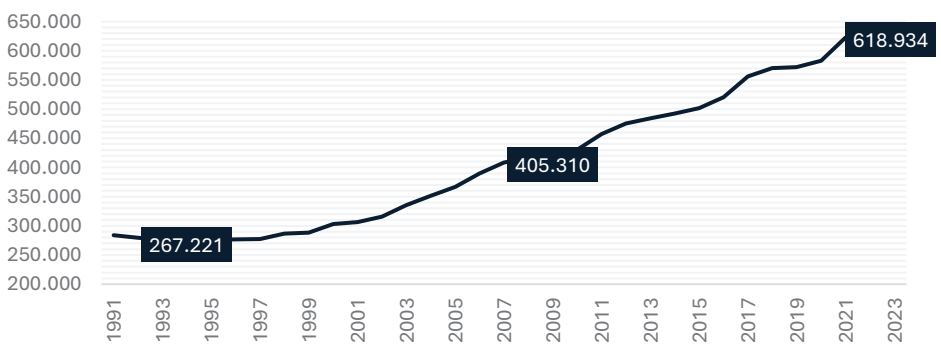



Source: Enerdata - Global Energy & CO2 Data - November 2024.

*In 2023, natural gas was the dominant energy source in OTS economies, contributing nearly 37% to total energy production, followed by petroleum (29%) and coal (22%). While fossil fuels remain predominant, renewable energy's share is still limited, highlighting the ongoing need for energy diversification.*

Except for a brief decline in the early 1990s, the electricity production of the OTS group has grown consistently from 283,733 gigawatt hours (GWh) in 1991 to 622,573 GWh in 2021, reflecting strong economic growth, increasing industrial demand, and investment in energy infrastructure. There was a notable stabilization in the electricity production of the OTS group during 2022 and 2023, resulting in a total output of 618,934 GWh in 2023 (Figure I.38).

Figure I.38: Electricity production of OTS countries
*(GWh - Gigawatt hour)*




Source: Enerdata - Global Energy & CO2 Data - November 2024.

Table I.17: Share of renewables in energy production of OTS economies
*(2022, percent)*

| | AZE | KAZ | KGZ | TUR | UZB | HUN | TKM |
|---|---|---|---|---|---|---|---|
| Share of renewables in total energy supply | 1% | 2% | 23% | 17% | 1% | 13% | 0% |
| Share of renewables in electricity generation | 6% | 12% | 86% | 42% | 9% | 21% | 0% |

Source: IEA World Energy Statistics 2024 Edition.

The OTS economies show significant disparities in the adoption of renewable energy. While some countries, like Kyrgyzstan and Türkiye, are making strides toward energy diversification, others, particularly Azerbaijan, Turkmenistan, and Uzbekistan, remain largely dependent on fossil fuels. The Kyrgyz Republic stands out with an exceptionally high share of renewables in electricity generation, largely due to its vast hydropower resources. On the other side, the growing focus on renewables in Türkiye

and Hungary signals that these countries are transitioning towards a more sustainable energy mix (Table I.17).

Energy prices in the OTS economies show a marked contrast between resource-rich countries, such as Kazakhstan, Azerbaijan, and Turkmenistan, which enjoy low energy costs, and import-dependent countries like Türkiye and Hungary, where prices are significantly higher.

Table I.18 compares 2023 energy prices across OTS economies for various energy types. In 2023, Turkmenistan and Kazakhstan reported the lowest gasoline prices at $0.42 and $0.43 per liter, respectively, followed by Azerbaijan at $0.59 per liter. These low prices are attributed to domestic production levels and state subsidies. Hungary and Uzbekistan had the highest gasoline prices in 2023.

*Energy prices in OTS economies vary significantly, with resource-rich countries like Turkmenistan, Kazakhstan, and Azerbaijan benefiting from low prices due to domestic production and subsidies. In contrast, energy import-dependent economies like Hungary and Türkiye face higher energy costs.*

Like gasoline prices, Turkmenistan, Azerbaijan, and Kazakhstan had the lowest diesel prices, while Hungary recorded the highest diesel price at $1.63 per liter, followed by Türkiye at $1.14 per liter.

Kazakhstan and Azerbaijan had the lowest electricity prices in 2023 for industry at 4.5 and 6.5 cents per kWh, respectively. Hungary has the highest industrial electricity price at 25.4 cents per kWh, which reflects the country's reliance on more expensive energy sources.

Table I.18: Energy prices
*(2023)*

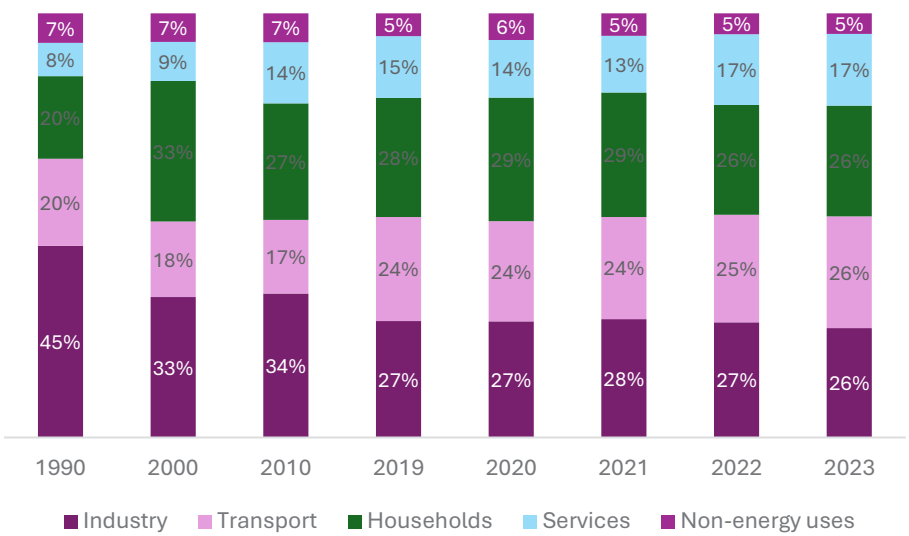
| | AZE | KAZ | TUR | UZB | HUN | TKM |
|---|---|---|---|---|---|---|
| Gasoline (US$/l) | 0,59 | 0,43 | 1,11 | 1,56 | 1,6 | 0,42 |
| Diesel (US$/l) | 0,47 | 0,61 | 1,14 | 0,97 | 1,63 | 0,38 |
| Electricity prices - industry (US$c/kWh) | 6,5 | 4,5 | 14,7 | 7,8 | 25,4 | .. |
| Electricity prices - households (US$c/kWh) | 4,7 | 4,5 | 5,9 | 2,5 | 11,5 | .. |
| Gas prices for households (US$c/kWh GCV) | .. | 0,71 | 2,26 | .. | 3,36 | 0,7 |

Source: Enerdata - Country energy reports.

Uzbekistan has the lowest household electricity price at 2.5 cents per kWh, significantly lower than other OTS countries. In 2023, Kazakhstan and Turkmenistan offered the lowest gas prices for households, benefiting from their abundant natural gas reserves. Conversely, Hungary has the highest household gas price, reflecting the

The OTS economies are experiencing a transformation in energy consumption patterns, with a decline in industrial energy use and a rise in energy demand from transport and services. These trends underscore the need for energy infrastructure development that meets the growing demands of these sectors while also considering sustainability and efficiency. The more consistent share of household energy consumption suggests a stable demand for energy in residential settings in recent years (Figure I.39).

Figure I.39: Total final energy consumption of OTS economies by sectors *(percent)*




Source: Enerdata - Global Energy & CO2 Data - November 2024.

*The OTS economies are shifting towards increased energy demand in transport and services, with varying reliance on natural gas, oil, and coal based on local resources. The diversity in energy consumption patterns highlights the need for infrastructure development that supports both growing demand and sustainability.*

The energy consumption patterns of OTS countries in 2023 reflect varying levels of reliance on natural gas, oil, and coal depending on local resource availability, economic structures, and energy policies. The role of nuclear, renewables, and biomass in Hungary and the differing reliance on primary electricity in several countries also underline the diversity of energy strategies within the OTS group.

Azerbaijan, Turkmenistan, and Uzbekistan rely heavily on gas for their total energy needs, leading to high gas shares in their energy consumption. Kazakhstan has the highest share of coal and lignite usage, while Türkiye also has a notable share, reflecting the continued reliance on coal in these countries' energy mixes. Oil is a relatively more significant energy consumption source for Azerbaijan, Hungary, Türkiye, and Turkmenistan (Table I.19).

Table I.19: Total consumption by energy sources *(2023)*

| | AZE | KAZ | TUR | UZB | HUN | TKM |
|---|---|---|---|---|---|---|
| Total (Mtoe) | 17,3 | 88,5 | 168 | 47,6 | 24,4 | 24,8 |
| Oil (% of total) | 33% | 21% | 34% | 9% | 31% | 29% |
| Gas (% of total) | 67% | 22% | 25% | 84% | 29% | 72% |
| Coal and lignite (% of total) | 0% | 55% | 25% | 6% | 6% | 0% |
| Primary electricity* (% of total) | -1% | 2% | 12% | 1% | 24% | -1% |
| Biomass (% of total) | 1% | 0% | 3% | 0% | 10% | 0% |

Source: Enerdata - Country energy reports.
* Nuclear, hydroelectricity, wind, and geothermal. 2022 data for Uzbekistan.

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Chapter I has provided a detailed overview of the economic landscape of the OTS economies, revealing both significant growth and key challenges. The OTS group has demonstrated remarkable resilience and expansion, with a robust GDP growth of 4.2% in 2023 and a stable increase in total trade, which reached $1.5 trillion in 2023. This expansion is coupled with a diversified export base, with energy and natural resources still holding a dominant share but showing a trend toward increasing diversification in the manufacturing, machinery, and transportation sectors.

Despite these positive trends, OTS economies are navigating significant socio-economic changes, including demographic shifts and varying inflation rates. The diverse reliance on external financial flows and energy exports underscores the importance of strengthening domestic economic resilience and reducing vulnerabilities to external shocks. Energy plays a critical role in these economies, with countries such as Turkmenistan, Kazakhstan, and Azerbaijan benefiting from abundant resources, while Türkiye and Hungary face increasing energy import dependencies.

Energy consumption patterns in the OTS group are evolving, with rising demand in the transport and services sectors. The continued reliance on fossil fuels, especially natural gas, highlights the pressing need for energy diversification and greater investment in renewable sources to align with global sustainability goals. While

energy prices in resource-rich OTS countries remain low, import-dependent OTS economies face higher costs, potentially impacting economic competitiveness.

This chapter also highlighted the ongoing transport infrastructure development within the OTS economies. Türkiye and Hungary have emerged as leaders in transport connectivity, while others like Kazakhstan, Uzbekistan, and Azerbaijan are making improvements but still face challenges. Particularly, the Kyrgyz Republic and Turkmenistan need significant logistics and air connectivity investments to enhance their trade potential.

In conclusion, while the OTS economies have achieved substantial growth and strengthened trade relationships, the path ahead requires focused efforts to improve infrastructure, diversify energy sources, and reduce dependence on external financial flows. Strategic investments in these areas will enhance regional connectivity and ensure the long-term sustainability and resilience of OTS economies in the face of global economic and environmental challenges.

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**Databases**

Central Bank of the Republic of Türkiye.

Central Bank of the Turkish Republic of Northern Cyprus.

CountryWatch.

EIA, U.S. Energy Information Administration.

Enerdata, Global Energy & CO2 Data.

Euromonitor International.

EIU, Economist Intelligence Unit.

IATA, International Air Transport Association.

IEA, World Energy Statistics.

ILOSTAT, International Labour Organization.

IMF, Balance of Payments, and International Investment Position.

IMF, Coordinated Direct Investment Survey.

IMF, Direction of Trade Statistics.

IMF, International Financial Statistics.

IMF, World Economic Outlook.

International Road Federation.

Trade Department of the TRNC Ministry of Economy and Energy.
Turkish Republic of Northern Cyprus Statistical Institute.
UN Comtrade Database.
UN, World Population Prospects 2024.
UNCTAD FDI/MNE Database.
UNCTADSTAT, UN Trade and Development.
WITS, World Integrated Trade Solution.
World Bank, World Development Indicators.

CHAPTER

II

# The Role of the Middle Corridor in the Economic Integration of the Turkic World

## II.A The impact of the Middle Corridor on the growth of trade policies and economic relations

The Trans-Caspian International Transport Route, also known as the Middle Corridor, which connects most of the member states of the Organization of Turkic States (OTS), is rapidly gaining popularity as an alternative trade and transportation route, especially against the background of geopolitical processes. The successfully developing trade corridor offers an alternative to the Northern Corridor (the transport corridor connecting Europe and Asia via Russia), notably shorter distances, access to untapped markets, and growth potential. However, addressing infrastructure challenges and securing investment will be key to ensuring the Middle Corridor's long-term success and competitiveness in international trade. The corridor presents a significant opportunity for participating countries, particularly members of the OTS, as it has substantial potential to diversify their limited number of major export partners and decrease reliance on commodity exports.

By shortening distances, the Middle Corridor is a multimodal land and sea transport corridor that facilitates the movement of products by using a combination of both rail and sea transport. It represents the shortest route for goods traded from China to Europe through Central Asia, the Caspian Sea, the South Caucasus, and Türkiye before reaching Europe. One of the essential advantages of the Middle Corridor is that its total length is about 2,000 km less than the Northern Corridor. This route reduces transit times and avoids sanctions compliance issues by bypassing Russia, making it an attractive option for businesses looking for new trade routes and markets.

The Middle Corridor has shown a significant increase in cargo transit volume, with 1.9 million tons in the first nine months of 2023 (an 89% year-on-year increase compared to the same period in 2022). This has set a record for the volume of freight traffic on the corridor and its growth potential to meet the growing demands of global trade. One of the examples of the use of the corridor was the introduction of a new route from China to Europe by Finnish transport company Nurminen Logistics in May 2022, which was met with strong demand. Currently, the capacity of the Middle Corridor at 5.8 million tons per year is much less than the Northern Corridor, but if the proper measures are implemented, its potential will increase.

According to the estimates of the World Bank in the economic analysis of the development potential of the Middle Corridor in the next decade, by 2030, the travel time between China and the western border of Europe will be halved, and the volume of cargo transportation will increase three times to 11 million tons.

Despite significant progress in the Middle Corridors's development, operational inefficiencies and high costs are limiting the realization of its full potential, forcing

operators to revert to sea routes. The corridor is subject to unpredictable delays, ranging from 14 to 45 days, but can take up to 60 days, depending on circumstances. Practical challenges include ports operating below capacity and lack of operational efficiency due to poor rail infrastructure. Although the lack of coordination between operators along the route is the most mentioned problem, the issue may be solved by introducing a single operator. The main concern is the lack of necessary oil and gas transportation infrastructure, especially in the Caspian and Trans-Caspian regions.

The most obvious example of this difficulty is the transportation of oil from Kazakhstan to Azerbaijan through the Middle Corridor, which involves several stages of transportation. The oil is first transported by rail to the port of Kurik or Aktau in Kazakhstan, where it is unloaded and loaded onto a ship and transferred to Baku. From Baku, it is again loaded onto the train and transported to the pipeline for further distribution. This complex process results in significant delays and technical difficulties, in contrast to the ease of routes through Russia via the Caspian Pipeline Consortium (CPC).

### II.A.1 Investment imperatives for the development of the Middle Corridor

Significant investments in infrastructure are essential to unlock the Middle Corridor's full potential. It is crucial to improve the Caspian and Trans-Caspian infrastructure for the transportation of oil and gas, as well as to increase the overall efficiency of the corridor. With the promise of shorter transit times, access to new markets, and increased business opportunities, the Middle Corridor presents an attractive option for investors and OTS member states seeking to boost regional trade and economic growth.

According to a recent study by the EBRD, the investment required to improve the infrastructure of the Middle Corridor is estimated to be 18.5 billion euros. The priority areas for investment are rehabilitation and modernization of the railway and road network, expansion of carriages, increasing port capacity, and improving border crossing points, multimodal logistics hubs, and ancillary network connections between participating countries. The investment should consider the participating countries' needs, priorities, capabilities, and special conditions.

Although the Middle Corridor is not expected to replace the Northern Corridor completely, it provides a vast opportunity for trade diversification for the countries along the route, especially the OTS member countries. Further, even if the impetus for using the Middle Corridor is currently driven by geopolitics (i.e., the preference to avoid the Northern Corridor), the Corridor's development offers economic development opportunities in participating countries. A look at the industrial structure of the participating countries shows that most of them are exporters of raw materials (for example, oil-producing Kazakhstan and Azerbaijan). For these

countries, it is strategically important to promote the industrial development of domestic enterprises to increase the export competitiveness of value-added goods and to compete with potential increases in import flows. To take full advantage of the improved connectivity created by the Middle Corridor, governments of participating countries should use export promotion strategies and global value chain linkages to connect their local SMEs with larger corporations.

As the Middle Corridor gains traction as a geopolitical answer to bypassing traditional routes, its economic potential is increasingly apparent. Shorter distances, access to untapped markets, and the promise of growth make it attractive to businesses and governments. However, success depends on addressing infrastructure challenges and securing the necessary investments. The geo-economic importance of the Middle Corridor is a significant opportunity for the development of international trade, allowing participating countries to reshape their trade dependencies and support sustainable economic Development.

### II.A.2 Enhancing the Middle Corridor's economic potential

The Middle Corridor is a multimodal corridor connecting China and Europe. It passes through Dostyk or Khorgos/Altinkol by rail from Kazakhstan, then by rail to the port of Aktau, stretches across the Caspian Sea to the port of Baku, and passes through Azerbaijan, Georgia and Türkiye to Europe. The Baku-Tbilisi-Kars (BTK) Railway is an important component of the Middle Corridor (BTK was inaugurated on 30 October 2017; its total track length is 840 km-79 km in Türkiye, 259 km in Georgia, 503 km in Azerbaijan; it has a capacity of 1 million passengers and 6,5 million tons of cargo/year, to be increased to 3 million passengers and 17 million tons of cargo/year by 2034). That's why the Middle Corridor is 2,000 km shorter than the Northern Corridor, has

more favorable climatic conditions, and is shorter in duration compared to the sea route (reducing it from 45-60 days to 12-15 days). That's why the route's development is attracting increasing attention, becoming vital to strengthening the region's economic resilience and promoting diversification of trade routes. The development of the Middle Corridor will further enhance the transport and logistic capacity of the en-route states.

According to the Trans-Caspian International Transport Route International Association, transportation volume along this corridor increased by 86%, from 1.5 million in 2022 to 2.8 million tons in 2023. This is a significant increase from the 2021 total of 586,000 tons. In November 2022, Azerbaijan, Georgia, Kazakhstan, and Türkiye signed a road map that reflects the priority directions of investments and measures needed to improve the Middle Corridor. In June 2023, Azerbaijan, Georgia, and Kazakhstan agreed on creating a single logistics operator. In 2023, according to the contract signed between Kazakhstan "KazMunayGaz" and Azerbaijan's SOCAR oil and gas company, oil was injected into the Baku-Tbilisi-Ceyhan pipeline for the first time through the Middle Corridor. About one million tons of Kazakh oil was transported on this route.

The corridor could triple trade volumes to 11 million tonnes by 2030 compared to 2021 levels and halve travel times. In addition to its usefulness as an Asia-Europe land bridge for containerized cargo and an access route to international markets for all types of cargo, the importance of the Middle Corridor lies in its potential for regional countries as an intra-regional trade corridor.

The first step is to reimagine the Middle Corridor as an economic corridor rather than a transport corridor. The main demand for the corridor is endogenous within the corridor countries. Thus, the Middle Corridor has great potential to develop as an economic corridor with synergy between improved connectivity and unique economic potential in the corridor's zones. However, effectively developing and optimizing the use of this corridor as a single trade route and economic zone requires the creation of an equipped cross-border institutional framework. Without improvements to the corridor, transport demand is projected to fall 35% below expected growth.

It is essential to reform and simplify procedures, especially border procedures, and harness the potential of digital data flow. Digitization is key and has many elements. There should be transparency and visibility to enable tracking and follow. Digitization also means that paperwork must become a thing of the past, giving way to greater complexity and economy connecting smaller trucks to larger and more efficient train loads. Bringing this big idea to reality requires the active participation of multiple actors, including the private sector and other development partners. The Turkic countries, in particular, must mobilize private capital and expertise to bridge the infrastructure gap and enhance service provision along the Middle Corridor.

There are also some problems in the Middle Corridor, such as pricing issues, which must be resolved. Corridor users believe prices can be high and volatile as transparency is not fully ensured. The time to cross the corridor can also be very variable. It can go very fast in some cases, but for shippers, transit times are also critical to predictability and reliability.

Another problem is not a lack of infrastructure but rather a lack of rolling stock and problems in moving between railways and ports. As many of the challenges are not related to infrastructure or the construction of new railways, there is great potential to overcome these obstacles by focusing on the operational efficiency of the corridor.

One of the critical areas identified for improvement is the coordination of the corridors, which are "more complex" due to the involvement of several railways, ports, shipping lines, and customs authorities from each country. This complexity highlights the urgent need for enhanced coordination between the various stakeholders involved.

### II.A.3 Digitalization and trade circulation of the Middle Corridor

Another crucial area is the digitization of the Middle Corridor. A big challenge in the corridor is that the level of digital development varies along the corridor. In some cases, some operators use paper. Others use the latest platforms. Efforts must be made to truly benefit from information technology to promote the end-to-end flow of information. In addition to focusing on operational efficiency, significant investments are needed. According to a recent study by the European Bank for Reconstruction and Development (EBRD), about $18,5 billion of investment is needed to develop the Middle Corridor. Besides, the contributions of relevant Ministries (ministries responsible for trade and transportation) and ensuring digital data security are also significant in the digitalization process of the Middle Corridor.

The Middle Corridor provides insight into how improvements in the trade corridor impact the local economy and diversify the trade dynamics of the countries involved. According to a World Bank study, trade along the Middle Corridor increased by 10% in volume from 2021 to 2022, driven mainly by changes in regional and intercontinental trade patterns.

In 2021, trade from Kazakhstan, Georgia, and Azerbaijan accounted for about two-thirds of the volume on the Middle Corridor. This trade volume doubled in 2022 due to the war in Ukraine, which resulted in increased trade flows, especially in energy and technology goods, as sanctions against Russia led to diversifying some of this trade. Compared to 2019-2021, the trade turnover in 2022 increased by approximately 45% in Kazakhstan and Georgia and 72% in Azerbaijan. More than half of the export increase from the region fell to the EU.

## II.B The Middle Corridor and Turkic economic integration

The Middle Corridor is pivotal in enhancing trade among the Turkic countries. This multimodal route offers significant opportunities for regional economic integration. As these countries strive to boost their economic resilience and diversify trade, the Middle Corridor facilitates smoother access to global markets, reducing transit times and providing a platform for exchanging goods and services. By leveraging this strategic route, the Turkic countries are not only increasing their trade volumes but also strengthening their collective influence on the global supply chain, making the corridor a cornerstone of their shared economic future.

### II.B.1 Shusha Declaration

The Shusha Declaration on alliance relations signed between the Republic of Azerbaijan and the Republic of Türkiye on 15 June 2021 contributes to further enhance Türkiye-Azerbaijan solidarity. This was also a statement in terms of the reconstruction of the territory after the liberation of Karabakh and ensuring its security. According to Article 51 of the UN Charter, every state has the right to self-defense, individually and collectively. In the Shusha Declaration, some articles include creating a mechanism for the economy and free movement of goods, which envisages creating common security. In the declaration, it is specially mentioned that the Parties will support activities towards the normalization of life in the regions freed from Armenian occupation, based on the clearing of mined areas.

At the same time, the signing of the Shusha Declaration in 2021 is of particular importance and is a sign that the alliance relations with Türkiye will be eternal. In the declaration, the parties note that the opening of the Zangezur corridor between the western regions of the Republic of Azerbaijan, which connects Azerbaijan and Türkiye, and the Nakhchivan Autonomous Republic of the Republic of Azerbaijan, and the construction of the Nakhchivan-Kars railway as a continuation of that corridor will make an important contribution to the intensification of transport and communication relations between the two countries.

The Shusha Declaration emphasizes that the Parties will continuously strengthen stability and security in the Caucasus region and restore all economic and transport relations. Along with starting a new era of bilateral relations, it calls for accelerating economic integration initiatives in the Turkic World and implementing practical measures to increase the competitiveness of the Middle Corridor, being the driving force of the processes of alliance and solidarity between the Turkic States.

It is no coincidence that 5 months after the signing of the Shusha Declaration and on the eve of the anniversary of Azerbaijan's historic victory in the Second Karabakh War, on 12 November 2021, within the framework of the 8$^{th}$ Summit of the Organization

of Turkic States held in Istanbul, name of the organization was changed from the Cooperation Council of Turkic Speaking States to the Organization of Turkic States (OTS). At the same time, the "Turkic World Vision-2040" document, which reflects the medium and long-term goals and objectives of OTS, was also approved at this summit.

At the 9th Summit of OTS held in Samarkand on 11 November 2022, Shusha was designated as the Cultural Capital of the Turkic World for 2023. As a standard practice, OTS member states organize Business Forums focused on restoring and developing Azerbaijan's Karabakh region, which has been liberated from occupation. Additionally, trips to Aghdam city have been arranged. Companies from Türkiye are actively participating in the restoration and reconstruction efforts in Shusha, Eastern Zangezur, and Karabakh as a whole.

At the 9th Summit, the presidents of the Turkic states also signed a special decision on establishing the Turkic Investment Fund. With a total initial capital of $500 million, this fund is the first and main joint financial institution established by the Turkic states, which aims to strengthen the economic cooperation potential of the OTS countries.

### II.B.2 Zangezur Corridor

As the significance of the Middle Corridor continues to grow, Azerbaijan and Türkiye—two pivotal countries in both energy and transit routes between Asia and Europe—have expressed their commitment to accelerating regional integration.

By demonstrating the position of "we will always be together" at the international level, Türkiye and Azerbaijan once again proved that they are reliable partners in critical global issues such as energy security and the Southern Gas Corridor.

The declaration has a symbolic meaning that former President of Azerbaijan Heydar Aliyev returned to the leadership of our republic at the call of the people and was signed on National Liberation Day, the day of victory that changed the fate of Azerbaijan. Internationally critical regional projects such as the Baku-Tbilisi Ceyhan oil pipeline, the Baku-Tbilisi-Erzurum gas pipeline, and the Baku-Tbilisi Kars railway, which ensure the transportation of the oil and gas resources of the Caspian Sea to European markets, are the foundation of the current alliance relations between Azerbaijan and Türkiye.

Current President of Azerbaijan Ilham Aliyev has successfully continued this political line and has been moved to a higher position on an international scale. The Southern Gas Corridor project, which aims to increase the energy supply and has a total length of nearly 3,500 km, will join the existing 11 projects as a result of the successful implementation of the South Caucasus Pipeline (SGP), Trans-Anatolian Pipeline

(TANAP) and Trans-Adriatic Pipeline (TAP) projects. The transmission capacity of TANAP is 16 billion cubic meters, and the amount of gas transported in TANAP since the start of gas flow has exceeded 75 billion cubic meters. Türkiye Petrolleri and other Turkish companies are the leading investors in Azerbaijan, while SOCAR is a key player in the oil and gas investment sector in Türkiye.

Within the framework of the High-Level Strategic Cooperation Council between the Republic of Azerbaijan and the Republic of Türkiye, the Parties carry out coordination and regular bilateral political consultations in the field of foreign policy. Measures to facilitate and increase trade volume between Türkiye and Azerbaijan are being implemented rapidly. On 25 February 2020, the "Preferential Trade Agreement between the Government of the Republic of Azerbaijan and the Government of the Republic of Türkiye" was signed in Baku. Within the agreement framework, concessions will be applied to 15 goods (agricultural and processed products) and annual tariff quotas for these goods. The Preferential Trade Agreement, which reduces import customs duties on the specified products to 0% within the annual tariff quotas, entered into force on 1 March 2021.

### II.B.3 The role of OTS in increasing the potential of the Middle Corridor

Within the scope of the OTS, many multilateral agreements and/or other initiatives are being carried out, which will also positively affect the empowerment of the Middle Corridor. Among them, the "Digital Economy Partnership Agreement (DEPA)" has already been signed, and a complementary "Trade in Services and Investment Facilitation Agreement" is being negotiated. The parties agreed to strengthen further cooperation areas in the "Trade in Services and Investment Facilitation Agreement" in the OTS region, including increasing the capacity of transport connectivity, promoting the Middle Corridor, simplifying customs work, and harmonizing standards and regulations.

Expansion of cooperation between investment promotion agencies of OTS Member States, potential investment for the development of cooperation in the field of trade and economy defined in the OTS Strategy for 2022-2026, the preparation of the joint OTS catalog and concrete measures, consisting of projects, are other initiatives being carried out.

At the same time, the creation of the "Unit Economic Space" and the prioritization of trade facilitation measures, including the creation of the Trade Facilitation Committee and the signing of the "Digital Economy Partnership Agreement" and regional trade issues are the subject of discussion of the meetings held within the OTS.

The concept of the "TURAN Special Economic Zone - TURANSEZ" project to be established in the Turkestan region of Kazakhstan has been approved, and negotiations are underway on the concept of establishing the "Turkic Green Financial

Council." At the 10th Summit of OTS held in Astana on 3 November 2023, "Protocol of cooperation in the field of metrology between the relevant institutions of OTS member states" as well as specific proposals for facilitating trade, wide application of electronic commerce, a joint action plan for increasing the trade volume, the concept of establishing a "Research Center for Trade Cooperation in Turkic Countries" was adopted.

The OTS aims to create an online platform to eliminate physical, bureaucratic, and linguistic barriers to trade between SMEs in Turkic countries. This platform will enable instant communication between SMEs without any intermediaries and gather information by presenting trade potential and gathering activities currently scattered across different forums under a single web portal. The OTS aims to significantly increase the speed and volume of commercial relations by facilitating communication and centralizing relevant information.

In order to create favorable conditions for increasing non-oil exports, Azerbaijan implements an active policy related to developing trade relations with foreign countries. In the direction of trade liberalization, Azerbaijan has signed agreements regulating free trade with 10 countries and bilateral trade or trade-economic cooperation with many countries. In this regard, the signing and entry into force of the preferential trade agreement with the Republic of Türkiye, one of Azerbaijan's main trade partners, was particularly important.

### II.B.4 Strengthening the Turkic integration

The Shusha Declaration can be compared with the Schuman Declaration, which is the first and decisive step in creating European integration today. The European Union integration process started in 1950 and lasted for 43 years until the creation of the single market in 1993. It was completed for an additional 14 years until 2007. Although the process of integration in economic, customs, trade, fiscal, and monetary policies has been completed, each of the 27 member states with different ethnic origins has the right to conduct independent policy in foreign policy matters.

The Turkic states share the idea that "Azerbaijan's joy is our joy, Azerbaijan's sorrow is our sorrow" in the words of Gazi Mustafa Kemal Atatürk, and they showed solidarity with Azerbaijan and provided moral and political support both during the occupation of Karabakh and in the Karabakh War. The existence of mutual trust and shared values and interests means that the process of economic integration will be shorter and more advanced for one nation and eight Turkic states. Since the Turkish-Azerbaijani union and the Turkic World brought into action by this union are essential for the region and the entire Eurasian continent, international partners are expected to support this process.

Turkic countries emphasize the importance of reducing delivery times along the Middle Corridor by creating a unified service, strengthening digital technologies, and establishing stable tariffs. According to information from the Ministry of Transport of Kazakhstan, the processing and transportation times along the route have been reduced from 38-53 days to 19-23 days. The goal is to reduce the delivery time to 14-18 days, which is planned to reduce the transit time on the territory of Kazakhstan to five days. The researchers proposed the development of the Middle Corridor strategy to cover period until 2040.

In Kazakhstan, five-year plans have been determined based on the requirements and problems of the market at the state level. Considering the high transport potential connecting Central Asia and the Black Sea countries through the Caucasus region with European access, countries should take simultaneous and interconnected measures between countries.

Researchers emphasize that transport corridors are an important factor in global competitiveness. The Middle Corridor standards must be developed to serve as a quality guarantee for all corridor users. These standards can focus on fixed transit times for the movement of goods from the territory of each country along the corridor, ensure the safety and security of cargo, uniform service, and competitive tariffs. Only during the first two months of 2024 were 13 block trains sent from China on the Middle Corridor line, and according to the measures taken by Azerbaijan, it took only 12 days for these containers to reach Georgian ports. Previously, this period was about 45 days.

In conclusion, it should be noted that the expansion of economic cooperation within the framework of OTS has great potential for promoting general prosperity and sustainable development in the region. By strengthening trade ties, harmonizing trade policies, and leveraging the strategic advantages of the Middle Corridor, OTS members can open new opportunities for economic growth and integration. The significance of cooperation, innovation, and inclusive development is crucial for harnessing the Turkic World's economic potential and advancing its member states' collective interests. The economic future of the Turkic World depends on joint efforts to solve structural problems, promote economic cooperation, and use the potential of entrepreneurship and innovation. By leveraging regional synergies, strengthening connectivity, and promoting an environment conducive to entrepreneurship and economic empowerment, Turkic countries can achieve their economic goals and aspirations by 2040.

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CHAPTER

III

# Enhancing Infrastructure Links: Azerbaijan's Role in Turkic Transport and Energy Connectivity

# III.A Azerbaijan as a bridge in Eurasian energy and transport networks

The ancient Silk Road has been vital for Azerbaijan as a trade route throughout history. Its modern interpretation enables commercial links between Central Asia and Europe while acting as a transit corridor. This historic path underscores Azerbaijan's strategic location. The expanding transportation network in the nation, especially the new Baku International Sea Trade Port, significantly boosts Azerbaijan's trade activities and could be adopted as a potential transit hub.

## III.A.1 Azerbaijan's strategic position in Eurasian transit networks

Azerbaijan is increasing efforts to reach global markets through transit links with Turkic countries. The Baku-Tbilisi-Cars railway, opened in October 2017, has significantly revitalized the ancient Silk Road. Azerbaijan provides Turkic nations access to routes like the East-West and North-South corridors. The North-South Transport Corridor aims to link India, Pakistan, Iran, Azerbaijan, Russia, and Northern Europe through a project. Utilizing this corridor allows Russia and Iran to move goods swiftly across Central Asia's Turkic regions, Türkiye, and Azerbaijan. These initiatives will merge the North-South and East-West routes, thus positioning Azerbaijan as a key hub for logistics and being involved in both directions. This will boost Azerbaijans's economic status regionally and globally while emphasizing its vital role in transit alongside the Turkic World.

As a result of these measures, it seems possible to expect that bolstering transport and communication links will accelerate economic integration among Turkic countries, as well as between these countries and those nearby and worldwide. This will decrease transport expenses and stimulate both exports and imports for the involved states. Therefore, the Turkic countries will gain strategic and geopolitical benefits.

By acting as an energy corridor within this setup, Azerbaijan raises the economic worth of both the Turkic World and the European Union while serving a transit role. The participation of Türkiye and Azerbaijan in this plan, along with most gas pipelines passing through the OTS geography, fosters economic integration among these countries and offers significant chances.

The 2018 agreement that delineated the legal status of the Caspian Sea among the Caspian Five countries further bolsters this cause. It aims to fortify trade and economic collaboration, transportation, energy, innovation, tourism, information sharing, and other sectors, thereby promoting prosperity within the region and the Turkic World.

Furthermore, pacts with Turkmenistan, particularly those related to the joint operation of the Druzhba field, play a substantial role in enhancing the oil sectors of both Azerbaijan and Turkmenistan. These agreements bolster Azerbaijan's oil and gas production income and facilitate Turkmenistan's natural resources' entry into global markets.

The energy collaboration with Azerbaijan significantly contributes to regional and international security, holding strategic dividends and being considered part of a holistic partnership. Azerbaijan's pragmatic energy policy prioritizes regional and global security, making it a crucial giver to leading powers. Its balanced foreign policy strategy directly contributes to energy security, guaranteeing security and growth. Therefore, the world recognizes Azerbaijan's political significance and appreciates its crucial role as an indispensable partner in ensuring energy security in the South Caucasus and the Caspian region (Bayramov, 2022).

Azerbaijan has significantly invested in its infrastructure over the past three decades and has strengthened its ties with Central Asian partners. The country's longstanding energy export relationships with Europe, combined with the energy diversification strategies of both European and Central Asian nations, have positioned Azerbaijan as a vital partner for both regions. The Caspian Sea is no longer seen as a barrier between Central Asia and Caucasus but a bridge even between Asia and Europe, an alternative route that has preferential offers. It has become one of the best alternatives, for example, for Kazakhstan after the conflict arose between Russia and Ukraine in 2022. As a result, the Black Sea tanker terminal of the Caspian Pipeline Consortium had operational interruptions (Gizitdinov, 2023).

Baku-Tbilisi-Ceyhan (BTC) pipeline, which runs from Azerbaijan to Türkiye, has increased significance in the transit of Kazakh oil to Europe. State Oil Company of the Azerbaijan Republic (SOCAR) announced the start of the transit of Kazakh oil through the BTC pipeline in March 2023. The transportation of Kazakh oil through BTC is being carried out under a Master Agreement between SOCAR and KazMunayGas signed in 2022 (Rafigoglu, 2024). The agreement increased the volume of Kazakh oil shipments along the Aktau-Baku-Tbilisi-Ceyhan route to 2.2 million tons annually. Under this agreement, the parties would discuss decreasing the tariffs on transportation along the Aktau-Baku-Tbilisi-Ceyhan route and transporting Kazakh oil along the Baku-Supsa route. However, it seems that the projected phased increase will take some time, according to the existing volume of exports (Gasimov, 2024).

Trans-Caspian International Transport Route (also called Middle Corridor) is another connectivity corridor passing through the Caspian Sea, starting from the China-Kazakhstan border and continuing to Azerbaijan and Georgia. Many partners have put a great deal of effort into improving the functionality of this corridor. However, some deficiencies in the Trans-Caspian International Transport Route put users at risk of extra expenses, delays, and uncertainty. Compared to other routes, the Middle

Corridor is less appealing due to its limited competition in terms of cost and duration. These inefficiencies result in restricted shipping services in the Caspian and Black Seas, impacting the smooth transportation of commodities along the route. The insufficiency of coordination and harmonization of fares and services across different railway networks impedes seamless operations. Additionally, the lack of digitization also hinders the transport route, affecting the modernization and efficiency of the transport process (Guliyeva, 2023).

### III.A.2 Azerbaijan's regional and global connectivity

When considering Azerbaijan's role in Turkic transport and energy connectivity, it is essential to examine the specific infrastructure developments that the country provides to enhance these routes. A prime example is the Port of Baku, strategically situated along the ancient Silk Road, serving as a critical transport and logistics hub that connects Europe and Asia and facilitates Eurasian connectivity. As a vital component of the Trans-Caspian International Transport Route, the Port of Baku boasts a modern operating system that ensures efficient cargo services (Image III.1).

Image III.1: Port of Baku

Source: https://portofbaku.com

The Port of Baku has open and covered storage facilities capable of handling all types of cargo. On 14 May 2018, the opening ceremony of the Port of Baku was held in the

Alat settlement. The largest port of the Caspian Sea can handle up to 15 million tons of cargo per year, including 100,000 TEU containers. Upon completion of the second phase of the port complex construction, the Port of Baku's total handling capacity will rise to 25 million tons of cargo and up to 500,000 TEU containers. Building various bridges is part of the development plan for the Port of Baku to improve its capacity to handle cargo more efficiently.

Table III.1: Baku International Sea Port:
Statement of Profit or Loss and Other Comprehensive Income

| In Azerbaijani Manats | Note | 2022 | 2021 |
|---|---|---|---|
| Revenue | 20 | 50,143,443 | 42,195,821 |
| Agency fees | | 339,856 | 919,502 |
| Reversal/(net change) for expected credit lossed on financial assets | 10 | 1,319,744 | -1,605,685 |
| Payroll expenses | | -14,865,383 | -13,731,268 |
| Expenses related to stevedoring activities | 21 | -7,886,253 | -9,543,648 |
| Repair and maintenance | | -3,687,453 | -3,338,568 |
| Depreciatio and amotization expense | 8 | -3,464,863 | -3,399,942 |
| Impairment of non-financial assets | 10 | -1,940,608 | _ |
| Social expenses | | -1,083,142 | -982,368 |
| Professional fees and consulting servies | | -951,013 | -716,372 |
| Utility expenses | | -834,452 | -757,992 |
| Taxes other than on income | | -806,799 | -806,839 |
| IT and communication expenses | | -791,086 | -673,758 |
| Insurance expenses | | -723,972 | -562,135 |
| Event expenses | | -634,688 | -446,115 |
| Sanitation and ecology espenses | | -480,523 | -380,169 |
| Business trip expenses | | -245,307 | -202,078 |
| Office expenses | | -165,010 | -197,668 |
| Bank charges | | -141,338 | -168,534 |
| Advertising expenses | | -134,259 | -117,330 |
| Research and development expenses | | -701 | -34,170 |
| Foreign exchange losses | | 140 | -899,274 |
| Other expenses | | -233,667 | -52,321 |
| Profit before income tax | 22 | 12,732,666 | 4,255,628 |
| income tax expense | | -2,774,477 | -1,349,111 |
| PROFIT FOR THE YEAR | | 9,958,189 | 2,906,517 |

Source: https://portofbaku.com

With a combined load capacity of 6.2 million tons, there will specifically be two ferry terminals. Furthermore, two bridges for containers, each able to support up to 10 million tons, will be constructed. Additionally, the plan includes two Ro-Ro bridges with a combined capacity of 1.8 million tons. Moreover, a total of seven cargo bridges with a capacity of seven million tons would be added. Lastly, a service bridge is included in the development plan to assist with overall port operations. According to Baku International Sea Trade Port CJSC Statement of Financial Position, in 2022, the Port's net cash from operating activities rose sharply to 10,465,466 AZN in 2022, nearly doubling from 5,806,207 AZN in 2021. Similarly, the profit for the year also saw a considerable boost, reaching 9,958,189 AZN in 2022 compared to 2,906,517

AZN in 2021 (Table III.1). This notable increase in profit reflects enhanced operational efficiency and financial performance. Both metrics demonstrate a strong year-over-year growth in the Port's financial stability and operational success.

The advancement of technologies, digitalization, and automation are key priorities for the Port of Baku's development. The port is investing significantly in digitalizing its services, including implementing the Port Management Information System. This system enables real-time information transfer to facilitate the tracking and tracing of goods and optimize transit times. The Port's vision extends beyond trade, encompassing environmental and wildlife protection as well. The Port of Baku has received notable environmental certifications, including the "Eco Ports" certificate in 2019 and re-certification in 2021. In 2022, it joined the UN Global Compact, aligning its strategic activities with 11 of the 17 UN Sustainable Development Goals (SDGs). The Port of Baku is determined to evolve and expand to accommodate the rising demands of global trade.

Azerbaijan Caspian Shipping Company (ASCO) serves as a vital link in the Transport Corridor Europe-Caucasus-Asia (TRACECA), offering maritime transportation for both goods and passengers across the Trans-Caspian Sea. The development of marine shipping in Azerbaijan is closely linked to the emergence and enhancement of the oil industry. ASCO owns and operates a diverse fleet of vessels tailored to support the offshore oil and gas industry. These vessels are equipped to handle various tasks, including the construction of offshore production platforms, anchor handling, platform supply, geological research, installation and maintenance of oil and gas pipelines, emergency recovery and response, crew transfer, and the transportation of different types of cargo.

ASCO's offshore fleet comprises over 200 vessels dedicated to conducting oil production at sea. Azerbaijan Shipping Company has international certificates and meets relevant conventions' requirements. As the largest shipping company in Azerbaijan, operating within and beyond the Caspian Sea, ASCO addresses all SDGs directly or indirectly through its activities and value chain.

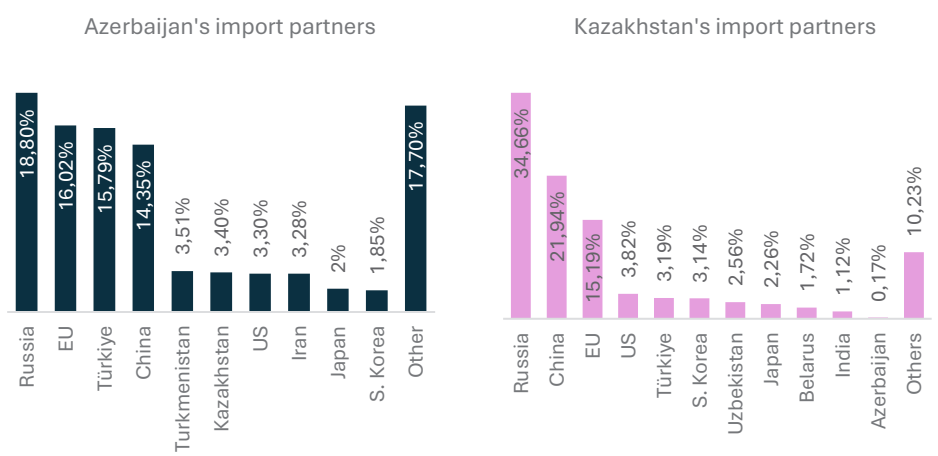
### III.A.3 Trade relations between Azerbaijan and Central Asian Turkic countries

Examining the current trade indicators between Azerbaijan and the Turkic countries in Central Asia will clarify the extent of their economic connections and highlight the efforts required to enhance their economic relations. Building more substantial trade and economic relations requires a robust infrastructure, which can also provide insights into the necessary infrastructure development. Both Türkiye and the EU are among the leading import and export destinations for Azerbaijan, Kazakhstan, Uzbekistan, and Kyrgyzstan. Azerbaijan's firm trade ties with the EU, Türkiye and further improving trade and economic relations with Kazakhstan, Kyrgyzstan,

Uzbekistan, and Turkmenistan would significantly improve not alone Turkic connectivity but also Eurasian connectivity.

Taking a look at the trade indicators between Azerbaijan and Turkic countries in Central Asia reveals that imports from Kazakhstan constituted 3.40% of Azerbaijan's total imports in 2022, while Azerbaijan accounted for 0.17% of imports of Kazakhstan (Figure III.1). Türkiye and European Union account for a significant share in both Azerbaijan's (Türkiye: 9.29%, EU: 65.56%) and Kazakhstan's (Türkiye: 5.63%, EU: 38.39%) export destinations according to the 2022 UN Comtrade data. Türkiye and the European Union were among the top import sources for Azerbaijan, with 15.79% and 16.02% share, respectively.

Figure III.1: Import partners of Azerbaijan and Kazakhstan
*(2022, import shares by county)*




Source: UN Comtrade.

Table III.2 illustrates that in 2022, Azerbaijan's top imports from Kazakhstan included refined petroleum products such as petroleum oils and bituminous mineral oils, preparations with 70%+ petroleum content, oils from bituminous minerals, petroleum oils and bituminous mineral oils, preparations with 70%+ petroleum content, etc.

The trade relationships between Azerbaijan and its other Central Asian counterparts, Kyrgyzstan, Uzbekistan, and Turkmenistan, reveal modest import shares, highlighting the varying degrees of economic exchange among these nations. Imports from Azerbaijan constitute 0.55% of Turkmenistan's total imports, while imports from Turkmenistan make up 3.51% of Azerbaijan's total imports. Table III.2 depicts the top imported products of Azerbaijan from Turkmenistan in 2022, including crude

petroleum oils, natural gas, refined petroleum oils, light petroleum oils, polypropylene, and more.

Table III.2: Azerbaijan's imports from Kazakhstan and Turkmenistan by product *(2022, million USD)*

**Top Imports of Azerbaijan from Kazakhstan**

| Commodity | Value |
|---|---|
| Rail locomotives; powered from an external source of electricity | 135.13 M |
| Cereals; wheat and meslin, other than durum wheat, other than seed | 95.80 M |
| Petroleum oils and oils from bituminous minerals, not containing biodiesel, not crude, not waste oils; preparations n.e.c, containing by weight 70% or more of petroleum oils or oils from bituminous minerals; not light oils and preparations | 88.12 M |
| Oils; petroleum oils and oils obtained from bituminous minerals, crude | 74.43 M |
| Iron or non-alloy steel; flat-rolled, width 600mm or more, (not corrugated), plated or coated with zinc (not electrolytically) | 16.83 M |
| Petroleum oils and oils from bituminous minerals, not containing biodiesel, not crude, not waste oils; preparations n.e.c, containing by weight 70% or more of petroleum oils or oils from bituminous minerals; light oils and preparations | 14.55 M |

**Top Imports of Azerbaijan from Turkmenistan**

| Commodity | Value |
|---|---|
| Oils; petroleum oils and oils obtained from bituminous minerals, crude | 245.15 M |
| Petroleum gases and other gaseous hydrocarbons; in gaseous state, natural gas | 110.87 M |
| Petroleum oils and oils from bituminous minerals, not containing biodiesel, not crude, not waste oils; preparations n.e.c, containing by weight 70% or more of petroleum oils or oils from bituminous minerals; not light oils and preparations | 91.19 M |
| Petroleum oils and oils from bituminous minerals, not containing biodiesel, not crude, not waste oils; preparations n.e.c, containing by weight 70% or more of petroleum oils or oils from bituminous minerals; light oils and preparations | 57.41 M |
| Propylene, other olefin polymers; polypropylene in primary forms | 1.08 M |

Source: UN Comtrade.

Azerbaijan's import share in Kyrgyzstan constitutes only 0.03% of Kyrgyzstan's total imports, while imports from Kyrgyzstan make up a mere 0.04% of Azerbaijan's total imports, indicating very low trade volumes between the two countries. Imports from Azerbaijan make up 0.17% of Uzbekistan's total imports, whereas imports from Uzbekistan constitute 0.94% of Azerbaijan's total imports.

These trade indicators demonstrate that, based on the imported and exported products between Azerbaijan and the Turkic Central Asian countries, additional trade facilitation measures are necessary to increase trade volume. Indeed, enhancing trade facilitation typically necessitates further transport and energy infrastructure investments. The growing potential of the Middle Corridor is leading to a higher volume of transit cargo passing through Azerbaijan. One of the leading examples of Azerbaijan's role in transport connectivity is the Baku-Tbilisi-Kars (BTK) railway line, which plays a crucial role in regional transport infrastructure. The BTK railway, which started as a project in 1993 and became operational on 30 October 2017, connects Asia and Europe with a capacity for 1 million passengers and 6.5 million tons of cargo. Planned expansions aim to handle 3 million passengers and 17 million tons of freight by 2034. By shortening the route between Asia and Europe by about 7,000

kilometers, the BTK line facilitates faster and more cost-effective transport, reducing travel time from two months to two weeks and enhancing commercial, cultural, and social impacts across the region (Dilek, 2017).

## III.B Energy corridors involving Azerbaijan

On 20 September 1994, the State Oil Company of Azerbaijan and 10 companies from 6 countries signed an agreement on the joint development of the deep-seated part of the Azeri, Chirag, and Guneshli fields in the Azerbaijani sector of the Caspian Sea and the distribution of oil production. This agreement has been called the "Contract of the Century" due to its historical, political, and economic importance. As a result, the Republic of Azerbaijan acquired the necessary technological and material investments to produce oil and gas fields through foreign countries and companies.

After oil and gas production was ensured, there were several problems in exporting the produced oil to the world markets. The existing transportation routes were either very old and unusable, or due to the high volume of oil to be extracted and the low capacity of the existing routes, it was not possible to transport it in full volume and regularly. Earlier, oil was transported on land by wheeled carts and sailing ships at sea. Later, it was transported by railways and pipelines on land and ships carrying steam oil at sea. Among these transportation methods, the most used and convenient way in modern times is oil transportation through pipelines.

Pipelines used for the transmission of oil and natural gas from Azerbaijan and Central Asian Turkic states are the following:

1. Baku-Supsa
2. Baku-Novorossiysk
3. Baku-Tbilisi-Ceyhan
4. Baku-Tbilisi-Erzurum
5. Southern Gas Corridor

At a meeting held in Baku on 9 October 1995, Azerbaijan International Operating Company made a decision on Baku-Supa (Georgia) and Baku-Novorossiysk (Russia) for oil export.

### *Baku-Supsa*

The Baku-Supsa pipeline, which transports Azerbaijani oil to the Black Sea coast of Georgia, had an initial capacity of 5 million tons per year, which was later increased to 6 million tons, and the line began operating in January 1999. It is calculated that it can transport 11 million tons per year with a small investment.
Deficiencies and risks of the Baku-Supsa pipeline:

- Maximum capacity is not meeting the needs that may arise in the future.
- The possibility of causing major natural disasters while passing through the Turkish Straits.

### *Baku-Novorossiysk*

In January and February 1996, the first agreement and commercial contract was signed between Azerbaijan International Operating Company and Russia's Transneft for the Novorossiysk line, which transports Azerbaijani oil across the Black Sea coast of Russia. In 1998, Novorossiysk exported 2.5 million tons of oil to the world market. The maximum capacity of the Novorossiysk line, which has a capacity of 5 million tons, can be increased to 17 million tons.

When transporting Azerbaijani oil through this pipeline, high-quality Azeri light oil was mixed with lower-quality Ural and Kazakh oil and was sold at the same price as these oils. The use of this pipeline was also not economically profitable. Because in 2005, $15.67 was paid for each ton of oil transported between Baku-Novorossiysk, while this price was calculated as $3.2 in Baku-Supsa and $2.98 in Baku-Tbilisi-Ceyhan. At the same time, this pipeline was not favorable from the point of view of geography and climate. Because the port of Novorossiysk was frozen for 70 days of the year, it was impossible to transport oil regularly. A meeting was held regarding the Ceyhan pipeline, and the Ankara Declaration was signed. In November 1999, the final agreement on the pipeline was signed in Istanbul. (Erdoğan, 2017).

This agreement is not only for Azerbaijan but for Kazakhstan and Turkmenistan, who want to sell their oil and gas safely and reliably, and for Georgia, which is looking for support to get rid of the influence of Russia and to meet its own needs, as well as to get financial profit from it because it is a transit country. Russia opposed this project because the Baku-Novorossiysk pipeline would lose its importance with the commissioning of this pipeline, and, accordingly, it would lose both financial profit and political influence over these countries. However, after the decision was made to increase the share of Russian companies in oil fields and to continue to transport a part of Azerbaijani oil through the Baku-Novorossiysk pipeline, Russia relatively softened its strict attitude towards this project and did not object to the project. Other foreign companies accounted for 2-2.8% of the project cost. They supported the implementation of this project because it was $9 billion, which was an acceptable cost for them.

### *Baku-Tbilisi-Erzurum*

The Baku-Tbilisi-Erzurum Natural Gas Pipeline, which aims to supply natural gas produced from the Shah Deniz field in the southern Caspian Sea region of Azerbaijan to Türkiye, was realized under the Türkiye-Azerbaijan Intergovernmental Agreement signed on 12 March 2001. According to this agreement, Azerbaijan would export 6

billion cubic meters of gas to Türkiye per year via Georgia. The natural gas pipeline, whose foundation was laid in 2002, was completed at the end of 2006.

### *Southern Gas Corridor*

The discovery of a large amount of natural gas reserves in the Shah Deniz 2 field once again turned the attention of European countries to the South Caucasus, that is, to Azerbaijan. This newly discovered field had natural gas reserves of 1.2 trillion m3. Therefore, to implement the 2nd stage of operation of the "Shahdeniz" gas-condensate field, to ensure the export of the natural gas produced at this time to Türkiye and Southern Europe through the expanded South Caucasus Gas Pipeline, Trans-Anatolian Pipeline and Trans-Adriatic Pipeline "Southern Gas Corridor" (SGC) project was launched on 20 September 2014. The Southern Gas Corridor is divided into three parts:

#### *South Caucasus Pipeline (SCP)*

In 2016, additional funds of about $800 million were invested in the Baku-Tbilisi-Erzurum natural gas pipeline, which became a part of the Southern Gas Corridor. As a result of the expansion, the transmission capacity of the pipeline was increased by 16 billion m3 to the total level of 24.04 billion m3, and thus the total gas transportation capacity increased 3 times. The transmission capacity of the SCP system can be increased to 34 billion m3.

#### *Trans-Anatolian Pipeline (TANAP)*

On 26 June 2012, the "Intergovernmental agreement concerning the trans-Anatolian natural gas pipeline system between the Government of the Republic of Türkiye and the Government of the Republic of Azerbaijan" was signed. TANAP is a 1,850 km long pipeline stretching from Ardahan on the Türkiye-Georgia border to Edirne. The main purpose of the creation is to connect the natural gas entering Türkiye through the South Caucasus Pipeline (SCP) from Azerbaijan through Georgia to the Trans Adriatic Pipeline (TAP), which serves to transport it from Türkiye to Europe.

European Bank for Reconstruction and Development allocated a $500 million loan to TANAP. The World Bank allocated $800 million, the Asian Infrastructure Investment Bank $600 million, and the European Investment Bank $2 billion in support of TANAP.

#### *Trans Adriatic Pipeline (TAP)*

On 17 May 2016, a ceremony was held in Thessaloniki, Greece, and the pipeline construction began. The pipeline starts from the Türkiye-Greece border, passes through Greece, Albania, and the Adriatic Sea, and ends in Italy, bringing Azerbaijan's natural gas to European markets. This pipeline is the last part of the Southern Gas

Corridor. This pipeline is intended for use by Italy and surrounding European countries, as well as by Balkan and Eastern European countries.

## III.C Strengthening Azerbaijan's role in Eurasian connectivity

Azerbaijan remains a major player in regional connectivity largely due to its strategic investments in infrastructure and effortful relationship-building with Central Asian partners. Azerbaijan's economic initiatives enhance the strategic significance of transforming the Caspian Sea from what had been regarded as a natural barrier into an essential bridge between Asia and Europe. Geographically situated in the South-East of Europe and the Gateway to Asia, Azerbaijan is enjoying a unique position by connecting East-West as well as North-South international energy & transport corridors. The country's role in the energy and transport sectors strengthens its economic position and contributes to the stability and prosperity of the broader region. Notably, the European Commission recently announced a €10 billion commitment from European and international financial institutions to invest in developing the Trans-Caspian International Transport Corridor, linking Europe and Central Asia (Zsófia, 2024). The funding is intended to meet the pressing need for alternative trade routes, ensuring the operational efficiency of the Trans-Caspian transport networks. This investment will strengthen the EU's partnership with Central Asian countries, including Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, by establishing direct transport links through Azerbaijan. As Azerbaijan continues to innovate and expand its infrastructure, it solidifies its status as a key transit and logistics hub, fostering greater economic cooperation and integration across Europe and Asia.

The Trans-Caspian International Transport Corridor provides a more economical and faster trade route than the other alternatives, shortening the travel distance by 2,000 kilometers. Covering roughly 4,250 km of rail and 500 km of seaway, the route passes through China, Kazakhstan, Uzbekistan, Turkmenistan, the Caspian Sea, Azerbaijan, Georgia, the Black Sea, and Türkiye, ultimately reaching the European market. Effective utilization of the Middle Corridor is anticipated to unlock substantial economic opportunities for South Caucasian and Central Asian countries, tapping into the $600 billion annual China-Europe trade (Abbasova, 2024).

In general, Azerbaijan's strategic projects and investments can increase Eurasian connectivity. The country is a significant player in energy and transport, further buttressing its economy and supporting stability and prosperity across its wider region. Establishing logistical centers and free trade zones at Azerbaijan, Kazakhstan, and Turkmenistan ports will further enhance Trans-Caspian cooperation.

Addressing longstanding inefficiencies and fostering regional cooperation, the Trans-Caspian initiative is strategically significant, promising new avenues for economic

growth and innovation. Despite being operational for years, the Trans-Caspian Corridor has faced numerous bottlenecks and lacked competitiveness. Currently, its operations are significantly unpredictable. For instance, a pilot project shows that goods can be transported between 12 and 18 days but can also take between 20 and 25 days. This inconsistency hampers predictability for logistics companies. The goal is to transform this corridor into a highly efficient and modern trade route capable of transporting goods from Central Asia to Europe in less than 15 days (Verbeeck, 2024). Achieving this requires removing bottlenecks, ensuring robust infrastructure investments, and improving efficiencies at border crossings and other areas of congestion. Positive outcomes include the launch of the Coordination Platform, which has seen strong engagement from all corridor countries, European Member States, the United States, and many financial institutions, demonstrating a willingness to collaborate.

The Trans-Caspian International Transport Corridor is expected to drive innovation and regional cooperation, connecting Central Asia to Europe and fostering economic development. The following steps involve advancing digitalization and preparing infrastructure projects to address current bottlenecks, ultimately establishing a well-functioning, modern, sustainable, and affordable multimodal economic corridor. This new trade route is poised to be competitive with any other in the future, fulfilling a long-missed link and attracting increased investment and cooperation in the region.

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CHAPTER

IV

# Potential for the Development of Kazakhstan's Transport and Energy Systems within the Framework of Cooperation with the Turkic Countries

## IV.A Introduction

Energy resources and transportation issues are among the key topics of international trade and state interaction. The Organization of Turkic States (OTS) countries possess substantial reserves of energy resources and significant potential to establish stable, long-term cooperative relationships in this sector.

Kazakhstan, located in the center of Eurasia, has a unique strategic position that makes it an essential hub for transport and energy corridors. The multi-vector course of foreign policy, which Kazakhstan pursues as a defining strategy for building international relations, implies friendly relations with the countries of the Turkic World.

Cooperation with the countries of the Turkic World, such as Türkiye, Azerbaijan, Uzbekistan, and others, opens up significant opportunities for Kazakhstan to develop and strengthen its transport and energy systems. The Turkic World unites countries with common historical, cultural, and linguistic roots, which creates favorable conditions for expanding economic ties and implementing joint projects.

It is difficult to overestimate the importance of cooperation with the countries of the Turkic World. It contributes not only to economic growth but also to strengthening regional stability and security. Within the framework of this cooperation, Kazakhstan is striving to modernize its transport and energy infrastructure, improve logistics links, and attract investment. The development of transport corridors, such as rail and road routes, as well as energy projects, including oil and gas and renewable energy sources, is a key focus in Kazakhstan's strategy for integration into global economic processes.

## IV.B The importance of the Turkic World for Kazakhstan

The Turkic World plays a vital role in forming and implementing Kazakhstan's foreign economic policy. Kazakhstan has close historical and cultural ties with this group of countries. The importance of the Turkic World for Kazakhstan is manifested in several key aspects:

### IV.B.1 Historical and political solidarity

Kazakhstan and the countries of the Turkic World are linked by centuries-old historical and cultural ties, which creates a solid basis for cooperation. Common traditions, language, and cultural heritage strengthen trust and mutual understanding between peoples, facilitating negotiations and implementing joint projects.

Cooperation among the Turkic countries increases regional stability. It is important to understand that the significance and role of cooperation between the Turkic countries should be accompanied by maintaining stability and geopolitical balance in the Eurasian region. One of the conditions for stability is the tendency towards further regional integration and the development of cooperation in such areas as a coordinated policy in transport and infrastructure, using energy and water resources, increasing trade and investments, etc.

### IV.B.2 Economic cooperation

The Turkic countries are important trading partners of Kazakhstan. The development of trade and economic ties with them contributes to the diversification of the Kazakh economy, reducing dependence on oil and gas exports and expanding sales markets for Kazakh goods and services. Joint investment projects and trade agreements increase trade turnover and attract investments in various economic sectors.

Kazakhstan's exports to Türkiye in 2023 amounted to $3.9 billion, which is 19% lower than exports in 2022 ($4.7 billion). In general, Kazakhstan's exports demonstrated stability and remained high even during the recession in 2015-2016. The most exported goods of Kazakhstan to Türkiye are crude oil ($2.1 billion), refined petroleum products ($248 million), and precious metals ($1.3 billion). These goods' exports account for 92% of all exports to Türkiye. Imports of Kazakhstan from Türkiye were around $2.04 billion in 2023, which is 21% more than the previous year ($1.59 billion). The main imported products are textile industry goods and automobiles: clothing ($396.5 million), textile materials ($103.9 million), and automobiles ($82.5 million).

Kazakhstan's second-largest partner in the Economic Cooperation Organization (ECO) framework is Uzbekistan. Kazakhstan's exports in 2023 to Uzbekistan amounted to $3.1 billion, which is 16% lower than exports in 2022 ($3.6 billion). Kazakhstan traditionally supplies seasonal crops to Uzbekistan ($893 million in 2023), wheat flour ($196 million), and other products of the agro-industrial complex. The large volumes of exports of ferrous metals ($551 million) and non-ferrous metal ores ($134 million) should also be noted. Imports of Kazakhstan from Uzbekistan in 2023 amounted to $1.2 billion, and it has remained steadily high in recent years. The basis of imports were automotive products: cars ($202 million in 2023) and car bodies ($298 million).

Kazakhstan's exports to Azerbaijan in 2023 amounted to $456.3 million, which is 2 times higher than exports in 2014 ($220 million). The export basket consists mainly of raw materials and refined petroleum products: precious metals ($157 million in 2023), coke and semi-coke ($91 million), crude oil ($86 million), and ferrous metals ($17.2 million). It should be noted that crude oil exports from 2019 to 2021 were zero and intensified only in 2022 and 2023 against the background of the geopolitical crisis and the diversification of oil transportation routes. Imports from Azerbaijan are

relatively small and amount to $73.1 million in 2023. The import basket consists of manufacturing and shipbuilding products: steel pipes ($19 million in 2023), ships and boats ($14 million), and beverages ($12 million).

### IV.B.3 Transport corridors and energy cooperation

Kazakhstan plays a key role in developing transport corridors connecting Europe and Asia. The countries of the Turkic World are essential partners in the implementation of projects for the creation and modernization of transport infrastructure, which contributes to improving logistics and reducing cargo delivery time. The development of rail, road, and sea routes through the territory of Kazakhstan strengthens its position as a transit hub in the region.

Implementing transport projects in the Turkic World will enhance Kazakhstan's role as a transit state. Economic ties between the Central Asian states, Azerbaijan, and Türkiye can become an objective attribute for implementing integration at the economic, transport, and energy cooperation levels.

Kazakhstan, which has significant oil and gas reserves, actively cooperates with the Turkic countries in the energy field. Developing pipeline infrastructure and joint projects in renewable energy sources contribute to strengthening energy security and diversifying energy routes. The countries of the Turkic World are interested in accessing Kazakhstan's energy resources, which stimulate mutual investment and technological cooperation.

Cooperation between the Turkic states in the energy sector is one of the most promising areas of economic cooperation. At the OTS Summit, held in October 2011 in Almaty, the final declaration was signed, in which the heads of state confirmed the growing role of the Caspian Sea energy resources in ensuring Europe's energy security, expressed confidence that the strategic Baku-Tbilisi-Ceyhan oil pipeline and the Baku-Tbilisi-Erzurum gas pipeline not only contribute to global energy security but also ensure stable economic development in the countries of the region. In this context, the importance of further using the growing capacities of the oil pipeline and the importance of existing and ongoing projects to connect the ports of the Caspian Sea and oil terminals of the countries of the region with the Baku-Tbilisi-Ceyhan oil pipeline and other transport systems were emphasized.

## IV.C Goals and objectives of cooperation in the transport and energy sectors

The goals and objectives of cooperation in the transport and energy sectors between Kazakhstan and the Turkic countries are centered around enhancing regional

connectivity, promoting sustainable energy solutions, and fostering economic growth. These efforts are designed to enhance transport networks, increase energy security, and pave the way for mutual prosperity.

### IV.C.1 Transport sector

Transport connectivity between countries undoubtedly affects trade indicators and contributes to economic growth, job creation, development of the service sector, etc. At the same time, it is crucial to understand that with the uneven development of the infrastructure complex in certain countries of the Turkic World, the task of its development and integration, taking into account logistical advantages, is acute.

The OTS countries incorporated the further development and modernization of infrastructure into their strategic plans for industrial advancement. Some of the projects are implemented at the national level at the expense of budgetary funds, as well as through the joint efforts of the OTS member states.

Examples of successful economic cooperation include the construction of joint ventures, the development of infrastructure projects, and the creation of free economic zones. For instance, Kazakhstan and Türkiye have implemented several major infrastructure projects, such as the construction of logistics centers and the modernization of transport corridors. Azerbaijan and Kazakhstan actively cooperate in energy and transportation of oil and gas, which contributes to strengthening the region's energy security.

At the same time, investments by international development institutions and international organizations are of great importance, and they are also interested in developing the infrastructure potential of the region within the framework of transport corridors. To date, the most promising routes passing through the territories of the OTS countries are the TRACECA corridor and the Trans-Caspian International Transport Route (Middle Corridor). Given the geopolitical challenges present in the Eurasian region, the international community increasingly views the latter as a viable alternative for transporting goods from East to West.

The increase in the flow of goods along the Middle Corridor is facilitated, among other things, by the joint efforts of the route countries. Thus, this route's volume of container traffic increased by 114% in 5 months of 2024 compared to the same period in 2023. At the same time, 85 container trains were missed during the same period, which is 10.5 times more than in the same period of the previous year.

Table IV.1: The length of the transport routes of the OTS countries

| Country | Total length of railway roads (thousand km) | Total length of highways (thousand km) | Number of airports |
|---|---|---|---|
| Azerbaijan | 2.1 | 19.2 | 8 |
| Kazakhstan | 16 | 96 | Of the 20 operating airports, 18 are categorized according to the standards of the International Civil Aviation Organization (ICAO) |
| Kyrgyzstan | 0.4 | 19 | 11 operating airports, including 4 international and 7 domestic airports |
| Türkiye | 10.5 | 427, of which 177 thousand km are paved | 50 |
| Uzbekistan | 7.4 | 42.8 | 11 |
| *Hungary* | 7.9 | 1.8* | 9 |
| *Turkmenistan* | 5 | 0.6 | 4 |

Source: Resolution of Government of the Republic of Kazakhstan 2022; Traceca; Resolution of the Cabinet of Ministers of the Kyrgyz Republic, 2023; NewTime Investment (2023); Uzbek Railways; UNECE; News Central Asia (2022). * 2021 data.

Kazakhstan, as a key country along the Middle Corridor route, is actively engaged in developing this route by expanding port capacity and enhancing infrastructure. According to information published on the official website of the Ministry of Transport of the Republic of Kazakhstan, a comprehensive plan for the development of marine infrastructure for 2024-2028 has been adopted, which provides for the creation of a large maritime transport and logistics cluster based on the ports of Aktau and Kuryk. Implementing this work will increase container capacity, develop cargo transshipment terminals and logistics of international transportation, and reduce administrative barriers. By 2028, it is planned to increase the port capacity by 50%. The passage of containers will also increase by 3 times (Ministry of Transport of the Republic of Kazakhstan, 2023).

Other countries are also expressing interest in the development of the Middle Corridor. For example, in 2024, a Memorandum of Understanding was signed between Türkiye and Bulgaria on the creation of a second railway, the creation of which will increase the capacity of freight transport from east to west, as well as contribute to the railway potential of the Middle Corridor.

As the Minister of Transport and Infrastructure of Türkiye Abdulkadir Uraloğlu notes, the Middle Corridor, which serves as an essential bridge between East and West, carries unique economic growth prospects for the countries of Central Asia and the Caucasus and even for the countries of the Middle East: "In addition to increasing cargo flows between the landlocked countries of Central Asia, their access points will be diversified towards global trade. Türkiye remains determined to develop and

strengthen the Middle Corridor and is making efforts to increase trade and cooperation between the region's countries" (Report, 2024).

It is worth noting that the Middle Corridor is a multimodal route that facilitates using various modes of transport for goods. Undoubtedly, its capacity is significantly inferior to traditional cargo delivery routes. Still, at the same time, it is the shortest for transporting goods from China to the countries of the European Union. According to the World Bank report "The Middle Trade and Transport Corridor: Policies and Investments to Triple Freight Volumes and Halve Travel Time by 2030" (World Bank, 2023), the volume of cargo traffic through this route will reach 11 million tons by 2030, which will exceed the current figure by 209% (3.56 million tons). At the same time, 4.4 million tons of this volume will be for transit, and 7 million tons will be for trade in countries located along the Middle Corridor.

In addition, the potential of the region is highly appreciated by the European Bank for Reconstruction and Development, which, in the framework of the "Study of Sustainable Transport Links between Europe and Central Asia" (EBRD, 2023), concluded that if the current state is maintained, the volume of container traffic on the Central Trans-Caspian Network can grow from 18 thousand TEU in 2022 to 130 thousand TEU by 2040. At the same time, as a result of the implementation of investment projects and measures taken to ensure uninterrupted communication to achieve a 13-day transit time between the nodes of the European Union and Asia, the volume of transit containers on the "Middle Corridor" may increase to 865 thousand TEU by 2040. If the level of containerization in Central Asia increases, then by 2040, the volume of container traffic in the region will increase by another 470 thousand TEU. Thus, implementing the identified and prioritized key actions will increase transportation between Europe and Asia and contribute to economic growth and transformation in Central Asia.

To ensure the long-term development of the global economy, the European Union is implementing a new Global Gateway program. Within the initiative's framework, up to €300 billion of investments will be mobilized by 2027 to develop high-tech, environmentally friendly and safe global connections in transport, energy, digitalization, healthcare, education and research.

### IV.C.2 Energy sector

The availability and access to energy resources are key in international politics and trade. The Caspian Sea region has vast potential in this area, which, in turn, predetermined a long negotiation process to resolve its legal status.

According to many experts, the issue of the legal status of the Caspian Sea would not be so difficult if it were not for the issue of access of coastal states to energy raw materials. Thus, the benefits that followed for the Caspian countries depended on

the outcome of the negotiations and the final agreement on this issue (Tyulebekova, 2021: 99).

Kazakhstan, Azerbaijan, and Turkmenistan have energy reserves in the Caspian Sea. Traditionally, the Caspian resources of the Central Asian countries are transported through the territory of Russia: oil through the Tengiz – Novorossiysk oil pipeline and gas through the Central Asia–Center gas pipeline system. In addition, attempts were made to implement the 1,217 km Caspian gas pipeline project, which was supposed to run from the fields of Turkmenistan through Kazakhstan and Russia to the Black Sea. The capacity was estimated at 40 billion $m^3$, including 30 billion $m^3$ from Turkmenistan and up to 10 billion $m^3$ from Kazakhstan.

Since the early 1990s, the countries of Central Asia and other post-Soviet states have begun to make attempts to diversify the ways of transporting energy resources. The trans-Caspian projects, being worked out as alternative routes by the coastal states of Central Asia, include, among other things, the construction of oil and gas pipelines at the bottom of the Caspian Sea. They represent a potential alternative to the traditionally formed transport routes for the supply of raw materials and are an attempt to ensure national independence from the need for transit of Central Asian raw materials through the territory of Russia.

One such project in the early 1990s was the Trans-Caspian gas pipeline, 2,000 km along the bottom of the Caspian Sea, leading from Turkmenistan to Azerbaijan and through Georgia and Türkiye to Europe. The United States warmly supported this initiative proposed by Türkiye. However, disputes between coastal states of the Caspian Sea leave the future of this gas pipeline in doubt (Tyulebekova, 2021: 134-135).

The Baku–Tbilisi–Ceyhan oil pipeline, launched in 2006, with a length of 1,773 km, connecting Azerbaijan, Georgia, and Türkiye, is the most in-demand today. In addition, Kazakhstan is also a participant and user of this oil pipeline. Thus, KazTransOil increased the transportation of Kazakh oil from the port of Aktau to the port of Baku (Azerbaijan) in 2023 to 1.4 million tons, which is 5.5 times more than in 2022 (Mamyšev, 2024).

The increase in the share of Kazakhstan's participation in oil transportation along this route is due to both the instruction of the President of the Republic of Kazakhstan, Kassym-Jomart Tokayev, and the country's strategic interests. In addition, an agreement has been signed between KazMunayGas (the subsidiary company of Samruk-Kazyna) and the state oil company of Azerbaijan SOCAR, providing for the transportation of up to 1.5 million tons of oil per year from the Tengiz field.

An essential difference between oil and gas transportation is that the tanker delivery option is available for oil. In contrast, for gas, it is necessary to have a gas pipeline

(the exception is a liquefied gas). In this regard, it can be said that the Middle Corridor in the issue of oil transportation is part of the Baku–Tbilisi–Ceyhan oil pipeline.

Realizing the importance of these routes, the region's countries are making significant efforts to develop the Middle Corridor: they cooperate to improve transport and logistics infrastructure, simplify border crossing procedures, and improve transportation safety.

At the same time, gas transportation among the OTS countries is possible only through the Baku-Tbilisi-Erzurum gas pipeline or the South Caucasus Gas Pipeline (SCP), as well as the Baku-Tbilisi-Ceyhan oil pipeline, commissioned in 2006. This gas pipeline is designed to supply gas from the Azerbaijani Shah Deniz field to Türkiye and the countries of the European Union.

In 2023, 39 billion 806.9 million cubic meters of natural gas were transported through the main gas pipelines of Azerbaijan, which is 1.4 percent more than in the previous year, 2022 (AZERTAC, 2024). The Central Asian countries are not gas suppliers for the SCP gas pipeline due to the lack of infrastructure opportunities. In addition, the main consumers of Kazakh gas are Russia and China.

## IV.D Prospects and challenges

The development of existing routes opens up unique opportunities for using the transport and energy potential of the OTS member-states. At the same time, in order to achieve a sufficient level of competitiveness in the global market, it is necessary to solve several key problems that require additional efforts by the OTS countries.

### *Investment*

First, it must be borne in mind that the modernization and development of transport and logistics, especially in the energy sector, requires quite large investments. In this regard, the issue of attracting investments is acute. Today, many infrastructure projects in Kazakhstan require investments to be implemented. Kazakhstan has repeatedly held meetings to discuss cooperation within the framework of the European Union's Global Gateway initiative, including the creation of a container hub based on the Aktau seaport, the construction of a multifunctional Sarzha terminal, projects to expand the merchant fleet, the construction of trade and logistics hubs, a shipbuilding plant, etc. During the participation in the Global Gateway Investor Forum on Sustainable Transport Links between Europe and Central Asia in early 2024, a number of documents aimed at developing the transport sector were signed.

In addition, it is possible to use the public-private partnership (PPP) model to develop the infrastructure capabilities of the OTS countries in the transport and energy

sectors. It is important to note that in Turkic countries, PPPs are used to construct and modernize roads, ports, and railway lines. Private investors are involved in project management, financing, and technology provision.

It is important to note that according to the Monitoring of Mutual Investments EDB-2023 (Malakhov et al., 2023), published by the Eurasian Development Bank, Kazakhstan has very significant opportunities for investments in the extractive sector. In his message to the people in 2023, the President of Kazakhstan named the development of deposits of rare and rare earth metals, deep processing of raw materials, and import substitution projects as priority sectors for FDI.

In turn, the main volume of FDI in Azerbaijan is attracted by the oil and gas sector (more than 70% of $6.3 billion of attracted investments in 2022). Traditionally, transport and logistics remain attractive industries for investment. Azerbaijan's location at the intersection of the main transport routes between Europe and Asia makes the country an important transit hub. The relevance of the transport and logistics sector of the economy has increased significantly due to the search by neighboring countries for alternative corridors for the delivery of goods. In addition, Azerbaijan is actively developing the tourism sector, opening up the potential for investments in hotels, restaurants, and tourist services.

***Infrastructure development***

One of the main problems is the lack of infrastructure development and the need for significant investments in the modernization and construction of new facilities. The member-states of the Corridor are working to improve transport logistics, including the construction of new ports, expansion of pipeline capacity, and improvement of customs procedures.

Despite significant progress in the development of the Middle Corridor, operational inefficiency and high costs are factors limiting the realization of its full potential, which forces operators to return to sea routes. The Corridor is subject to unpredictable delays, ranging from 14 to 45 days, but depending on the circumstances, it can reach 60 days (Mami, 2024).

In addition, the insufficient workload of the Middle Corridor is associated with the underdevelopment of the railway infrastructure and operational efficiency. In this regard, work is underway to create an international company, "Middle Corridor Multimodal," between Kazakhstan, Azerbaijan, and Georgia, which will perform the functions of a single transport operator within the framework of cargo transportation along the Middle Corridor. It was planned that at the end of 2024, this company, the single transport operator of three countries in the Middle Corridor, will officially begin its work, which will positively impact the efficiency of the Middle Corridor. Türkiye's participation in the work of the Middle Corridor Multimodal company is

logical since the expansion of the capacity of the Baku-Tbilisi-Kars railway route is being completed (growth from 1 million tons of cargo per year to 5 million tons per year), and this fact is significant for the Middle Corridor, as it concerns increasing the transportation of goods from/to Türkiye and transit of European and Chinese goods through Türkiye (CBC TV Azerbaijan, 2024)

***Economic growth of the OTS member-states***

In the context of geopolitical challenges in the Eurasian space, diversifying transport corridors, including energy, is relevant and strategically important. The development of alternative routes for the supply of goods from China to Europe ensures the economic activity of the OTS countries in the international arena. In addition, the OTS countries are exporters of energy resources, necessitating alternative ways of delivering raw materials.

In addition, developing transport corridors contributes to creating more efficient and faster transport routes between Europe and Asia. This reduces logistics costs and delivery time, increasing the competitiveness of exported goods. In turn, reducing transport costs increases the profitability of exports and stimulates the growth of foreign trade, contributing to the overall economic growth of the OTS countries.

It is important to note that developing cooperation in the transport sector strengthens economic integration between the OTS countries, facilitating mutual trade and the exchange of resources. This contributes to creating a single economic space, which allows countries to use their competitive advantages more effectively. Improving infrastructure, reducing logistics costs, attracting investment, and strengthening regional integration create favorable conditions for sustainable economic development. In the future, efforts to develop transport corridors and expand economic cooperation will contribute to the further growth and prosperity of the OTS member-states.

## IV.E Recommendations for the development of cooperation

In order to effectively develop cooperation within the framework of OTS in the fields of transport and energy, it is recommended that some strategic directions be followed. These recommendations aim to strengthen integration, improve infrastructure and attract investment, which ultimately contributes to economic growth and regional stability.

*1. Development and modernization of infrastructure*

It is crucial to continue investing in constructing and modernizing transport infrastructure, including roads, railway lines, and ports. Priority projects should be those that contribute to improving transport connectivity between countries and

reducing cargo delivery time. When implementing infrastructure projects, it is necessary to consider the factors of sustainable development, such as minimizing environmental impacts and using energy-efficient technologies. This includes the introduction of intelligent transportation systems and the development of infrastructure for renewable energy sources.

*2. Attracting foreign and private investments*

In order to attract foreign investment, it is necessary to ensure stable legal conditions, protect investors' rights, and ensure transparency of administrative procedures. This includes simplifying the licensing and business registration process. PPPs are an effective tool for financing large infrastructure projects. The governments of the OTS countries should develop and implement PPP mechanisms that will be attractive to private investors and international organizations.

*3. Integration and harmonization of standards*

To facilitate cross-border transport and improve logistics processes, it is important to harmonize transport standards, including requirements for safety, ecology, and customs procedures. The development and implementation of a unified information system for monitoring and managing traffic flows will improve the coordination and efficiency of cargo transportation. It also helps to reduce costs and time for administrative procedures.

*4. Strengthening the institutional framework and coordination*

To improve the coordination of projects for the development of transport and energy corridors, it is advisable to create specialized working groups. These groups should include representatives from all the OTS countries, who will be responsible for monitoring and evaluating projects and developing strategies and action plans. Holding regular high-level meetings and specialized forums will allow countries to share information, experiences, and best practices. It also helps to strengthen the political will to implement joint projects and eliminate administrative barriers.

*5. Education and exchange of experience*

The organization of training and exchange programs for specialists in the field of transport and energy will improve personnel qualifications and introduce best practices. It also helps to strengthen professional ties and mutual understanding between the countries. Active cooperation with international organizations such as the World Bank, IMF, EBRD, and others will allow attracting additional financing and gaining access to best practices and technologies.

*6. Focus on sustainable development and ecology*

Stimulating investments in renewable energy, such as solar and wind energy, will reduce dependence on fossil sources and improve the environmental situation. The introduction of eco-initiatives into the transport infrastructure, such as using

environmentally friendly transport and developing charging stations for electric vehicles, contributes to sustainable development.

## IV.F Conclusion

The development of transport and energy corridors within the OTS framework opens up broad prospects for sustainable economic growth and regional integration. In the long term, this cooperation can lead to the following key results: strengthening economic integration and trade growth, economic diversification and sustainable development, strengthening regional and international positions, and the opportunity to exchange technologies and innovations.

It is important to understand that creating a single economic space will allow the OTS countries to use their economic advantages more effectively, expanding sales markets and increasing mutual trade. In turn, the development of transport corridors, by improving logistics and transport costs, also directly impacts the competitiveness of goods and increases mutual trade indicators.

In addition, investments in the development and modernization of transport and energy infrastructure contribute to the development of related industries such as logistics, information technology, and renewable energy, which, in turn, will allow the countries of the region to diversify their economies, reducing dependence on exports of raw materials.

An essential aspect of the development of cooperation is the geopolitical factor, given the current challenges in the Eurasian space. The development of transport and energy corridors strengthens the positions of the OTS countries in the international arena, making them important hubs of global trade and energy. This increases their influence in international organizations and the opportunity to participate in global initiatives. Joint energy projects and diversification of energy transportation routes strengthen the region's energy security. This allows the OTS countries to protect their interests in the global energy markets better.

In the long term, the development of transport and energy corridors within the framework of OTS promises significant benefits for economic growth, regional integration, and sustainable development. Cooperation in these areas not only strengthens the economic and political positions of OTS countries but also contributes to improving the population's quality of life, creating new jobs, and introducing innovative technologies.

One of the key success factors is continued investment in infrastructure, including public-private partnerships and international financing. Special attention should be paid to developing renewable energy sources and environmentally friendly

technologies, reducing the carbon footprint and strengthening the region's energy security.

In addition, integrating transport systems and creating a single economic space contribute to more efficient use of resources, increased competitiveness, and economic diversification. This will allow the OTS countries to reduce their dependence on traditional export goods and markets, which is especially important in the context of global economic and political changes.

The successful implementation of these initiatives will require the active participation of all OTS member-states, coordinated work on the harmonization of standards and regulations, as well as effective project management. In this context, it is important to strengthen international cooperation and interaction with global partners, which will contribute to regional and global stability and security.

Thus, an integrated approach to the development of transport and energy corridors can be the key to a sustainable and prosperous future for the countries of the Turkic World, ensuring their active participation in global processes and strengthening regional stability.

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CHAPTER

V

# Advancing Connectivity in the Transportation and Energy Sectors between the Kyrgyz Republic and Turkic Nations

## V.A Energy sector

Globalization and liberalization of world energy markets in recent decades have created the need to change existing organizations and form new international entities regulating the world energy market. There is an increase in interaction in the energy and transport spheres between different countries, both at the bilateral and multilateral levels. Even the ongoing geopolitical events of recent years have not prevented the active development of energy cooperation between nations.

To ensure collective energy security, industrialized nations have long collaborated to develop a unified energy policy and establish interstate regulations within the framework of the International Energy Agency. The problems of energy cooperation by the international community are considered in the context of global environmental issues, ecology, and climate change, which are challenges for all humanity. Almost all countries are gradually moving to cleaner energy and alternative fuels to ensure an efficient, reliable, and environmentally friendly energy supply.

The development of international energy cooperation through the creation of international bodies allows momentum to transform the entire energy sector, increasing the share of investment in innovation, modernizing production, creating high-performance jobs, and increasing economic and energy efficiency.

One of the main goals and objectives of the Organization of Turkic States (OTS), as specified in the Nakhichevan Agreement of 3 October 2009, is to promote effective regional and bilateral collaboration in all areas of common interest and create favorable conditions for mutual trade and investments. These goals and objectives directly relate to international transport and energy cooperation issues, which makes it possible to develop mutually beneficial trade relations and ensure energy security and transportation and logistics connectivity of individual countries and entire regions.

### V.A.1 Central Asia's path to a unified energy future

On 4 July 2023, the Council of the Eurasian Economic Commission identified an organization responsible for centralized trade in electrical energy within the common electric power market of the Eurasian Economic Union. Forecasts indicate that the Union's common electricity market will commence operations on 1 January 2027, establishing conditions for participation in cross-border trade. A regulatory framework is currently under development; an international treaty has already been enacted, and rules governing access to electricity transit services have been approved.

On 25-26 August 2023, a meeting of representatives of the energy and water departments of Kazakhstan, Kyrgyzstan, and Uzbekistan was held in Astana to discuss water and energy cooperation issues. The parties discussed electricity supply issues in the upcoming autumn-winter season and cooperation in other areas.

It is gratifying to note that the measures taken in recent years by the OTS countries to develop energy cooperation will make it possible in the future to build a unified energy supply system for the region, allowing them to resolve issues of uninterrupted energy supply jointly. Such OTS member countries as Kazakhstan, Kyrgyzstan, and Uzbekistan have resumed cooperation in the energy sector based on the unified energy system founded in the Soviet period and, in recent years, have gained positive experience in cooperation in the field of energy system management. As of 2024, the energy system of Tajikistan is fully connected to the unified energy system of Central Asia.

The Kyrgyz Republic is interested in obtaining advanced technologies and further mutually beneficial investment cooperation in the hydropower complex, including on the principles of public-private partnership, to achieve “green” economic growth.

It is a known fact that the Central Asian region is one of the richest regions in terms of resources, has significant reserves of hydrocarbons (gas, oil, and coal), and has extensive prospects for developing solar, wind, and hydropower. Kyrgyzstan has some of the best geographical conditions for hydropower in the region. However, according to estimates from various international organizations, Kyrgyzstan uses no more than 10-12% of its hydropower potential. The energy potential of Kyrgyzstan’s water resources is estimated at 143 billion kWh. Currently, the country is taking measures to use these resources more rationally in the interests of Kyrgyzstan and the region’s countries.

During the Soviet period, water and energy issues in Central Asia were managed under a centralized system. The republics located in the upper reaches of rivers provided water to their neighbors in the lower reaches in the summer, and in the winter, they received coal or fuel oil using a compensatory method to solve energy shortages. Unfortunately, over the past 30 years, the Central Asian countries are still searching for ways to solve water and energy issues.

Yet, the climate changes occurring in recent years, the subsequent increase in temperatures in the summer and critical conditions of low water, as well as the crisis in the energy industry of almost all countries in the region, are pushing the leadership of Central Asian countries to accord creating a supranational structure that determines the policy of the water and energy industry in the region.

Another initiative is an example of active cooperation between Kazakhstan, Kyrgyzstan, and Uzbekistan. In recent years, the leaders of these countries have been

actively discussing the issue of forming an International Water and Energy Consortium (IWEC). The idea of creating an international water and energy consortium was first announced in 1997 in Cholpon-Ata by Kazakhstan, Kyrgyzstan, and Uzbekistan. Later, this idea was repeatedly promoted by the first president of Kazakhstan. At the meeting of the Advisory Council of Heads of State - founders of the International Fund for Saving the Aral Sea (IFAS), held in Dushanbe in September 2023, the President of Kazakhstan Kassym-Jomart Tokayev again took the initiative to create an international water and energy consortium.

In light of current geopolitical changes, the establishment of a water and energy consortium will enable Central Asia to serve as a transit hub connecting neighboring regions such as Russia, China, the Middle East, and South Asia. This initiative will not only support the implementation of irrigation projects alongside energy projects but also enhance collaboration between development banks and regional states. At the beginning of November 2024, the EDB reported that in the next three years, the bank plans to invest more than $400 million in developing Central Asia's water and energy complex.

The leadership of the Kyrgyz Republic has been actively supporting the idea of international energy colaboration for many years. Today, Kyrgyzstan cooperates closely with neighboring states and states from various regions of the world to resolve energy issues, including within the framework of the OTS.

Joint projects for the construction of small and medium-sized hydroelectric power plants are being gradually implemented in Kyrgyzstan, which plays an essential role in ensuring the water and energy security of the entire region. In alignment with the Paris Agreement's goal of achieving carbon neutrality, the Kyrgyz Republic is currently constructing 50 small and medium-sized hydroelectric power plants.

One of the most important and promising projects is the agreement to construct the Kambar-Ata Hydroelectric Power Station-1, which is expected to generate 5.6 billion kWh of electricity annually. This project will lay the foundation for sustainable development and ensure economic, energy, and food security throughout the entire Central Asian region. In the region's modern history, this is the first and largest joint trilateral project that will unite the powerful hydropower potential of Central Asia with a volume of 930 billion kWh per year.

According to analysts, by 2030, electricity consumption in Central Asia will increase:

- in Kazakhstan up to 136 billion kW/h (21% increase compared to 2020);
- in Uzbekistan – 120.8 billion kW/h (1.7 times increase);
- in Kyrgyzstan – by more than 20 billion kWh (an increase of 50%).

The construction of Kambar-Ata HPP-1 will ensure the creation of additional generating capacities, which can also be integrated into a single energy ring in Central Asia, thereby strengthening the reliability of supplying the domestic regional market with green electricity. In addition to strengthening the region's energy security, this project will create additional conditions for forming a common energy market and the opportunity to export energy worth $234 million annually. The construction of Kambar-Ata HPP-1 is evidence of the high level of cooperation between Kazakhstan, Kyrgyzstan, and Uzbekistan in the water and energy sector.

Cooperation is also developing in a bilateral format; thus, Kyrgyzstan and Uzbekistan have established seasonal energy exchange: Uzbekistan supplies Kyrgyzstan with electricity in the spring and autumn, which Kyrgyzstan returns in the summer. As a result, Kyrgyzstan accumulates water and can use it at the necessary periods, and Uzbekistan receives water for agricultural needs on time. Likewise, the electricity from Turkmenistan is transited through Uzbekistan, the volume of which in 2021-2022 amounted to more than 1 billion kW/h and in 2023 – 1770.7 billion kW/h. Together with Uzbekistan and Kazakhstan, with the involvement of investments, work has begun in various regions of Kyrgyzstan to construct mini hydroelectric power stations and wind and solar power plants.

In these turbulent times, international energy cooperation is becoming one of the key activities of each country. This will allow the development of mutually beneficial trade relations and ensure energy security. The development of international energy cooperation will give a powerful push to transforming the entire energy sector, increasing the focus on innovation, modernizing production, creating high-performance jobs, and increasing economic and energy efficiency.

Cooperation between the Central Asian countries in creating a unified energy system will also significantly reduce tariffs and the cost of electricity generation. All these measures will make it possible in the future, based on the region's unified energy supply system, to jointly resolve issues of uninterrupted energy supply to the Central Asian countries. In addition, if the country produces enough electricity to export, this can become a source of income, helping to diversify the economy and enter new markets.

## V.B. Transportation

The transport and logistics industry is economy's circulatory system, ensuring the timely delivery of goods throughout the entire production chain, from raw materials and equipment to the final buyer, which is vital for national security.

Historically established economic ties and linguistic commonality between the Central Asian countries, taking into account many years of cooperation experience,

make it possible to effectively and quickly establish mutually beneficial cooperation, production, logistics, and transport chains.

### V.B.1 Integrating Kyrgyzstan into global transport corridors

The Kyrgyz Republic, like all Central Asian countries, has quite advantageous geographical and geopolitical opportunities and uses its potential in the transport transit industry in a highly ineffective way. Today, it is necessary to focus on developing the transport, transit, and logistics capabilities of the country and the region, including within the framework of active cooperation with regional and international organizations such as OTS, Shanghai Cooperation Organization (SCO), Eurasian Economic Union (EAEU), etc.

Modern realities require cargo carriers to do more than just deliver goods to recipients. Today, there is a strong demand for an increase in the range of services for organizing the transportation of goods - this is the organization of intermodal transport, door-to-door delivery, escort, customs clearance, packaging, storage of goods, etc. In this regard, more and more new service market requirements are emerging, improving the quality of services provided. According to the Logistics Performance Index (LPI), in 2023, the OTS countries are ranked in the following order: Türkiye 38; Azerbaijan 48; Kazakhstan 79; Uzbekistan 88; the Kyrgyz Republic 123.

The LPI data presented clearly demonstrate that the logistics potential of Kyrgyzstan and other regional countries is highly underutilized. Considering this situation, as well as the common interests of the OTS countries, it is recommended to quickly improve the situation in the transport and logistics sector by conducting regional scientific and practical research within the Central Asian countries using the example of the achievements of Türkiye and Azerbaijan.

Nowadays, it is imperative to make efforts to integrate the transport and logistics infrastructure of the Central Asian countries into global transport hubs and corridors. Currently, Kyrgyzstan is actively working to enhance its internationally significant road infrastructure. On the agenda is the issue of reconstructing railways within the country and connecting them to transcontinental highways. Cooperation in this direction is carried out in the format of such international organizations as the SCO and Central Asia Regional Economic Cooperation (CAREC) and the “One Belt – One Road” project.

Large infrastructure and international projects, including the construction of roads, airports, etc., are being implemented in the Kyrgyz Republic with the participation of foreign investors. These events promote economic and financial stability and support the sustainable development of countries in the region. Creating new transportation and communication corridors will expand our countries’ capabilities in connecting regional trade networks with sea routes to world trade markets. As of today, because

Kyrgyzstan is far from major railway junctions, it is taking measures to integrate into international transport corridors.

### V.B.2 Multimodal routes and infrastructure projects

At the initiative of the Kyrgyz side, joint work is underway to develop an international multimodal transport route for land delivery of goods from Kyrgyzstan to Russia through Uzbekistan and Turkmenistan using sea ferry service on the Caspian Sea between the ports of Turkmenistan and the Russian Federation. The necessary legal framework for implementing this important project has been created in Kyrgyzstan, and a corresponding quadrilateral memorandum has been signed between Kyrgyzstan, Russia, Turkmenistan, and Uzbekistan. This route will be an effective measure for the further development of trade and economic cooperation and the growth of trade turnover between our countries.

A good example of cooperation is the trilateral project for the construction of the Uzbekistan - Kyrgyzstan - China railway along the route: Kashgar (China) - Torugart - Arpa Valley - Makmal - Jalal-Abad (Kyrgyzstan) - Andijan (Uzbekistan). In the future, this railway corridor could become a southern branch of the continental route of Eurasia and open access to the markets of Southeast, Western Asia and the Middle East, including Türkiye and further the European Union through connections with the North-South ITC and TRACECA in Turkmenistan. The length of this highway will be 566 km, of which 185 km will pass through the territory of China, 311 km in Kyrgyzstan, and 70 km in Uzbekistan. Implementing this project will have an overall positive socio-economic effect on the development of the economy of the Kyrgyz Republic and will ensure increased competitiveness in the international transit transportation market by reducing the distance and time of cargo delivery. This corridor is aimed at other target markets and provides for many transit countries. The start of work is scheduled for autumn 2024, with completion in 2030. The design capacity of the new railway will be approximately 15 million tons of cargo and 300 thousand passengers per year.

Since November 2021, a system of electronic permits for international cargo transportation, E-permit, has been operating in Uzbekistan and Türkiye. This is a good example of digitalization for all systems of the OTS countries. In April 2024, this system was launched in Kazakhstan. The program is currently being implemented in Kyrgyzstan and Azerbaijan. This system greatly simplifies and speeds up international transportation. The speed and safety of delivery allow for increased cargo turnover.

As one of the critical milestones in integrating Turkic countries into international transport corridors, it is necessary to note the facts of the allocation of land plots in foreign ports for Kyrgyzstan. Thus, in September 2022, the Iranian authorities allocated a plot of land in the port of Bandar Abbas, and in December 2022, the UAE

allocated 30 hectares of land in the free economic zone in the port of Khalifa in Abu Dhabi, which in the future will give our country access to coastal transport corridors.

Implementing the above projects for Kyrgyzstan will solve the problems of a transport standstill, increase transit revenues, and develop internal transport connectivity in the northern and southern regions of the country. Using this cross-border corridor, container transportation over the shortest distance in almost all directions will be possible.

## V.C Prospects for cooperation

Representation of Central Asian countries in international organizations and projects such as the SCO, EAEU, OTS, CAREC, Organization of Islamic Cooperation, and Belt and Road Project has a positive impact on the economic development of not only the participating countries but also the region as a whole, providing ways to solve pressing problems, as well as search for additional opportunities.

In May 2024, within the framework of the International Economic Forum "Russia-Islamic World: Kazan Forum 2024," at the panel session: "Financial and logistics structure of the Russian Federation and the OIC countries," the forum participants discussed the topic of transport connectivity of the OIC member states and possible ways to resolve this issue.

On 6 July 2024, an informal OTS Summit was held in Shusha, Azerbaijan. The primary objective of this Summit was to promote a sustainable future through enhanced transport interconnectedness and efforts to combat climate change. The event discussed the development of the Trans-Caspian International Transport Route through Kazakhstan, Kyrgyzstan, and Uzbekistan territories as the most important area of cooperation within the OTS. The Zangezur corridor was seen as an additional pathway in the global transport artery network. Establishing these transport communications will make transportation along this route much more profitable and faster. At the end of the informal OTS Summit, the following were signed: 1) Karabakh Declaration; 2) Agreement on mixed international transport between the OTS States; 3) Program of interaction in the field of transport.

The OTS summit created conditions for the participating countries to develop in the future the trade and economic sphere, increase cooperation in the field of green energy, improve the transport interconnectedness of OTS countries, reveal significant transit transport potential and new sales markets, connect transport corridors connecting Central Asia and the Caucasus with Mediterranean and Black Sea ports.

Within the framework of cooperation with OTS countries, an important place is occupied by bilateral cooperation between countries, both at the highest level with

the participation of various ministries and departments, business representatives, and experts, as well as at the level of development funds.

During the state visit of the President of the Azerbaijan Republic, Ilham Aliyev, to the Kyrgyz Republic on 11-12 October 2022, an agreement was signed between the Cabinet of Ministers of the Kyrgyz Republic and the Government of the Azerbaijan Republic on the establishment of the Azerbaijan-Kyrgyz Development Fund, the purpose of which is to promote economic cooperation between the two countries, modernization and development of industry, effective use and expansion of bilateral economic cooperation, as well as financing of self-sustaining projects in priority sectors of the economy, including the energy and transport sectors.

On 24 April 2024, during the state visit of the President of the Kyrgyz Republic, Sadyr Japarov, to the Republic of Azerbaijan, several bilateral documents were signed, including a memorandum of understanding on cooperation in the energy field.

As part of the official visit of the President of the Kyrgyz Republic, Sadyr Japarov, to the Republic of Kazakhstan on 19 April 2024, the presidents of the two states discussed a wide range of issues of bilateral cooperation. The presidents discussed issues of trade, energy, transport, and water resources.

On 17 April 2024, the business forum "Kyrgyzstan – Kazakhstan" was held in Astana, at which the following agreements were signed:

- Agreement between the National Investment Agency under the President of the Kyrgyz Republic (NAI KR) and the TGS-Energy Limited company for the implementation of a project for the construction of solar power plants with a total capacity of 250 MW in Kyrgyzstan;

- Agreement between NAI KR and Visor Kazakhstan LLP ("Visor - Kazakhstan") on the implementation of a project to construct a distribution center with a total area of 35,000 sq. m on the territory of the Kyrgyz Republic.

On 14 April 2024, the foreign ministers of Kyrgyzstan and Uzbekistan discussed challenges related to the launch of large infrastructure projects, including in the field of energy and transport. Back in 2023, the Uzbek-Kyrgyz Development Fund (UKDF) and Kogart HPP signed a loan agreement for the construction of a small hydroelectric power station with a capacity of 6.7 MW/h, with an average annual output of 20.1 million kW/h.

In February 2024, at a working meeting of the Minister of Transport and Communications of the Kyrgyz Republic with the Minister of Transport and Infrastructure of Türkiye, an agreement was reached on the abolition of permits required for bilateral and transit transportation from 1 May 2024. Also, at the

meeting, the issue of creating a transport commission was agreed upon, consisting of employees of the ministries of transport of the two countries and representatives of international carrier associations with a corresponding joint task to resolve problematic issues in the transport industry between the two countries. These measures will contribute to the growth of trade relations between the two countries, strengthening transport links and improving neighborly ties.

Currently, the region's countries need to more actively integrate into international organizations, including OTS, to further develop their economic potential, creating a reliable foundation for the region's future.

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CHAPTER

VI

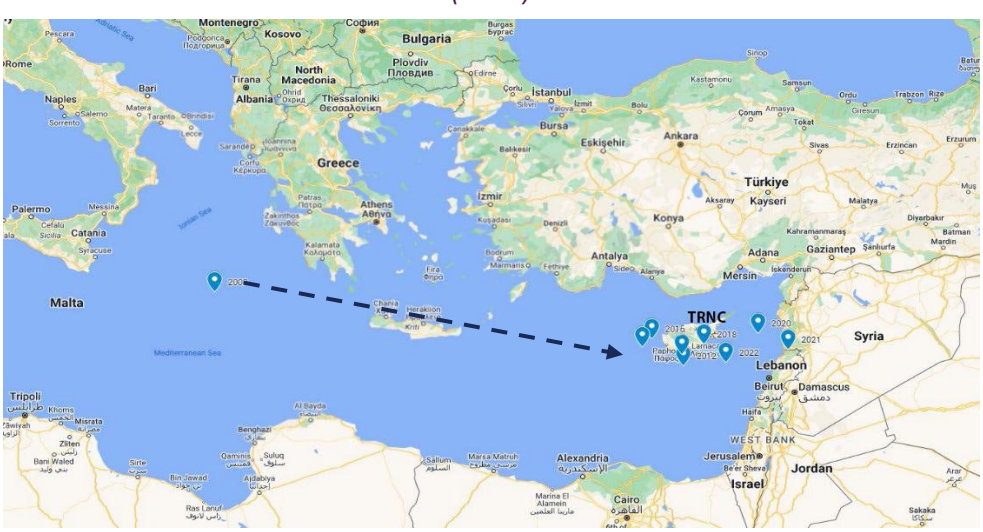
# Strengthening Transport and Energy Connectivity Among Turkic States

## Introduction

Türkiye's strategic location at the intersection of Europe, Asia, Africa, and the Middle East holds immense geopolitical significance. This advantageous position allows it to serve as a base for logistics and transportation activities in the region, significantly boosting goods and service exports. This positioning also provides access to major markets and establishes a crucial corridor for energy and trade routes.

Over the years, there has been a discernible shift in the center of gravity of global goods, services, and energy trade towards the southeast axis, drawing this center closer to the region where Türkiye and other Turkic states are situated. The analysis of global goods trade in 2022 reveals a shift in the focal point of goods trade from its original location to the southeast axis of the Turkish Republic of Northern Cyprus (TRNC), with a displacement of 1.406 km since 2000 (Map VI.1). Similarly, since 2005, the focal point of goods and services trade has moved 746 km westward to the TRNC's western axis and the focal point of global energy trade has shifted 930 km southeast from its original location since 2007 (Map VI.2 and Map VI.3). Consequently, these shifts have elevated the strategic importance of enhancing transport and energy connectivity within this area.

Map VI.1: Center of gravity of global goods trade
*(2022)*

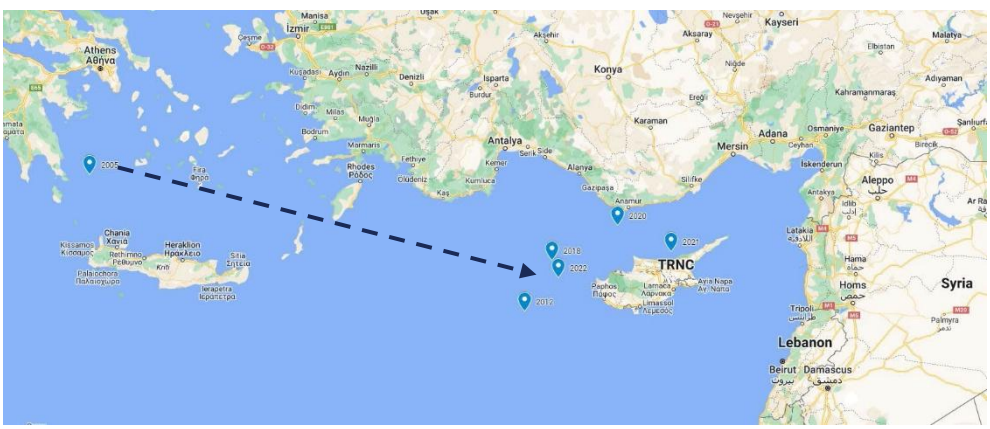



Source: Calculated by General Directorate of Trade Research and Risk Assessment using WTO and CEPII data.

Strengthening transport and energy connections, the two pillars of modern infrastructure is also essential for influencing economic growth, sustainability, and overall well-being. This underscores the significance of optimizing transportation and energy systems' efficiency, reliability, and sustainability. Transportation involves

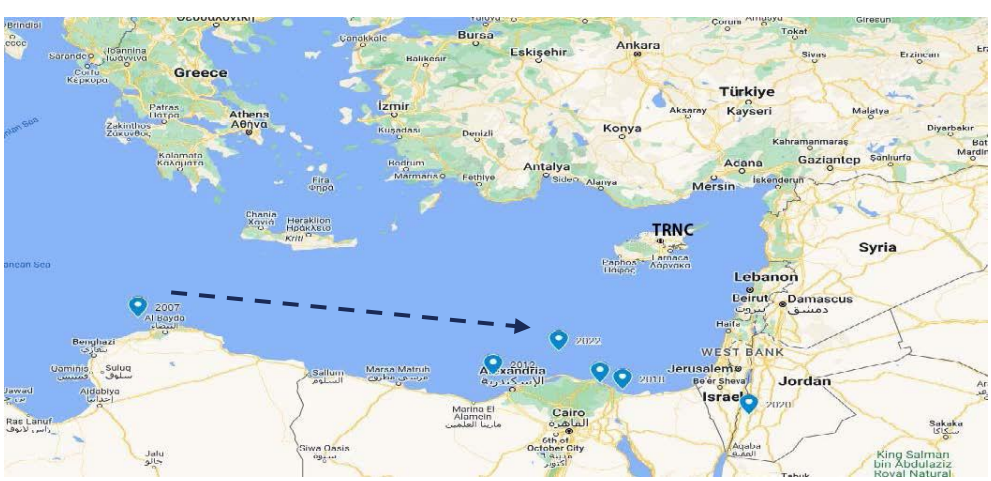
linking multiple modes, such as roads and trains, by improving existing infrastructure, building new connections, and utilizing innovative technology. However, crossing borders can be challenging due to high tolls, delays, and differing regulations between countries. To address these issues, improved border management and harmonized regulations are necessary.

Map VI.2: Center of Gravity of Global Goods and Services Trade *(2022)*




Source: Calculated by General Directorate of Trade Research and Risk Assessment using WTO and CEPII data.

Map VI.3: Center of gravity of global energy trade *(2022)*




Source: Calculated by General Directorate of Trade Research and Risk Assessment using WTO and CEPII data.

Energy connections also involve creating efficient networks for generating, transmitting, and utilizing energy, whether electricity, gas, or renewable sources like solar and wind power. By establishing connections between countries through infrastructure such as power grids and pipelines, a steady energy supply can be

ensured, the transition to cleaner energy sources can be facilitated, and energy security can be enhanced, all while supporting the shift to a low-carbon economy.

Türkiye is committed to increasing infrastructure investments in the transportation and logistics sectors to strengthen its current position in global trade and further advance it. Combining logistics services along transportation corridors passing through Türkiye, expanding scale and creating terminals for intermodal transportation, establishing logistics centers abroad, and supporting logistics distribution networks that will strengthen the supply chains are among Türkiye's objectives. These investments are being implemented in line with the current global trends in the sector, such as urbanization, sustainability, environmental awareness, connectivity to major markets, and new-generation transportation.

Table VI.1 shows bilateral trade between Türkiye and other member states. Türkiye's trade volume with OTS members, which was approximately $11.2 billion in 2019, reached $22.3 billion in 2023, almost doubling. With the effect of corridors, which will be discussed in detail in the later sections of this report and which can positively contribute to strengthening energy and logistics connections, Türkiye aims to increase bilateral trade further in the near future.

Table VI.1: Türkiye-Turkic states foreign trade data
*(Billions USD)*

| | Export | Import | Trade Volume | Trade Balance |
|---|---|---|---|---|
| 2019 | 4.36 | 6.80 | 11.16 | -2.43 |
| 2020 | 4.64 | 5.93 | 10.58 | -1.29 |
| 2021 | 6.22 | 8.62 | 14.84 | -2.39 |
| 2022 | 6.95 | 12.54 | 19.49 | -5.60 |
| 2023 | 9.19 | 13.12 | 22.30 | -3.93 |

Source: Ministry of Trade of the Republic of Türkiye.
Note: Calculations include Azerbaijan, Kazakhstan, the Kyrgyz Republic, and Uzbekistan.

Turkic cooperation provides strategic and political added value for the OTS countries. This ongoing process needs to be supported with a forward-looking, realistic vision. The Turkic World Vision-2040 (Vision 2040) aims to develop a framework to support the capacity of OTS countries to meet the challenges of our time individually and collectively. The Vision-2040 document also specifically addresses the topics of energy and transport. The objectives of the Vision 2040 in terms of transport and energy are the following:

- Transforming the OTS countries into a strong regional economic group that connects East and West-North and South trade corridors, contributing to regional and global economic stability.

- Creating seamless, integrated, efficient, fast, and sustainable multimodal connectivity among OTS countries by making customs and transit procedures for border crossings easy and harmonized.
- Liberalizing the transport sectors of OTS countries, including transit passes, to accelerate transportation operations with minimal logistics costs and eliminating non-physical barriers to efficient, stable, fast, and smooth transportation along the Trans-Caspian International East-West Transport Corridor (Middle Corridor),
- Utilizing existing and potential regional transport corridors for the common interests of member states and integrating them into the Middle Corridor.
- Establishing strategic partnerships among the OTS countries in the energy field through coordinating policies.

In light of these introductory notes, this chapter aims to provide a comprehensive overview of the current state of transport and energy connectivity between Türkiye and the Turkic states. It will examine existing infrastructure, highlight vital projects and initiatives, and explore prospects for collaboration. The chapter will also offer strategic recommendations to strengthen these connections further, ensuring sustainable and inclusive growth for all Turkic states.

## VI.A Strengthening Türkiye's transportation connections with Turkic states

This section presents the current situation within the scope of strengthening the transportation connection with the Turkic states. In addition to forward-looking projects and suggestions, anticipated opportunities and challenges are mentioned under subheadings.

### VI.A.1 Türkiye's perspective on transport with the Turkic states

Türkiye has been striving to establish economic and cultural cooperation with the Turkic states since the first years of their independence, nurturing these relations within a framework of brotherhood that dates back to ancient times. Türkiye is trying to create joint projects and programs by continuously exploring opportunities for cooperation in transportation. These efforts aim to develop and advance relations with countries in the region further.

Notable advancements, such as establishing the Baku-Tbilisi-Kars Railway Line, have significantly enhanced direct rail connectivity among Turkic states. Türkiye's aspirations extend beyond mere connectivity; it aims to forge efficient transportation networks spanning Europe and Asia, encompassing alternative routes across the Caspian Sea to diversify and optimize trade and transport options.

Acknowledging the pivotal role of transportation in fostering trade and driving economic growth, Türkiye is strategically positioning itself as a crucial logistics hub. Over the past two decades, Türkiye has channeled substantial investments into upgrading transportation infrastructure, leveraging public initiatives and collaborative partnerships to ensure the seamless flow of goods and services.

Turkic states are strategically located on the Middle Corridor and the Southern Corridor, which are vital for the Asia-Europe land cargo connection. Türkiye, based on the strategic importance of its location, has completed major infrastructure projects including Baku-Tbilisi-Kars Railway, Marmaray, Halkalı-Kapıkule Railway, North Marmara Motorway, Yavuz Sultan Selim Bridge (3rd Istanbul Bridge), Eurasia Tunnel Project, Orhan Gazi Bridge, Gebze-Orhangazi-Izmir Motorway Project, etc.

Türkiye has heavily invested in transport infrastructure across the country and continues to pursue ambitious targets. One such target is the Istanbul North Orbital Rail Section through Yavuz Sultan Selim Bridge, which will provide an Istanbul Strait rail connection. These investments are crucial for Türkiye and the region as a remedy for today's and tomorrow's bottlenecks.

With a strategic shift towards prioritizing railway transport over road transport, Türkiye is embarking on initiatives to expand high-speed rail networks and modernize existing rail infrastructure. Additionally, plans are in place to augment the number of logistics centers from 12 to 26, further enhancing Türkiye's logistical capabilities and facilitating smoother trade flows.

In international transportation, Türkiye is adopting a comprehensive approach tailored to each corridor. This involves forging bilateral and multilateral agreements with corridor countries, coordinating solutions to address logistical challenges, supporting infrastructure development efforts, fostering private sector participation, and fostering the growth of multimodal transportation networks, all aimed at enhancing efficiency and sustainability in transportation and logistics operations across the region.

### VI.A.2 Strengthening the transport connectivity with the Turkic states

Türkiye has devoted considerable resources to address critical infrastructure needs, focusing on repairing and enhancing major transportation routes, bolstering its port, railroad, and road systems, and modernizing infrastructure at border crossings. These efforts aim to improve the efficiency and reliability of the country's transportation network to support domestic and international trade.
The Logistics Performance Index (LPI) published by the World Bank scores those efforts. This index evaluates countries' logistics performance through various criteria, including customs, infrastructure, international shipments, logistics quality and competence, tracking and tracing, and timeliness.

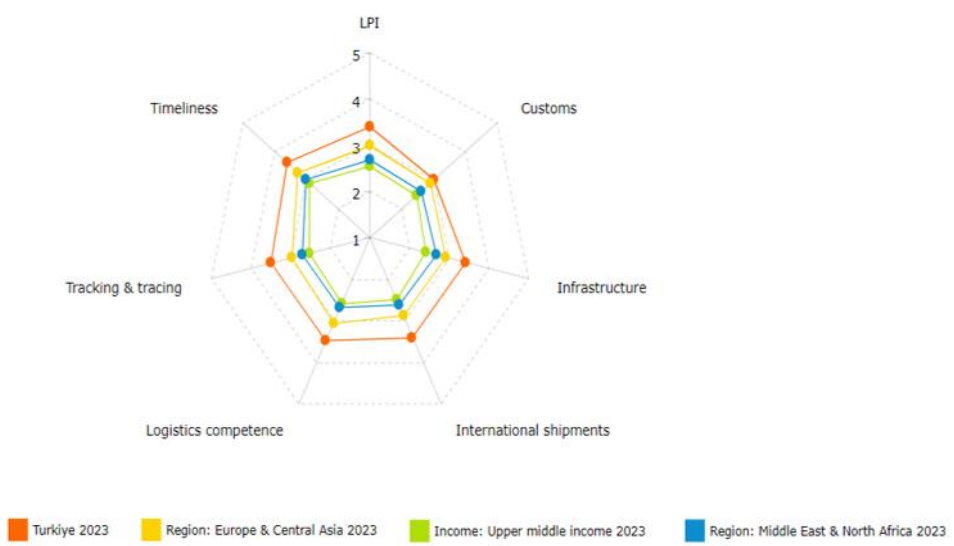
Regarding the logistics performance index, Türkiye ranks 38th globally with 3.4 points as of 2023. Türkiye's situation regarding the LPI by years is shown in Table VI.2.

Table VI.2: Logistic Performance Index (LPI) of Türkiye

| | LPI rank | LPI Score |
|---|---|---|
| 2007 | 34 | 3.15 |
| 2010 | 39 | 3.22 |
| 2012 | 27 | 3.51 |
| 2014 | 30 | 3.50 |
| 2016 | 34 | 3.42 |
| 2018 | 47 | 3.15 |
| 2023 | 38 | 3.40 |

Source: World Bank. Scores are rated on a scale from 1 (low) to 5 (high).

Figure VI.1: Comparison of the Logistic Performance Index of Türkiye with country groups *(2022)*




Source: Logistics Performance Index (LPI).

According to the Logistics Performance Index (LPI), Türkiye performs well compared to other regions and income groups (Figure VI.1). At the core of trade facilitation policies lies the goal of simplifying and harmonizing international transport procedures and associated information flows. This approach aims to reduce physical barriers and bureaucratic hurdles that impede the smooth movement of goods across borders. Türkiye actively engages in regional bilateral and multilateral

initiatives to promote seamless and expedited border crossing services, fostering greater economic integration and trade facilitation among neighboring countries.

In addition to addressing regulatory and administrative challenges, enhancing multimodality and logistics capacity is crucial to building sustainable transportation corridors. By investing in developing integrated transportation networks and logistical infrastructure, Türkiye aims to optimize the movement of goods and people, further promoting regional connectivity and economic growth.

Increased investment in transportation infrastructure and public spending is crucial for driving connectivity and supporting the development goals of the nation and its neighboring countries. This investment not only improves the efficiency of transportation networks but also creates a multiplier effect by stimulating economic activity and attracting private sector participation in infrastructure projects.

With nearly 200 border crossings scattered throughout the nation and shared borders with eight neighboring countries, streamlining transit procedures to facilitate trade and transportation operations is a significant priority for Türkiye. Recognizing the critical role of time in transportation logistics, efforts to enhance transit applications are prioritized, making it an attractive choice for transport operators moving goods to their final destinations.

As a historical hub of trade and commerce, Türkiye remains committed to revitalizing its role as a key player in facilitating global trade. Building on its rich legacy as a vital link in the Silk Road, efforts are underway to establish a reliable, efficient, and secure transportation corridor connecting Europe and Asia. Türkiye seeks to leverage its geographical advantage and promote regional and international economic prosperity through sustained investment and strategic initiatives.

### VI.A.3 International efforts to streamline transport

Türkiye is actively promoting the Middle Corridor and enhancing connectivity through a comprehensive, multimodal, and multilateral approach. Efforts are underway to unite all stakeholders, engaging both Eastern and Western partners simultaneously to ensure the seamless and efficient operation of the corridor.

Established as a permanent platform, the OTS aims to foster peace, stability, and extensive cooperation among its member states, including Türkiye, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Uzbekistan, with the Turkish Republic of Northern Cyprus, Turkmenistan and Hungary participating as observers. OTS is a pivotal regional instrument for advancing international cooperation, particularly in the Eurasian continent, explicitly focusing on Central Asia and the Caucasus. Its transport cooperation platform plays a vital role in developing the Middle Corridor.

A significant milestone in transport cooperation within OTS is the Combined Transport Agreement, signed during the 9th OTS Summit in Samarkand on 11 November 2022. This agreement establishes a legal framework for creating a joint committee to negotiate additional transit permits for trucks crossing the Caspian Sea, facilitating combined transport among OTS member states.

To further enhance the Middle Corridor's functionality, a comprehensive action plan covering all transport cooperation issues was signed in 2023 as part of the OTS Connectivity Program, which was initiated at the 9th Summit in 2022. The Connectivity Program outlines various transport cooperation areas among OTS countries.

In efforts to strengthen cooperation in port management, OTS facilitated the signing of the MoU "Sister Ports" between ports of member states, including Samsun, Mersin, Baku, Aktau, and Kuryk, alongside three dry ports from Uzbekistan. Additionally, prioritizing digitalization, Türkiye and Uzbekistan launched the groundbreaking e-Permit Project in 2022, aimed at digitizing transport permit documents to improve efficiency and reduce costs. Memorandum of Understanding among the Member States of the OTS Regarding Cooperation and Use of Electronic Permit (e-Permit) in International Road Transport Operations was signed on 6 July 2024 in Shusha.

Multilateral meetings among Turkic countries are crucial in promoting efficient and smooth freight transportation by road and rail. Türkiye actively participates in intergovernmental initiatives through trilateral and quadrilateral mechanisms, increasing coordination and cooperation on regional issues, particularly concerning the Middle Corridor.

Among these mechanisms are the Trilateral Meeting of the Ministers of Foreign Affairs, Trade, Economy, and Transport of Türkiye, Uzbekistan, and Azerbaijan, as well as various trilateral meetings involving Türkiye, Kazakhstan, and Azerbaijan, Türkiye-Azerbaijan-Turkmenistan, and the Central Asian Railways Quintet Summit. Additionally, Türkiye participates in the UNECE-ECO Trans-Caspian and Almaty-Tehran-Istanbul Corridors Coordination Committee, leading to the transport ministers signing action plans and MoUs.

Expanding the Middle Corridor westward, Türkiye initiated a Ministerial Council in 2022 with the participation of Bulgaria, Hungary, and Serbia to enhance regional transport and logistics cooperation. This council focuses on developing rail transport through infrastructure projects and administrative facilitation.

Furthermore, the International Association of Trans-Caspian International Transport Route (TITR) is another platform for developing the Middle Corridor, bringing together railway operators, Caspian port operators, and forwarding companies from

route countries. TITR develops yearly rail cargo plans and actively participates in international exhibitions to promote the Middle Corridor. Turkish State Railways company TCDD Transport JSC and a Turkish forwarding company, Pacific Eurasia, are active members of this platform, contributing to its objectives.

## VI.A.4 Road Transportation

### *VI.A.4.1 Road Transportation in Türkiye's trade with OTS countries*

In 2023, Türkiye's exports to the Turkic states amounted to $9.2 billion, and $6.9 billion was made via land transportation. Moreover, the import figure of Türkiye from Turkic states was approximately $6.4 billion, and $3.3 billion of this amount was performed by land.

As can be seen from the table below, the vast majority of the export and import figures of Türkiye to and from the Turkic states came from land transportation in 2023. In other terms, 79.84% of the exports with Azerbaijan were performed via roads. Similarly, this ratio was 76.31% with Kazakhstan, 61.51% with the Kyrgyz Republic, and 93.62% with Uzbekistan.

For the import figures, road transport was used for 29.85% of the transactions with Azerbaijan, 52.44% with Kazakhstan, 25.44% with the Kyrgyz Republic, and 86.74% with Uzbekistan.

Table VI.3: Foreign trade data by road
(2023, million USD)

| | Exports | Share (%) | Imports | Share (%) | Trade Volume |
|---|---|---|---|---|---|
| Azerbaijan | 2233.0 | 79.8 | 429.9 | 29.9 | 2662.9 |
| Kazakhstan | 2256.6 | 76.3 | 1.8 | 52.4 | 4092.8 |
| Kyrgyzstan | 738.6 | 61.5 | 69.7 | 25.4 | 808.3 |
| Uzbekistan | 1751.9 | 93.6 | 1.0 | 86.7 | 2800.7 |

Source: Ministry of Trade of the Republic of Türkiye.

Turkish haulers' primary challenge in road transportation across the Turkic states is the requirement for permits to transit through these and other countries. This permit system generates a variety of complications for Turkish transport companies. Consequently, Türkiye strongly advocates eliminating road permit procedures, especially for transit transport operations among Turkic nations. Considering the importance of road transport, the Turkic states will significantly benefit from the

liberalization process in this region. Thus, liberating the passages within Turkic countries and removing the road permit system will open the way for more efficient commercial relations between the Turkic states. This process will also create significant opportunities by contributing to the increase in the welfare of Turkic states.

#### *VI.A.4.2 Road transport prospects for the Middle Corridor*

Looking at the road transport aspect of the corridor, it's clear that there are significant challenges, partly due to the entrenched approaches of certain OTS countries. However, the recent agreement between Türkiye and the Kyrgyz Republic to fully liberalize bilateral and transit transport, effective 1 May 2024, is a positive development. Similar efforts are encouraged among other OTS countries to promote the prompt development of the Middle Corridor. Outlined below are essential action items in this domain:

- Liberalization of international transit road transport operations,
- Minimization of transport costs on the Middle Corridor, including passage fees, charges for ports and ferries at the Caspian Sea,
- Increase the capacity of the ports and ferries at the Caspian Sea and operate Ro-Ro vessels with higher capacity, which were specially designed to operate on the Caspian Sea.
- Minimizing the bureaucratic procedures at border crossing points,
- Activation of electronic permit system between relevant OTS countries.
- Signing an agreement that will provide multi-entry visa exemption to professional drivers.

### VI.A.5 Railway transportation

Reaching the saturation point of road transport worldwide and increasing environmental awareness has given greater importance to railway transportation, especially in the last 30 years. Railway transportation, one of the inventions that changed the course of history and contributed significantly to shaping the modern world, continues to increase its global impact on development and change. It is gaining more importance in the transportation sector in parallel with safety, environment, energy, and economic needs.

Among the transportation networks developed alongside the expansion of global trade, international railway corridors stand unrivaled in their ability to transport bulk goods within national borders and between countries and across continents. This mode of transport is characterized by its safety, low construction costs, long service life, minimal land requirements, environmental friendliness, and independence from oil. Having a low carbon footprint, rail transport is considered one of the greenest and most environmentally friendly modes of transport.

Türkiye, due to its geopolitical location, connects the East and the West, Asia, and Europe. It is at an important critical intersection for global trade and offers access to many markets with a large foreign trade volume. Türkiye's advantageous geographical location, which provides easy access to Eastern Europe, Central Asia, the Middle East, and North Africa, enables it to serve as a base for transportation activities in the region. Transportation corridors passing through Türkiye are important for freight and passenger transportation.

The location of railway lines in these transportation corridors will create an advantage for uninterrupted railway connections between countries. It will contribute significantly to the development of the railway sector.

In this respect, policies and investments aimed at establishing common infrastructure and management standards and legislation that will ensure interoperability between countries, reduce time losses in border crossings, eliminate bottlenecks on railway corridors, and complete missing connections are of great importance.

### *VI.A.5.1 Railway transportation in our trade with OTS countries*

The share of railway transportation between the Turkic states is very low. The share of railway transportation in Türkiye's exports and imports has never exceeded 1 percent over the years. In 2023, the railway carried out 0.7% of Türkiye's exports and 0.5% of its imports.

In 2023, Türkiye exported $47.3 million worth of goods to the OTS member states via railway. During the same year, Türkiye's imports via railway from these countries totaled $88.8 million.

Table VI.4: Foreign trade data by railway
*(2023, million USD)*

| | Exports | Share (%) | Imports | Share (%) | Trade Volume |
|---|---|---|---|---|---|
| Azerbaijan | 10.8 | 0.37 | 24.1 | 0.54 | 35.0 |
| Kazakhstan | 34.5 | 1.16 | 27.3 | 0.38 | 61.8 |
| Kyrgyzstan | 1.1 | 0.09 | 0.0 | 0 | 1.1 |
| Uzbekistan | 1.1 | 0.06 | 37.4 | 3.09 | 38.4 |

Source: Ministry of Trade of the Republic of Türkiye.

### *VI.A.5.2 Middle Corridor initiative*

Türkiye supports many initiatives to develop regional transportation corridors within the framework of its geopolitical and geostrategic location across continents and regions. In this context, Türkiye's national transportation plans aim to fully integrate with Eurasian transportation networks, while global infrastructure investments are being rapidly implemented to support this objective. The Middle Corridor is crucial in establishing connections between Türkiye and OTS countries, thereby enhancing Türkiye's rail trade volume.

Türkiye's Middle Corridor Strategy aims to connect Türkiye and China via the Caspian Sea and Central Asian countries and constitutes the shortest line from China to Europe in terms of distance. This line is a safe and economical route that complements the existing lines on the East-West axis. Important infrastructure projects are being carried out for the mentioned route both domestically and with the countries in the region. With the completion of the missing lines on the route, an uninterrupted transportation line from China to Europe will be established.

The Middle Corridor starts from Türkiye and extends to Georgia, Azerbaijan, and the Caspian Sea, respectively, via railway connections, and from there to China by following the route of Kazakhstan (and/or Turkmenistan/Uzbekistan) (using the Caspian crossing). In this context, the ports of Baku/Alat (Azerbaijan), Aktau/Kuryk (Kazakhstan), and Turkmenbashi (Turkmenistan) are used for combined transportation in the Caspian crossing.

### *VI.A.5.3 Railway transport prospects for the Middle and Zangezur Corridors*

Freight transportation originating from Türkiye spans a vast network, reaching destinations across Europe, including Bulgaria, Hungary, Germany, Austria, Poland, Romania, Czechia, Bosnia and Herzegovina, Slovakia, and Serbia to the west, Russia to the north, and Georgia, Azerbaijan, Uzbekistan, Tajikistan, the Kyrgyz Republic, Turkmenistan, Kazakhstan, Iran, Afghanistan, Pakistan, and China to the east. This extensive reach underscores the pivotal role Türkiye plays as a strategic transportation hub linking multiple regions.

Türkiye has been practicing "simplified procedure" for transport under the Common Transit Regime and the National Transit Regime since 2017. This system revolutionized border crossing operations, enabling trains carrying up to 50 containers to swiftly traverse customs in 5 to 7 minutes, thanks to electronic integration. This efficiency boost has significantly enhanced trade facilitation and operational smoothness.

As of November 17, 2024, the New Computerized Transit System (NCTS) Phase 5 has been put into operation between the parties to the Common Transit Convention, and

with this transition, the simplified procedure for transportation by rail within the scope of common transit operations is no longer applicable.

Implementing the CIM/SMGS document specifically for freight transportation via the railway line on the Middle Corridor, particularly on the BTK line, commenced in September 2021. This strategic move has yielded time and cost savings and fortified the corridor's competitive edge, positioning it as a viable alternative for freight transit between Asia and Europe.

Zangezur Corridor, which traverse Armenian territories, has the objective to establish a connection between Azerbaijan and Nakhchivan through railway and road lines along the border, as outlined in the aforementioned agreements. This initiative aims to facilitate trade by significantly reducing transportation congestion on these roads, thereby enhancing overall efficiency.

When this corridor is opened, Anatolia and Nakhchivan will be connected to Central Asia via Azerbaijan and the Caspian Sea. On the other hand, completing the 224-kilometer Kars-Iğdır-Dilucu rail line in Türkiye, slated for 2029, represents a major milestone in bolstering connectivity, promising enhanced efficiency and capacity.

While the Northern Corridor, via Russia, remains a primary artery for land transport between China and Europe, Türkiye actively supports the Middle Corridor as a secure and efficient alternative. This advocacy has gained renewed momentum, particularly after geopolitical shifts triggered by the Russian-Ukrainian war, positioning the Middle Corridor as a focal point of attention among global logistics stakeholders.

The Middle Corridor presents many advantages over its Northern counterpart, offering a considerable 2,000-kilometer reduction in transit distance and a more temperate climate conducive to year-round operations. These factors, coupled with efficient port infrastructure and seamless connectivity to key markets in the Middle East, North Africa, and the Mediterranean via Türkiye's ports, underscore the corridor's potential as a game-changer in transcontinental freight transportation.

However, the Middle Corridor is not without its challenges. The costly Caspian Sea passage, capacity constraints, weather-related disruptions, and logistical complexities associated with navigating varying regulatory regimes across route countries pose formidable hurdles. Addressing these challenges necessitates collaborative efforts to bolster infrastructure, streamline regulatory frameworks, and enhance operational efficiency along the corridor.

The Middle Corridor presents challenges due to the involvement of multiple countries, each with its own rules and fees. Consequently, complications, delays, and increased costs arise, prompting various international organizations to address these coordination challenges. Freight forwarders are notably concerned about costs, but

regular cargo flow should eventually reduce operating expenses, leading to lower consumer prices.

Moreover, bottlenecks hinder sudden shifts from the Northern Corridor, especially at the Caspian Passage, where rail lines and port facilities are insufficient. Azerbaijan and Kazakhstan are expanding port capacities and maritime fleets to mitigate these issues. Similarly, Georgia is investing in port capacity, while Kazakhstan is adding new rail lines to shorten distances. Nonetheless, Georgia's slow progress in increasing railway capacity on the Baku-Tbilisi-Kars Railway Line may be due to a focus on increasing port revenues.

Completing the Zangezur Connection will establish a direct rail and road link between Türkiye and Azerbaijan, likely increasing Türkiye's share of the Middle Corridor. With the BTK line and Marmaray, an uninterrupted rail connection between China and Europe has been established. Another rail connection across the Istanbul Strait will also be provided after the Yavuz Sultan Selim Bridge rail line is completed.

Currently, the northern route through Russia takes around 20 days to travel between China and Europe. Conversely, the Middle Corridor through the Black Sea takes nearly 40 days due to port congestion in Georgia and Romania and slower rail speeds in Romania. Moreover, maritime insurance costs have risen in the Black Sea due to conflicts, making the Middle Corridor less appealing compared to cheaper 35-day maritime voyages.

Typically, the Middle Corridor through Türkiye takes 30 days. However, test runs have shown that existing infrastructure can reduce this to less than 18 days. With investments and effective management, the China-Türkiye segment could be reduced to 10 days in the long run. TCDD Transport JSC plans to operate more than 200 container block trains annually in the medium term and 1.500 block trains annually in the long term via the Middle Corridor and BTK railway line between China, Türkiye, and Europe.

The first China-Europe block transit container train, departing from Xi'an, China, to Prague, Czechia, via the Middle Corridor, arrived in Ankara on 6 November 2019. The Marmaray Tube Passage was used for this run, and the train completed the China-Türkiye leg in 12 days and the total journey in 18 days.

### VI.A.6 Maritime transportation

Türkiye is strategically important due to its location between Asia, Europe, the Middle East, and the Caucasus, which allows the passage of goods from Europe and Asia.

Maritime transportation of goods has the highest share in terms of volume and value of goods transported in Türkiye, as in the world. In 2023, 56% of Türkiye's exports and 53.9% of its imports in terms of dollar value were transported by sea.

According to the cargo handling statistics published by the Ministry of Transport and Infrastructure, 521,079,804 tons of cargo were handled in 2023, of which 217,954,335 were exports and 303,125,469 were imports.

### *VI.A.6.1 Maritime transportation in Türkiye's trade with OTS member states*

Compared to the Northern Corridor, the Middle Corridor offers a more economical and faster trade route by shortening the distance to the European market by approximately 2,000 kilometers and taking advantage of favorable political conditions.

When analyzing Türkiye's bilateral trade with the OTS member states in terms of modes of transport, road transport emerges as the predominant mode for Türkiye's exports, whereas imports from these countries are primarily facilitated by maritime transport.

Table VI.5: Foreign trade data by maritime
*(2023, million USD)*

| | Exports | Share (%) | Imports | Share (%) | Trade Volume |
|---|---|---|---|---|---|
| Kazakhstan | 470.1 | 15.9 | 1.60 | 45.76 | 2072.2 |
| Azerbaijan | 142.3 | 5.09 | 0.98 | 67.76 | 1118.1 |
| Kyrgyzstan | 102.7 | 8.55 | 0.17 | 62.37 | 273.5 |
| Uzbekistan | 32.0 | 1.71 | 0.11 | 8.97 | 140.5 |

Source: Ministry of Trade of the Republic of Türkiye.

As shown in Table VI.5, as of 2023, Türkiye has the highest bilateral trade volume by sea with Kazakhstan among the OTS member states, at $2.1 billion. Azerbaijan ranks second with $1.1 billion. The Kyrgyz Republic ranks third with $273 million, and Uzbekistan ranks fourth with $140 million.

Among the modes of transportation in Türkiye's exports to OTS member states in 2023, Kazakhstan ranks first with 15.9% in the distribution of maritime transportation by country. The Kyrgyz Republic follows Kazakhstan with 8.55%, Azerbaijan with 5.09%, and Uzbekistan with 1.71%. By maritime, Azerbaijan ranks first with 67.76% in our imports from OTS member states in 2023. The Kyrgyz Republic follows Azerbaijan with 62.37%, Kazakhstan with 45.76%, and Uzbekistan with 8.97%.

### *VI.A.6.2 Current situation of OTS countries on the Trans-Caspian International Transport Route*

Türkiye, Azerbaijan, and Kazakhstan are already developing their ports. Azerbaijan opened Alat port in 2018 to reduce congestion in Baku and increase capacity and multimodality. Kazakhstan has completed the port of Aktau and the port of Kuryk to meet additional demand in the Middle Corridor. At the port of Poti, Georgia continues to work on capacity expansion and creating a deepwater port following the cancellation of the Anaklia project. It is also important to bring the road, rail, and maritime transportation infrastructure, vehicles, and technology in compliance with global standards.

While there was only one feeder vessel traffic between Turkmenbashi and Baku ports, two vessels have been implemented to improve transportation links in the second section of the China-Europe corridor through the Caspian Sea. In this context, improving the infrastructure of Baku-Elet Port, Aktau Port, and Turkmenbashi Port is as important as increasing their Ro-Ro transportation capacity.

### *VI.A.6.3 Limitations of the Trans-Caspian International Transportation Route in the OTS countries*

The main demotivating factor in the preferences of companies operating in the logistics and transportation sector is the relatively high tolls, especially at the Caspian crossings. Another problem reported on this route is the waiting times at Caspian crossings. Some sector representatives state that Caspian crossings are not preferred unless necessary due to the relative cost disadvantage.

It is frequently stated that developing the Middle Corridor and other alternative transportation routes would be a more comprehensive essential step in ensuring regional economic security. In this regard, the operationalization of the Trans-Caspian International Transport Route means wider, faster access to global markets and more efficient supply chains for the shipment of oil and other export commodities.

This route is known to be based on a complex logistics system, with dual transshipments between rail/land and maritime transport via the Caspian and Black Seas and high investment costs for railway equipment and infrastructure. Currently, Azeri vessels mainly carry out cargo across the Caspian Sea. However, due to inefficient multimodality caused by low integration between maritime, rail, and road transport, serious congestion is experienced at ports and border crossings.

On the other hand, the reasons for the problems mentioned above are, in general, lack of integrated logistics services along the entire corridor, lack of dry ports and logistics facilities, imbalance of capacity between the two shores of the Caspian Sea,

depth limitations and harsh weather conditions, inadequate or outdated loading equipment, lack of interfaces between land transportation and ferry crossings at Caspian Sea ports, unloading times of up to 10 days for trains in Aktau and Alat, the presence of ports designed for bulk cargo operations rather than containers, high handling times for containers, low utilization rates of ports in Kazakhstan.

#### *VI.A.6.4 Suggestions for solving mentioned problems*

In order to reach the desired capacity on the Trans-Caspian International Transport Route, significant investments should be made in transportation infrastructure and expansion of the maritime trade fleet. At the same time, for the route to be functional, it is considered necessary to work on arrangements to reduce customs inspection times, transition to the use of uniform transit documents in Caspian transits, facilitate the use of transit documents, contribute to the development of rail-dominated combined transportation in the region, developing multimodal transportation infrastructure, increasing the ship fleet and railway capacity and establishing adequate environmental standards, increasing the capacity and regularity of the ship fleet in the Caspian Sea.

To improve the business volume and sustainability of the route, it is considered that significant regional benefits can be achieved in terms of contributing to easier and faster transportation in the geography covering Europe-Caucasus-Central Asia and the Far East regions by increasing the impact of combined transportation after the completion of the development of railway capacity, modernization and electrification of railway networks and development of Caspian Sea Ro-Ro and Rail-Ferry lines.

### VI.A.7 Air transport

With its geographically key location in the middle of the Asian, European, and African continents, Türkiye is located in the Middle Corridor on the flight routes between developed and developing markets. With a 4-hour flight time from Türkiye, 67 countries where 1.4 billion people live and a trade volume of $8.6 trillion generated can be reached. With these advantages, Türkiye is very suitable for becoming the world's transit center in the aviation field. Ireland and Spain, which are the westernmost countries of Europe; the Scandinavian countries in the northernmost part of Europe; Morocco on the Atlantic Ocean coast of the North African Region; Uzbekistan, which is the geographical center of Central Asia; and Oman and Yemen that are the southernmost part of the Arabian Peninsula can be reached with a flight from Türkiye in 4 hours.

Benefiting from geographical advantages and with a high amount of public and private investment, Türkiye has written a success story in civil aviation in the last two decades. As of 2023, with 57 airports, 346 domestic and international flight destinations, and the number of passengers reaching 214 million, Turkish civil

aviation has become one of the most important actors of global aviation not only in its region but also around the world. Türkiye is not only known for its growth figures in civil aviation; It is set as an example all over the world with its compliance with international aviation standards and service quality.

Türkiye is also focused on medium- and long-term goals to gain a greater share of the global aviation market. In order to ensure sustainable growth in civil aviation, a new structure is being carried out at both institutional and sectoral levels using the Digital Transformation Model. In this direction, a new system based on corporate, sectoral, and organizational structuring, digital training, and certification at international standards is being built to produce services capable of meeting the world's needs transformed by digitalization.

Although global international passenger capacity fell 12% in the aftermath of the pandemic between 2019 and 2023, Turkish Airlines continued to be one of the leading airlines in the sector, with a 27% increase for the same period, according to data from the International Air Transport Association (IATA). Turkish Airlines and Pegasus Airlines hosted 115 million passengers in total last year, up 10% year-on-year.

Upon investments in Türkiye's aviation infrastructure, Istanbul Airport has become the airport with the most flights in Europe. According to data from Eurocontrol, Istanbul Airport ranked first among the busiest airports in Europe last year, as it did in 2022. The average number of daily flights at Istanbul Airport in 2023 increased 19% year-on-year, reaching 1,375. It also broke the airport network record with 1,684 flights on 22 June 2023.

Moreover, Turkish Airlines Cargo has more than tripled its market share in cargo transportation in the last 10 years and continued its success as the world's fourth largest air cargo carrier in 2023, according to IATA data, offering air cargo services at 364 destinations in 133 countries with four cargo and 416 passenger aircraft.

### *VI.A.7.1 Air transport in Türkiye's trade with OTS member states*

As can be seen from the table below, an important share of the export figures of Türkiye to the Turkic states were transported via airways in 2023. 18.81% of the exports with Azerbaijan were performed via air. Similarly, this ratio was 8.26% with Kazakhstan, 16.59% with the Kyrgyz Republic, and 4.30% with Uzbekistan. However, only a small portion of Türkiye's imports from these countries are carried via air (Table VI.6).

Given the success of the Turkish aviation sector and Istanbul's growing importance in the world of aviation, there are many areas of cooperation between Türkiye and other Turkic states. As stated in the Astana Declaration, OTS member states should take further steps to encourage national civil aviation authorities to cooperate and

promote a liberal air transport policy to expand existing air transport and air cargo networks and low-cost flights among the member states to increase trade volume, passenger flow, and touristic activity. Furthermore, in cooperation efforts, the growing importance of sustainable aviation and digital transformation should be a focus to prepare the OTS member states for future challenges.

Table VI.6: Foreign trade data by airway
*(2023, million USD)*

| | Exports | Share (%) | Imports | Share (%) | Trade Volume |
|---|---|---|---|---|---|
| Azerbaijan | 553.0 | 18.81 | 10.3 | 0.1 | 563.3 |
| Kazakhstan | 242.7 | 8.26 | 35.6 | 0.5 | 278.3 |
| Kyrgyzstan | 487.7 | 16.59 | 33.4 | 0.4 | 521.1 |
| Uzbekistan | 126.5 | 4.3 | 14.5 | 0.2 | 141.1 |

Source: Ministry of Trade of the Republic of Türkiye.

This cooperation could involve knowledge sharing and joint research initiatives to develop cleaner aviation technologies and alternative fuels. Additionally, they might work together to implement digital solutions for air traffic management, streamlining operations, and improving efficiency. This collaborative approach can position Türkiye and the Turkic states as leaders in a more sustainable and technologically advanced future of aviation.

### *VI.A.7.2 Civil aviation prospects for the region*

In recent years, OTS has played a crucial role in strengthening relations between its member states across various areas. Air transport has emerged as a key factor for enhancing economic, cultural, and political cooperation among OTS states with shared historical ties.

The growing importance of air transport, driven by increasing trade, tourism, and people-to-people exchanges, underscores the need to enhance air connections between Türkiye and OTS member states. Thus, a primary strategic goal of the Turkish Civil Aviation Authority is to improve air transport relations by revising existing Air Services Agreements and easing restrictions on frequencies and destinations.

A more liberal approach between Türkiye and OTS member states, free from constraints, promises tangible benefits such as more affordable ticketing, accessible travel options, increased connectivity through more direct flights, enriched citizen engagement, improved service standards, and enhanced trade and tourism prospects.

Looking ahead, earnest discussions are needed regarding establishing an EU-like liberal internal market in the aviation sector among OTS member states. Such an endeavor stimulates deeper interaction and provides significant momentum to trade and tourism initiatives. Additionally, avenues for air transport cooperation could include training, aviation safety and security, and air traffic management among member states.

Furthermore, facilitating air transport for member states may involve efforts such as signing double tax avoidance agreements, extending preferential fuel supply and ground handling services, granting specific exemptions and privileges to carriers, and fostering commercial partnerships between air carriers of member states. These efforts are expected to create a climate of enhanced cooperation and efficiency in air transport operations throughout the OTS region.

### VI.A.8 Current projects at customs and activities to be conducted in the coming period

Many activities are carried out and planned in Turkish customs to facilitate and enhance trade and transportation between Türkiye and Turkic states. Firstly, the digitalization of customs procedures is highlighted. Currently, declarations in Turkish Customs are filled out electronically and monitored through electronic systems, facilitating customs procedures with the Turkic states and all countries in trade conducted by Türkiye.

Secondly, efforts continue to modernize border crossings, especially those significant for Türkiye's trade, alongside transportation and infrastructure enhancements to improve Türkiye's logistical infrastructure. Specifically, the modernization of border crossings such as the Türkgözü Customs Gate has been completed previously, and modernization efforts are currently ongoing for the Gürbulak Customs Gate.

Additionally, to foster a more liberal trade environment by removing customs tariffs and trade policy measures, free trade and preferential trade agreements are being concluded among countries within the scope of international rules and regulations over trade. Within this context, preferential trade agreements entered into force with Azerbaijan in 2021 and Uzbekistan in 2023. The completion of the Baku-Tbilisi-Kars Railway Project, also known as the Iron Silk Road Project, in 2017, offering an alternative route that was initiated in 2007 with the participation of Türkiye, Georgia, and Azerbaijan, enables uninterrupted transportation of goods by rail from Europe to China and Russia. This development contributes to increased political, social, and commercial interaction between Türkiye and Turkic states.

Furthermore, the realization of the recently proposed Development Road Project is expected to further increase interaction between Türkiye and Turkic states. In this regard, collaboration is being pursued within the framework of BSEC-URTA (Black Sea

Economic Cooperation Region Road Transport Association), established in Istanbul in 1992, and TRACECA (Transport Corridor Europe-Caucasus-Asia), founded in 1993 with Türkiye's participation since 1998, to facilitate trade between Türkiye and Turkic states, addressing and resolving problematic issues.

## VI.A.9 Conclusion

The strategic significance of transportation in Türkiye's economy and its relations with Turkic states cannot be overstated. Türkiye's unique geographical location, robust infrastructure, and dynamic economy position it as a pivotal player in global logistics.

Efforts to strengthen transportation connections with Turkic states, particularly through road, railway, maritime, and air transportation, underscore Türkiye's commitment to enhancing regional connectivity and facilitating smoother trade flows. Key initiatives like the Middle Corridor and the Zangezur Corridor, which strengthen the Middle Corridor, hold immense potential to bolster economic ties and create new opportunities for collaboration among member states.

Middle Corridor initiative aims to enhance connectivity through a comprehensive multimodal and multilateral approach, uniting stakeholders from both Eastern and Western partners. The OTS plays a crucial role in developing this corridor and promoting extensive cooperation among its member states. Zangezur Corridor is another significant project, and this corridor is expected to streamline transit procedures, making Türkiye an attractive choice for transport operators. This effort aligns with Türkiye's historical role as a trade hub, aiming to revitalize its position as a key player in global trade.

The modernization of customs procedures and border crossings is a priority for Türkiye. The digitalization of customs processes and the modernization of significant border crossings, like the Gürbulak Customs Gate, aim to facilitate trade with Turkic states and globally. Preferential trade agreements with Azerbaijan and Uzbekistan and the completion of the Baku-Tbilisi-Kars Railway Project contribute to increased political, social, and commercial interaction between Türkiye and Turkic states.

Türkiye's strategic geographical location makes it a central hub for global aviation. Initiatives to enhance air transport relations with Turkic states, such as revising Air Services Agreements and easing restrictions on frequencies and destinations, promise tangible benefits like more affordable ticketing, accessible travel options, and improved service standards. The collaboration on digital solutions for air traffic management and sustainable aviation technologies further strengthens Türkiye's position in the aviation sector.

Significant infrastructure investments are essential to further enhance transportation and trade with Turkic states. This includes expanding the maritime trade fleet, modernizing railway networks, and developing multimodal transportation infrastructure. Additionally, fostering a liberal air transport policy and digitalizing transport permit documents are crucial steps toward improved efficiency and reduced costs in transportation operations.

The successful implementation of these initiatives positions Türkiye and the Turkic states as leaders in a sustainable and technologically advanced future. Collaborative aviation, energy, and customs efforts will improve regional connectivity and stimulate regional economic growth and stability. The strategic initiatives and sustained investment in these sectors underline Türkiye's commitment to leveraging its geographical advantage and promoting regional and international economic prosperity.

## VI.B Strengthening Türkiye's energy connections with Turkic states

Türkiye is an import-dependent country in the field of energy. This dependence is over 90% in the oil and natural gas resources. Such high import dependency significantly burdens the country's trade account balance. For this reason, increasing the share of domestic and renewable energy sources in meeting energy demand is critical for the country's economy.

Based on these needs, the National Energy and Mining Policy was announced in April 2017 by the Ministry of Energy and Natural Resources (MENR). The policy is based on three main pillars and aims to enhance Türkiye's energy perspective by improving energy supply security, increasing domestic energy resources, and providing a foreseeable energy market.

In 2001, the total installed capacity of Türkiye was 28,332 MW, of which 41,4% was renewable sources. At the end of 2023, the installed capacity of Türkiye increased to 106,667 MW. The share of renewables in total installed capacity rose to 55.5%. By the end of 2023, the share of renewable energy sources in total electricity generation was 42.15%. In 2022, Türkiye's primary energy supply was 157,8 mtoe, and the share of renewable resources was 17%. In 2022, imported primary energy sources met 67.7% of energy demand.

On the other hand, in October 2024, more ambitious targets of renewables for the year 2035 were announced by Türkiye. Türkiye aims to increase its total solar and wind installed power capacity to 120 GW by 2035, which is 32.7 GW by the end of 2024. According to the above-mentioned Roadmap, it is planned that 14,700 km

HVDC, with a total capacity of 40 GW, approximately 15,000 km AC line, and 40 HVDC converter center will be built, and the interconnection capacity will be increased to 6,750 MW in exports and 6,600 MW in imports within the context of the green transmission infrastructure. Additionally, Türkiye plans to increase its offshore wind capacity to 5 GW by 2035. Besides all these, it plans to organize at least 2 GW new YEKA (Re-Zone) tenders every year till 2035.

Renewable energy is pivotal in Türkiye's energy strategy in reducing import dependency, diversifying energy sources, and achieving the 2053 Net-Zero Target. In this regard, benefiting more from renewable resources, further facilitating the utilization of vast potential of the country's renewables, and supporting the market entry of renewable-based electricity generation are crucial elements of Türkiye's energy strategy. To this end, incentive schemes such as feed-in tariffs and various legislative regulations were carried out to pave the way for green energy investments. For instance, the RE-Zone (YEKA) investment model was introduced to ensure the efficient and effective use of renewable energy resources by setting up scale renewable energy zones in selected areas. Within the framework of the YEKA initiative, the first tender was awarded in May 2017 for the construction of a 1 GW solar power plant (SPP) with an estimated total investment of $1.3 billion. The solar plant will be operational for 30 years, meeting the electricity demand of over 600,000 households. The tender also included a commitment to conduct R&D activities in Türkiye for a minimum of 10 years, employ at least 80% local staff, and construct an integrated factory for production from ingot to photovoltaic module. The country's first solar module manufacturing facility, based on an investment of $400 million and with an annual capacity of 1000 MW, opened in 2020. As of today, 7850 MW of YEKA tenders have been completed (4.050 MW of wind; 3.800 MW of solar PV). Within the scope of the YEKA Solar Power Plant and Wind Power Plant, 1550 MW of SPP and 311 MW of WPP were commissioned as of January 2025.

On the other hand, in Türkiye, with the amendment published in the Official Gazette on November 19, 2022, legal entities that establish energy storage facilities are permitted to set up wind or solar energy plants with the same installed capacity as the storage facility, without participating in any pre-license auction, and to sell electricity at market prices.

The new model has garnered significant interest from the market. A total of 33 GW of pre-licenses for battery-integrated wind and solar projects have been allocated by the Energy Market Regulatory Authority of Türkiye. 14,7 GW of this figure consists of solar energy projects, while the remaining 18,4 GW is comprised of wind projects. It aims to reduce the intermittent production characteristics of renewable energy sources with integrated storage wind and solar capacities.

On the other hand, nuclear power is essential in Türkiye's energy strategies. Türkiye plans to establish three conventional large-scale nuclear power plants with 12

nuclear reactor units in this context. To that end, an intergovernmental agreement was signed with the Russian Federation on 12 May 2010 to realize the Akkuyu NPP, which will be the first NPP in Türkiye. Construction of the 4 units of VVER1200 type reactor with a total installed capacity of 4800 MW in Mersin province continues. When it is operational, it will meet 10% of the country's electricity demand by producing 35 million MWh of electricity annually and will serve Türkiye's 2053 net zero emission targets by preventing 35 million tons of carbon emissions per year and 2.1 billion tons in 60 years.

Türkiye aims to add over 20 GW of nuclear energy capacity to its energy portfolio by the end of 2050. In addition to Akkuyu NPP, various vendors are currently studying the installation of two additional large-scale NPPs in Sinop and Thrace.

Türkiye aims to increase efficiency in all processes, from energy production to final consumption, within the framework of its efficient and environmentally friendly utilization of energy and natural resources. Thanks to the successful implementation of the National Energy Efficiency Action Plan covering the time between 2017-2023, 24,7 Mtoe savings and around 70 million tons of emission avoidance with $8.5 billion of investment have been achieved. The primary energy consumption decreased by 14%, and 45 thousand new jobs were created as part of those measures.

Since there is more potential in the energy efficiency area, Energy Efficiency 2030 Strategy and the Second National Energy Efficiency Action Plan (2024-2030) were announced and published in January 2024. According to the Plan, Türkiye targets $20.2 billion of energy efficiency investment by 16% and 100 million tons of emission reduction by 2030, and by 2040, Türkiye aims to realize energy savings worth $46 billion.

In the electricity transmission grid, the existing power transmission lines reached 74,441 km by the end of 2023. The breakdown of this grid mainly consists of 400 kV and 154 kV overhead power transmission lines. Türkiye has established electricity interconnection lines with all of its neighbors through 15 interconnections. Electricity trade activities continue through interconnections of Bulgaria, Greece, Georgia, and Syria. In order to improve electricity trade, ensure secure electricity transmission, and maintain the security of energy supply, Türkiye continues to increase its bilateral relations with its neighbors. It actively works on electricity transmission by participating in multilateral organizations. Planning and investments are underway in electricity transmission to meet the requirements and ensure a safe and gradual transition to green energy.

At the end of 2022, MENR declared a long-term Türkiye National Energy Plan covering 2020-2035. In the report's development, basic indicators such as population, economic development, and fuel prices were taken into account to estimate the sectoral activities that make up the energy demands of the industry, residential,

services, agriculture, and transport sectors. The plan also constitutes a base for the net-zero target of Türkiye by 2053 and includes recommendations for the 2035-2053 horizon. Key targets of the study for the period 2020-2035 are as follows;

- an increase in primary energy consumption to 205.3 Mtoe;
- an increase in electricity consumption to 510.5 TWh;
- an increase in the share of electricity in final energy consumption to 24.9%;
- a 35.3% decrease in energy intensity;
- increases in the installed capacity to:
  - 5.1 GW in geothermal and biomass power
  - 7.2 GW in nuclear power;
  - 29.6 GW in wind power (24.6 GW onshore, 5 GW offshore);
  - 35.1 GW in hydroelectric;
  - 52.9 GW in solar power;
  - 189.7 GW in total;
- an increase in the share of renewable energy sources in electricity generation to 54.7%
- an increase in the share of renewable energy sources in installed capacity to 64.7%;
- In order to meet the need for flexibility:
  - an increase in battery capacity to 7.5 GW (2 hours charging time);
  - an increase in electrolyzing capacity to 5.0 GW, and
  - an increase in demand-side response to 1.7 GW is envisaged.

For the period 2035-2053;

- The annual average rate of increase in electricity consumption will rise to 5.2%,
- The share of renewable energy sources in installed capacity will reach 69.1% by 2053,
- The share of intermittent renewable energy sources in electricity generation will rise gradually to 61.4% by 2053,
- The share of renewable energy sources in primary energy consumption will rise by 50% by 2053.

According to the Hydrogen Technologies Strategy and Roadmap of Türkiye, published by MENR, electrolyzer installed capacity will be 2 GW for the year 2030, and this capacity will rise to 5 GW and 70 GW for the years 2035 and 2053, respectively.

On the other hand, Türkiye has made significant investments in the oil and gas sector in recent years to strengthen supply security. Daily entry capacity rose to 455 mcm. The production in the Sakarya gas field is currently 7 mcm/d, and it will reach the maximum phase period in the coming years and increase to 40 mcm/d. Significant steps have been taken in the field of natural gas storage in recent years, and in this context, Silivri Natural Gas Storage Facility, the first underground storage facility of

Türkiye, was commissioned in 2007. Silivri Natural Gas Storage Facility's storage capacity and send-out capacity increased to 4.6 bcm and 75 mcm/d, respectively. The capacity expansion works are ongoing in the Tuz Gölü Storage Facility, and after expansion activities are completed, the total gas storage capacity will reach 12 bcm by 2028.

The Şehit Aybüke Yalçın and Şehit Esma Çevik fields, which are the most significant discoveries ever made in land areas in Türkiye, will make substantial contributions to Türkiye's goal of ending its dependence on crude oil. As of the end of 2024, the production capacity in abovementioned fields has reached 71 thousand barrels per day. When the field development works are completed, it is planned to produce 100 thousand barrels per day.

## VI.B.1 Current Situation

### *VI.B.1.1 Hydrocarbons*

Türkiye aims to establish comprehensive energy relations with OTS members. Türkiye serves as the main route for transferring Azerbaijani hydrocarbons to international markets.

Baku-Tbilisi-Ceyhan Main Export Crude Oil Pipeline (BTC) is one of the leading projects implemented in this context. It is aimed to transport the crude oil produced in the Caspian Region, especially Azerbaijani oil, from Azerbaijan to Ceyhan Marine Terminal through Georgia via a safe, economically and environmentally suitable pipeline system and onwards to world markets from Ceyhan Marine Terminal via tankers. With the BTC pipeline reaching Türkiye through Baku (Azerbaijan) and Tbilisi (Georgia) and operational since 4 June 2006, Turkmen and Kazakh oil are also transported depending on production besides the Azerbaijani oil.

The second important project was the Baku-Tbilisi-Erzurum Natural Gas Pipeline (BTE). BTE aims to supply natural gas produced from the Shah Deniz field in Azerbaijan's southern Caspian Sea region to Türkiye. Gas flow through the BTE pipeline, which is approximately 980 km long and 42" in diameter, started on 4 July 2007.

In order to meet the rising natural gas demand of Türkiye, negotiations were conducted with the Azerbaijan Government and the Shah Deniz Consortium, which has been developing the Shah Deniz field of Azerbaijan. The Intergovernmental Agreement Concerning the Trans Anatolian Natural Gas Pipeline (TANAP) System between Türkiye and Azerbaijan was signed on 26 June 2012. On 12 June 2018, the project's inauguration ceremony was held in Eskişehir/Seyitgazi, and the first gas flow to Türkiye started at the end of June 2018. At the end of 2020, the first gas delivery to Europe was made.

As is known, the Nakhchivan Autonomous Region does not have a direct land connection with Azerbaijan. Türkiye and Azerbaijan have agreed to provide the natural gas the Nakhchivan Region needs through Türkiye. In this context, the groundbreaking ceremony of the Iğdır-Nakhchivan Pipeline was held on 25 September 2023. The line was completed at the end of 2024.

Turkish state-owned hydrocarbon corporation TPAO has operated in Azerbaijan for over 25 years. TPAO has a 5.73% stake in the Azeri-Chirag-Gunashli (ACG) project, 19% in the Shah Deniz Project, 19% in the South Caucasian Project (SCP), and 6.53 % in the BTC project.

TPAO also operates actively in the TRNC's maritime jurisdiction areas. It carries out hydrocarbon exploration activities with its own seismic and drilling ships in the licensed areas.

In addition to these important projects listed above, the shares of OTS members in Türkiye's fossil fuel imports are as follows: Azerbaijan had a 20.3% share in Türkiye's natural gas imports in 2023 with 10.26 bcm imports. Kazakhstan had a share of 11.7% in Türkiye's total oil imports in 2023 with 5.75 million tons. Low amounts were also imported from Turkmenistan, Uzbekistan, and the Kyrgyz Republic.

Although coal is imported from the Kyrgyz Republic and Kazakhstan, it is in low quantities. In 2023, the Kyrgyz Republic's share in total coal imports was 2.1%, and Kazakhstan's share was 1%.

#### *VI.B.1.2 Electricity*

Thanks to its geographical location, Türkiye is working on developing a vision to establish strong ties with the Turkic states in terms of electricity energy. In particular, electricity energy trade between Türkiye and Azerbaijan has been ongoing since 2016 through the Georgian system, and two direct interconnection points through the Nakhchivan Autonomous Republic system have already been completed as of the first quarter of 2024.

Türkiye also provides technical support to the TRNC's electricity sector. Mobile power plants were established in TRNC by the Electricity Generation Corporation, EÜAŞ. In addition, Turkish state-owned electricity companies carry out the necessary rehabilitation for the TRNC electricity production facilities.

### VI.B.2 Future Projects and Suggestions

The OTS Energy Ministers Meeting was held for the first time in 2021 and has been held regularly every year since then. This alone shows the willingness of member countries to cooperate in energy. Member countries have complementary resources

and capabilities in most areas of energy. The positive atmosphere that emerged within the framework of international developments and based on OTS should be evaluated well so that new collaborations can be developed and existing ones can be expanded.

In addition to having one of the most developed natural gas markets in its region, Türkiye is also a reliable route. Türkiye aims to become a natural gas hub. As a "natural bridge" between major energy producers and consumers due to its geopolitical position, Türkiye has a high potential to be an energy hub, especially considering the European Markets. Türkiye wants to be both a reference center in energy prices and a supply center. The country has already started to become a gas supplier, especially for Eastern European countries, including Hungary, which is an OTS observer.

### *VI.B.2.1 Expanding cooperation on oil and gas*

One of the most critical issues, the implementation of which will be an essential step in terms of cooperation between OTS countries, is the transportation of Turkmen gas to Türkiye and Europe. Progress have been made on this issue and flow of Turkmen gas to Türkiye started as of 1 March 2025. A good atmosphere was created on this issue with the constructive approach of the relevant parties. Increasing the amount of Azerbaijani gas and Turkmen gas reaching Türkiye will contribute to the energy policies, welfare, and energy demand security of Azerbaijan and Turkmenistan while also contributing to Türkiye's supply security and goals of becoming a natural gas hub. Including Kazakhstan gas in this route will further strengthen the cooperation between OTS countries.

Global and regional developments in the energy sector in recent years have revealed the importance of the TANAP Project. Gas flow from the TANAP is increasing year by year. The TANAP project is suitable for transporting additional gas resources from Azerbaijan and other countries.

Türkiye will continue to be critical in transporting Caspian oil to international markets. In addition to Azerbaijani oil, which is the primary source, it will benefit all parties to transport Kazakh and Turkmen oil at increasing rates through this safe route.

Public and private companies of member countries should be encouraged to participate in oil and natural gas projects, and mutual investments and cooperation should be increased.

### *VI.B.2.2 Cooperation opportunities on electricity and renewable energy*

As mentioned above, Türkiye has two direct interconnections through the Nakhchivan Autonomous Republic, and commercial activity is foreseen to start soon.

At the same time, in line with the medium- and long-term targets, studies are underway to transmit green energy, especially in Azerbaijan at higher capacities, to Türkiye and Continental Europe via Türkiye.

In the context of Türkiye's physical electricity transmission and interconnection with the Turkic States, it is considered essential to establish an infrastructure by developing cooperation with intermediate countries. In this context, through the corridor, direct interconnection between Azerbaijan and Türkiye via the Nakhchivan Autonomous Republic is possible. The connection of this corridor with Azerbaijan and Turkmenistan via the Caspian Sea is an essential area of cooperation that needs to be worked on in the long term. In this way, a vision for the infrastructure of the electricity interconnection of the Turkic states, including Türkiye, will be created. Türkiye has an existing interconnection line with Iran. It is on the agenda to start electricity trade activities over this line in the near future. In this context, it is also recommended to be regarded as an intermediate country option for electricity trade between Turkic states. In the past, an electricity-energy trade activity was realized from Turkmenistan to Türkiye through the Iranian line.

The second most important area of cooperation is the optimum utilization of the renewable energy potential in the Turkic states, the planning of investments, and the realization of experience sharing within the framework of the Turkish model. Türkiye has a high level of experience both in this field and in the rules applied to the electricity transmission grid, and sharing this experience with the Turkic states will constitute essential building blocks in the goal of energy integration among the Turkic states.

It has been identified that there are some difficulties and differences in electricity transmission: geographical characteristics of the countries, their proximity-distance to each other, different electricity transmission grids, differences in the rules applied, lack of complete harmonization at the point of formation of electricity markets, regulation studies, etc. There are many difficulties, and it is considered essential for the Turkic states to cooperate closer at the point of harmonization studies at an optimum level in these matters. The geographical proximity of Uzbekistan, Kazakhstan, and the Kyrgyz Republic and the fact that they are bordering countries, the geographical proximity of Azerbaijan and Türkiye and their active participation in close cooperation in the field of electricity transmission, and Türkiye's close cooperation with Continental Europe for a long time show that the Turkic states have significant advantages in strengthening energy connections.

### VI.B.3 Conclusion

The energy sector is one of the most critical areas that has the potential to deepen relations and make a positive contribution to relations among the OTS members. Türkiye has permanently attached high importance to ties with the OTS member

countries. It has always supported the development of energy cooperation, but the desired level has not been reached. The exception to this is the comprehensive energy cooperation developed between Türkiye and Azerbaijan, from which both parties benefit greatly. Expanding this comprehensive cooperation between Türkiye and Azerbaijan to other countries will be in the interest of all parties and will improve connectivity between the OTS countries.

As a result, it is recommended that strong ties among the Turkic states in the energy field be established through working groups that can be established under two main headings.

1. Electricity and energy efficiency

a) Harmonization in the electricity market
b) Knowledge and experience sharing in the field of renewable energy and energy efficiency
c) Encouraging public and private companies in renewable energy investments
d) Electricity transmission system operation (technical and human resource support)
e) Integration of electricity transmission systems (scenario and planning)
f) Establishment of infrastructure for electricity energy trade (legal, financial and technical aspects)
g) Knowledge and experience sharing in the field of nuclear energy.

2. Hydrocarbons

a) Partnership in oil and gas fields
b) Oil and gas transportation
c) Knowledge and experience sharing in gas distribution
d) Oil and gas trade

Establishing the OTS Energy Ministers mechanism has created a basis for improving cooperation. Recent global and regional developments also push OTS countries to strengthen cooperation. Türkiye is ready to transfer its developed energy market and renewable energy experiences to OTS countries. Due to its location in the region, it is on its way to becoming an energy trade center where resources are collected and distributed. The development of energy cooperation with OTS countries and Türkiye's goals of becoming an energy hub will function as mutually supportive.

CHAPTER

# VII

# Fostering Integration: Uzbekistan's Strategy for Transport and Energy Connectivity with Turkic States

"In the context of escalating geopolitical conflicts, global economic crises, and the adverse effects of climate change, it is crucial for our countries to establish common approaches and coordinate efforts to address the most pressing issues."

*Shavkat Mirziyoyev, President of the Republic of Uzbekistan, in his speech at the meeting of the Heads of State of the Organization of Turkic States.*

## VII.A Introduction

Uzbekistan is strategically positioned in Central Asia, bordering five countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Afghanistan. As the largest country in Central Asia by population, it plays a significant role in the region's economy and transport processes.

Uzbekistan's transport and energy infrastructure is a crucial link among the states in the region. The country has developed railways, highways, gas pipelines, and power networks that connect with neighboring states. This development makes Uzbekistan a critical transit hub for transporting goods and energy resources.

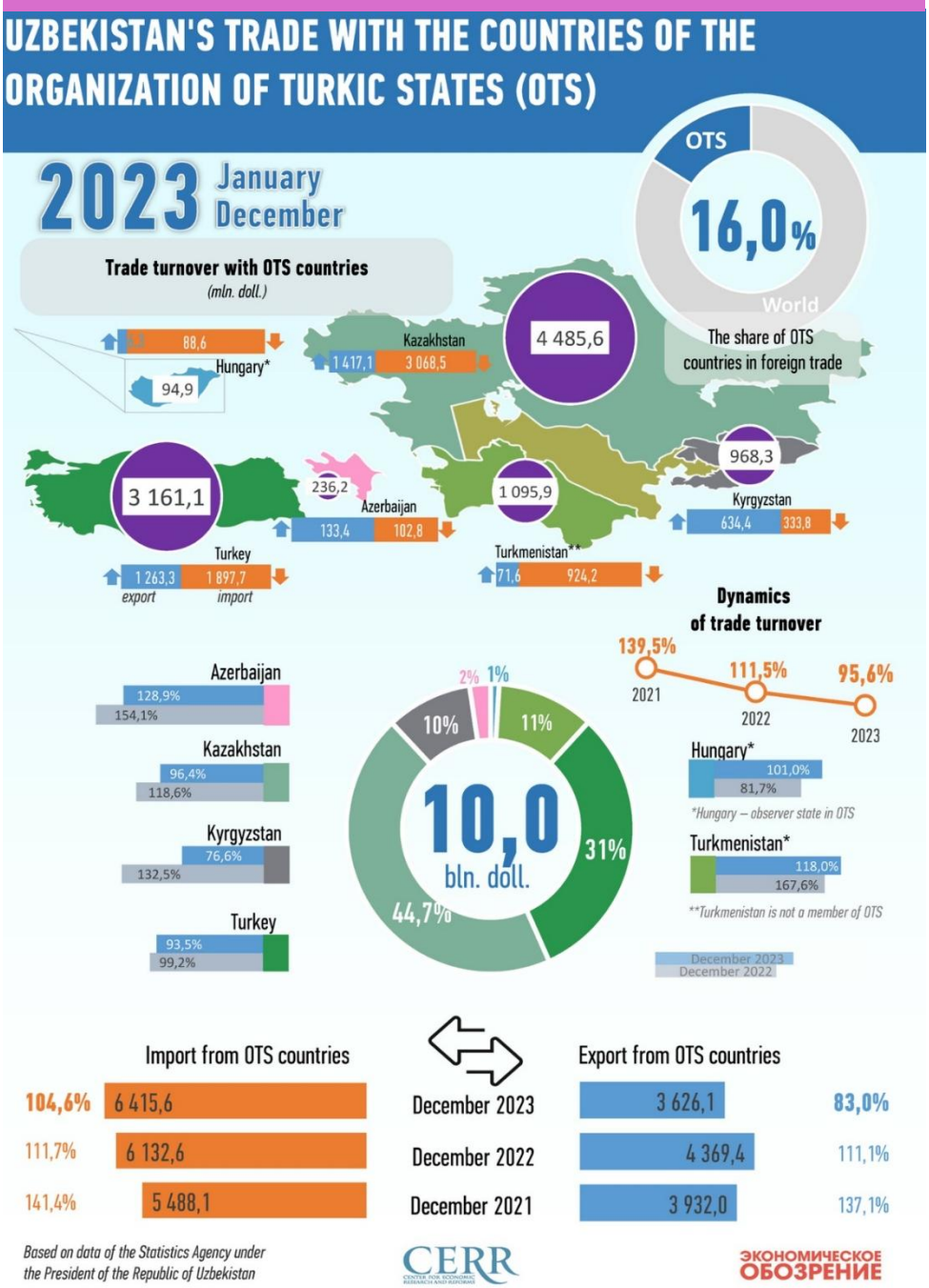
Uzbekistan is an essential link in the TRACECA transport corridor connecting Europe, the Caucasus, and Central Asia, as well as in the North-South corridor connecting Northern Europe, Russia, and Iran through Central Asia. Additionally, Uzbekistan is integral to China's "Belt and Road" initiative, encompassing land and sea routes between China and Europe. It participates in several transport corridors of the Central Asia Regional Economic Cooperation (CAREC) that pass through its territory. Uzbekistan's involvement in these international transport projects allows it to leverage its advantageous geographical location and expand trade and economic relations with other regions.

By the end of 2023, Uzbekistan's foreign trade turnover with the member states of the Organization of Turkic States (OTS) reached $10 billion, with exports amounting to $3.6 billion and imports to $6.4 billion, reflecting a growth of 4.6%. In 2023, OTS countries accounted for 16% of Uzbekistan's total foreign trade turnover (Infographics VII.1).

In the context of member states and observers of the OTS, Uzbekistan's foreign trade figures for 2023 are as follows:

- Trade with Kazakhstan amounted to $4.5 billion, with exports of $1.4 billion and imports of $3.1 billion.

**Infographics VII.1**




Trade with Türkiye amounted to $3.2 billion, with exports of $1.3 billion an imports of $1.9 billion.

- Trade with Kyrgyzstan amounted to $968.3 million, with exports of $634.4 million and imports of $333.8 million.

- Trade with Turkmenistan (observer) amounted to $1.1 billion (+18.0%), with exports of $171.6 million and imports of $924.2 million.

- Trade with Azerbaijan amounted to $236.2 million (+28.9%), with exports of $133.4 million and imports of $102.8 million.

- Trade with Hungary (observer) amounted to $94.9 million (+1.0%), with exports of $6.3 million and imports of $88.6 million.

Uzbekistan primarily exports finished products to the OTS markets, including textiles, electrical equipment, automotive products, fruits and vegetables, and non-ferrous metals.

At the same time, Uzbekistan imports essential products for industrial enterprises from OTS countries, including rolled metal, aluminum, various mechanical devices, construction materials, petroleum products, most of its grain, and other food products.

According to the results of 2023, the largest share of Uzbekistan's trade with OTS countries was with Kazakhstan (44.7%), followed by Türkiye (31%), Kyrgyzstan (10%), and Turkmenistan (11%).

In the first quarter of 2024, mutual trade with OTS member states amounted to $2.1 billion, a decrease of 16.9% or $419.9 million compared to the same period in 2023. Specifically, export turnover was $728.3 million, a decrease of 18.2% or $161.5 million compared to 2023, and import turnover was $1.3 billion, a decrease of 16.2% or $258.4 million compared to 2023.

Türkiye and the Central Asian states are among Uzbekistan's main trade and economic partners, with a free trade regime in place with Azerbaijan and the regional states and a most-favored-nation regime with Türkiye and Hungary.

In recent years, Uzbekistan has been actively developing cooperation with Turkic states in the transport and energy sectors. Joint projects have been implemented to construct new rail and road routes, modernize existing infrastructure, and integrate energy systems.

The further development of transport and energy connections between Uzbekistan and the Turkic states will strengthen the region's economic integration and enhance its geopolitical significance.

## VII.B Significance of transport and energy sectors in a country's economy

The transport and energy sectors are critical components of Uzbekistan's economy, significantly contributing to the country's GDP and overall prosperity. These sectors form the foundation of economic activity and play a crucial role in the country's development and integration into Central Asia and the Turkic regions.

### VII.B.1 Transport sector

Developing a stable and efficient transport sector is key for Uzbekistan to achieve high economic growth rates, maintain national integrity and security, enhance citizens' well-being, and ensure seamless integration into the global economy.

Uzbekistan is consistently implementing comprehensive measures to modernize and expand its national transport infrastructure at both domestic and regional levels, placing strategic importance on developing the transport and communication sector. Moreover, the country is actively working on integrating its transport systems into global international transport corridors and supply chains.

To regulate relations in the transport sector, the Law of the Republic of Uzbekistan "On Transport" was adopted in August 2021. According to the law, automobile, air, rail, water, electric transport, subway, and transport infrastructure facilities constitute a unified transport system of Uzbekistan. The fundamental principles of transport activities defined by the law include legality, safety, environmental cleanliness, accessibility of transport services, openness, and transparency.

Additionally, the law outlines the main directions of state policy in the transport sector, including:

- Developing and implementing state programs and other initiatives in the transport sector;
- Advancing the transport system as a strategic sector of the national economy;
- Increasing the competitiveness, accessibility, efficiency, quality, safety, and environmental cleanliness of transport services;
- Improving management in the transport sector and ensuring the integrated operation of various transport modes, as well as implementing an effective tariff policy;
- Introducing advanced innovative and information-communication technologies;
- Developing and enhancing the system for training, retraining, and improving the qualifications of personnel;
- Fostering international cooperation and integrating the transport complex into the international transport system.

The Ministry of Transport of the Republic of Uzbekistan has been designated as the state authority with special powers in the field. It is tasked with developing state transport policy aimed at integrating all modes of transport into a single network and advancing them using new efficient transport and logistics systems.

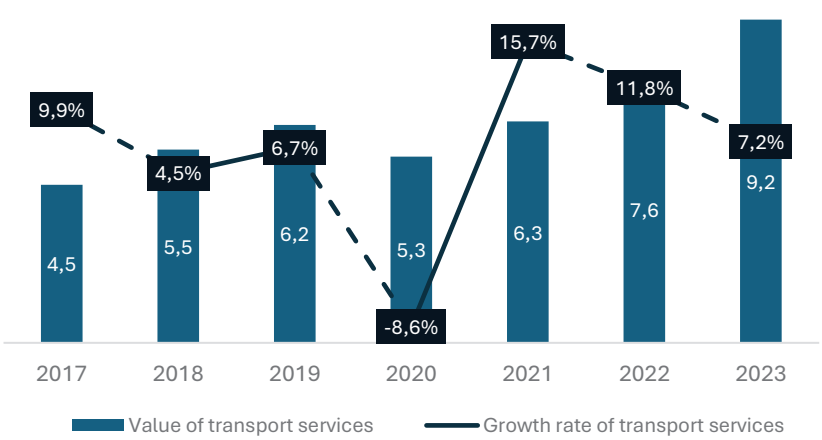
Recent reforms in the sector are reflected in international rankings. Specifically, in the World Bank's 2023 Logistics Performance Index (LPI), Uzbekistan ranked 88th out of 139 countries, improving by 11 positions compared to the 2018 report. Moreover, Uzbekistan has matched the Russian Federation (which had a 24-position difference in 2018) and reduced the gap with Kazakhstan from 28 positions to 9.

Uzbekistan's results in the index's components are as follows: Efficiency of Customs and Border Management - 2.6 points (74th place), Quality of Trade and Transport Infrastructure - 2.4 points (89th place), Ease of Arranging International Shipments at Competitive Prices - 2.6 points (91st place), Quality and Competence of Logistics Services - 2.6 points (92nd place), Tracking and Tracing of Shipments - 2.4 points (105th place), and Timeliness of Shipments - 2.8 points (101st place).

Notably, Uzbekistan was listed among the 13 best-performing lower-middle-income countries in the LPI index, alongside coastal countries like India, Indonesia, the Philippines, Egypt, Vietnam, Sri Lanka, and El Salvador.

In 2023, the transport sector's share of Uzbekistan's GDP was 5.3%, and its share of the total services sector was 22.6%. The sector's gross value added increased by 8% compared to 2022, with an average annual growth of 6.5% over the past seven years (2017-2023). Transport services worth $9.2 billion were provided in the last year, an increase of 7.2% compared to 2022 (Figure VII.1).

Figure VII.1: Dynamics of transport services
*(Billion USD and percent)*



As of 1 January 2023, 20,666 enterprises and organizations operated in the transport and storage services sector, representing 3.5% of all enterprises in the country. Specifically, 14,686 operated in land and pipeline transport, 5,032 in warehousing and auxiliary transport activities, 833 in postal and courier activities, 105 in air transport, and 10 in water transport.

From 2017 to 2023, the volume of transport services increased by 1.6 times. Specifically, the volume of goods transported increased by 28.5%, freight turnover by 18.8%, the number of passengers by 16.6%, and passenger turnover by 21.8%.

Automobile transport services dominate the total volume of transport services. In 2023, 46.6% of all transport services were provided by automobile transport, which saw a 7.2% increase in volume to $4.3 billion.

The transport sector also plays a significant role in employment. In 2022, 4.2% of the economically active population, or 633.1 thousand people, were employed in transport and storage services. This includes 139.9 thousand in land and pipeline transport, 1.8 thousand in air transport, 28.8 thousand in warehousing and auxiliary transport activities, and 9.6 thousand in postal and courier activities.

Transport is crucial for creating convenient living conditions and improving quality of life. Modern and convenient public transport is key to ensuring the population's well-being. Recognizing this, Uzbekistan has recently focused on improving the public transport system.

Several presidential decrees and resolutions have been adopted in Tashkent to meet the population's transport needs and prioritize public transport on the streets. Notably, the 2022 resolution "On Additional Measures for the Further Development of the Public Transport System in Tashkent City" was issued.

As a result, the number of buses in the capital's public transport doubled to 1,959 in the last two years, increasing the average capacity of the fleet by 74% (155 thousand passengers). The length of metro lines increased 1.9 times to 68.2 kilometers.

Additionally, implemented measures resulted in:

- By 2-3 times reduction in bus intervals to 8-10 minutes (previously 18-20 minutes);
- By 1.7 times increase in daily passenger transport volume to 1 million people (previously 650 thousand daily passengers);
- A reduction in the travel time required for residents to reach the city center from 45 minutes to 30 minutes (over 900 thousand people enter the capital by public transport daily);

- An increase in the average speed of public transport to 21 km/h from 18 km/h by reducing the average route distance from 18 km to 12 km and the total route length from 2,666 km to 2,039 km.

Furthermore, in 2023, the presidential resolution "On Measures for Reforming the Public Transport System" was adopted, envisioning plans and target programs for improving the public transport system and infrastructure in Nukus city and regional centers.

The Ministry of Transport developed a project of "Concept for the Development of the Transport System of the Republic of Uzbekistan until 2030." The main goal of this document is to form a unified transport system, increase the sector's competitiveness, and enhance the efficiency of using transport infrastructure to fully meet the needs of the country's economy, population, and businesses.

According to this strategy, the following targets are planned to be achieved by 2030:

- Increasing freight transport volume by 1.7 times and passenger transport volume by 1.6 times;
- Reaching an annual passenger turnover of 231 passenger-km per person in road transport and 0.12 passenger-km in air transport;
- Uzbekistan's position in the Logistics Performance Index was raised to at least 55th place.

### VII.B.2 Energy sector

Ensuring energy security is one of the key factors for achieving sustainable economic growth. An effective energy policy lays the groundwork for enhancing the competitiveness of the national economy. Accordingly, in recent years, several measures have been undertaken in the energy sector, including structural changes, modernization, and diversification.

In particular, in 2019, the Ministry of Energy was established by a presidential decree. This ministry is tasked with regulating the energy sector, implementing production-sharing agreements, monitoring their execution, attracting private capital to the extraction and production of energy resources, creating a competitive business environment, increasing and diversifying energy production, improving tariff policy, and implementing the World Bank's proposals for optimizing production processes.

The Law "On Electric Energy" dated 30 September 2009, and the Presidential Decree "On the Strategy for Further Development and Reform of the Electric Power Sector in the Republic of Uzbekistan" dated 27 March 2019, as well as international agreements, set the following goals and tasks:

- Establishing procedures and regulations for importing and exporting electricity;
- Creating a legal framework for developing industry, ensuring economic growth, improving the well-being of the population, and creating a reliable, safe, sustainable, and affordable electricity supply system in Uzbekistan;
- Protecting the interests of consumers, especially vulnerable groups, in terms of prices, continuity of supply, and service quality;
- Facilitating the emergence, opening, and development of an efficient, transparent, undifferentiated, and competitive electricity market to form a liquid market without significant barriers to electricity sales;
- Defining the rights, obligations, and responsibilities of electric power enterprises and providing a legal basis for their interactions with each other and state authorities;
- Setting rules for the social service obligations of electric power enterprises;
- Establishing procedures for the division and reorganization of electric power enterprises to ensure transparent and undifferentiated operations in the electric power sector;
- Encouraging and supporting the production of electricity from renewable energy sources.

These measures aim to attract private investment to the sector, thus ensuring the efficient operation of the electric power sector, defining the rights, obligations, and responsibilities of electric power enterprises, and promoting electricity production from renewable energy sources.

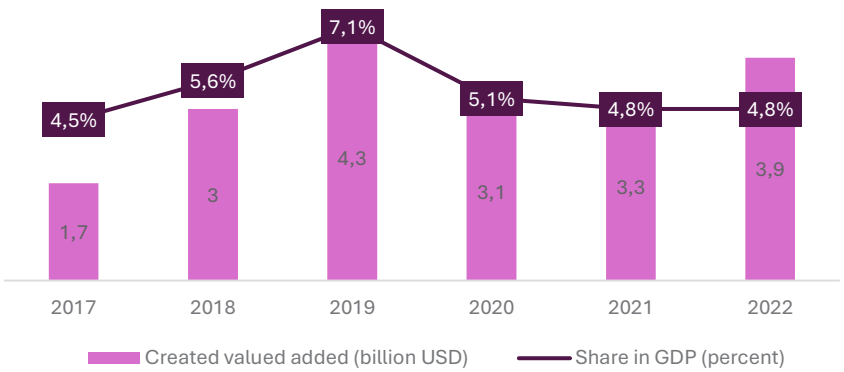
At the initiative of the President of Uzbekistan, a reorganization of the "Uzbekenergo" JSC was carried out to reform the energy sector. This led to the creation of three joint-stock companies: "Thermal Power Stations," "Uzbek National Electric Networks," and "Regional Electric Networks." This reorganization aimed to transition to modern methods of organizing electricity production, transmission, distribution, and sales.

In May 2019, adopting the Laws "On the Use of Renewable Energy Sources" and "On Public-Private Partnership" provided a legal foundation for accelerating the implementation of projects in the field of renewable energy sources in Uzbekistan's electric power sector.

The energy sector is one of the leading branches of Uzbekistan's economy, providing a significant share of the country's GDP. Specifically, in 2022, the energy sector accounted for approximately 4.8% of Uzbekistan's GDP (Figure VII.2).

As of 2022, 0.5% of the economically active population, or 73.5 thousand people, were employed in the supply of electricity, gas, steam, and air conditioning. In particular, 26 thousand people were employed in oil and gas extraction, and 6.7 thousand in coal and lignite extraction in legal entities across the country.

Figure VII.2: Dynamics of the share of energy sector in GDP
*(Billion USD and percent)*




Uzbekistan's fuel and energy complex is based on extracted fuel resources, including natural gas, oil, and coal. In 2023, the country extracted 46.7 billion cubic meters of gas, 1.2 million tons of gas condensate, and 778.3 thousand tons of oil. Additionally, fuel resources worth $850 million were exported.

At the end of the last year, Uzbekistan had 296 oil and gas fields with proven reserves of 1.85 trillion cubic meters of gas and 150.3 million tons of liquid hydrocarbons, including gas condensate and oil. These reserves are forecasted to last over 34 years at current extraction rates.

Uzbekistan's fuel-energy complex provides a significant portion of the primary energy resources needed for the operation of economic sectors. In 2022, the share of the fuel-energy sector in the country's GDP was approximately 3%.

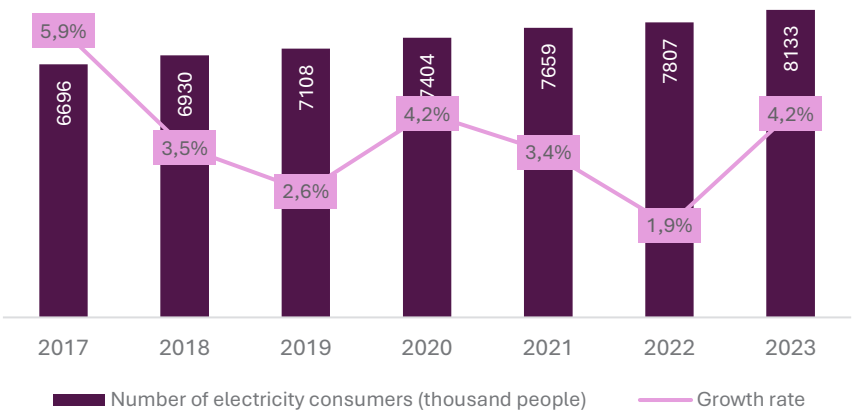
Electric power is an important component of Uzbekistan's energy sector. The country's electricity production is mainly based on thermal power plants operating on natural gas and coal. According to the Ministry of Energy, as of 1 May 2024, the installed capacity of the country's existing power plants was 21,159 MW.

In 2023, the country's total volume of electricity production increased by 4.9% compared to the previous year, reaching 78.1 billion kWh. By generation source, 88.1% of the total electricity produced came from thermal power plants, 8.8% from hydroelectric plants, 0.9% from renewable energy sources, and 2.3% from other methods.

Last year, the demand for electricity in the country was 84.6 billion kWh (an increase of 7% compared to 2022), with nearly 93% of this demand met by domestic capacities and the rest covered by imports from Turkmenistan, Tajikistan, and Kyrgyzstan.

From 2017 to 2023, the country's electricity demand increased by approximately 1.4 times, and the number of consumers increased by 1.2 times. During this period, the electricity consumption by the economy and the population nearly increased by 1.4 times, reaching 66.1 billion kWh (Figure VII.3).

Figure VII.3: Change in the number of electricity consumers
*(Thousand people and percent)*




In recent years, a trend of decreasing electricity exports has been observed. In 2023, the export volume was 2 billion kWh, a decrease of 15% compared to 2018. Last year, 1.8 billion kWh of electricity was exported to Afghanistan and 145 million kWh to Kyrgyzstan.

In addition to traditional energy sources, renewable energy sources (RES) are rapidly developing in Uzbekistan. The main types of RES in the country are hydropower, solar, and wind energy. In 2023, the share of RES in the installed capacity of the country's power plants was approximately 23%. The goal is to increase the share of RES in total electricity production to 40% by 2030.

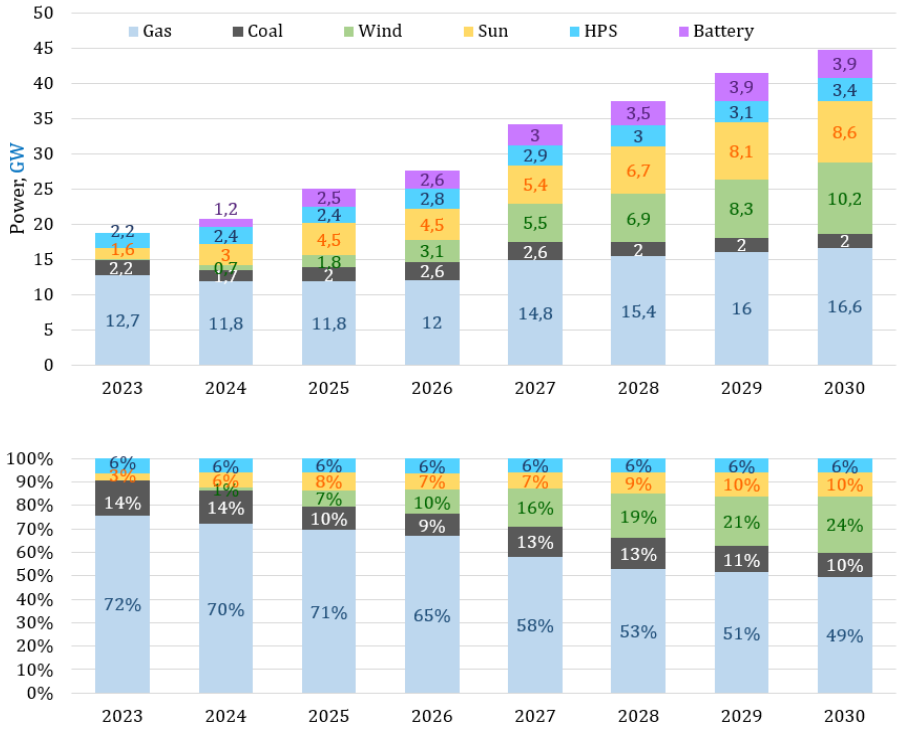
In 2020, the "Concept for Ensuring Electricity Supply in the Republic of Uzbekistan for 2020-2030" was developed by the Ministry of Energy and other relevant organizations and adopted by the government. According to this concept, by 2030 (Infographics VII.2):

- The installed capacity of existing power plants is planned to reach 44.7 GW, with annual electricity production reaching 120.8 billion kWh;
- Reducing natural gas consumption from 16.5 billion cubic meters to 12.1 billion cubic meters;
- Reducing losses in electricity transmission to 2.4% and in distribution to 6.5%.
- Implementing these plans will ensure energy security in Uzbekistan by 2030, considering forecasts of nearly doubling energy consumption in the country.

## Infographics VII.2

CERR CENTER FOR ECONOMIC RESEARCH AND REFORMS

### STRATEGY FOR THE DEVELOPMENT OF THE ELECTRIC POWER SECTOR OF THE REPUBLIC OF UZBEKISTAN UNTIL 2030




**Planned indicators of the electric power industry of the Republic of Uzbekistan in 2030**

| | | |
|---|---|---|
| **WPP** | **PV** | **Battery** |
| **10,2** GW | **8,6** GW | **7,8** GW.h |
| **TPP** | **Grids** | **Investments** |
| **1,0** GW | **5000** km | **21,7** billion dollars. |
| **Emissions CO2** | **Natural gas** | **Energy mix (renewable energy share)** |
| ↓ **50** % | ↓ **15** % | **40** % |

## VII.C Existing cooperation with Turkic countries in the field of transport and energy

Transport and energy communications between the Turkic countries are essential for developing economic relations and regional integration. These relations strengthen trade, investment and people-to-people ties, strengthening the sense of unity among Turkic-speaking countries.

### VII.C.1 Cooperation in the transport sector

Uzbekistan, located in the heart of Central Asia, plays a crucial role in developing transport corridors connecting Turkic countries. Uzbekistan's geographical location enables it to act as a significant transit hub for freight and passenger transportation between various Turkic states.

Throughout 2023, export-import shipments with OTS member states amounted to 15.5 million tons (a decrease of 2% or 0.3 million tons compared to 2022). This included export shipments of 2.6 million tons (a decrease of 28% or 1 million tons compared to 2022) and import shipments of 12.9 million tons (a decrease of 5% or 0.7 million tons compared to 2022).

The distribution of shipments by transport types is as follows:

- Road transport: 4.2 million tons (a decrease of 18% or 0.9 million tons compared to 2022);
- Rail transport: 11.3 million tons (an increase of 6% or 0.6 million tons compared to 2022).

Uzbekistan has signed 23 international agreements, and other documents related to the transport sector with OTS member states. These include 8 agreements and documents in the field of road transport, 7 in rail transport, and 8 in aviation.

The most significant agreements achieved within the framework of OTS in the transport sector are the "Agreement on International Joint Freight Transportation between Member States of the Organization of Turkic States" and the "Transport Connectivity Program," both signed at the 9$^{th}$ OTS Summit on 11 November 2022.

The "Agreement on International Joint Freight Transportation between Member States of the Organization of Turkic States" envisages measures to provide connectivity and transit services on railway lines connecting the countries, including "RO-LA" international container block trains (transporting road transport objects on railway platforms) and "RO-RO" (transporting road vehicles by ship). Additionally, it

includes exchanging preliminary information to expedite customs procedures for trains entering their territories.

The President of the Republic of Uzbekistan, Shavkat Mirziyoyev, called for strengthening transport cooperation among participant countries of the Trans-Caspian International East-West Corridor and invited these countries to join the e-Permit electronic permit system established between Türkiye and Uzbekistan. Currently, efforts are underway to achieve integration in this direction.

This year, an international non-governmental, non-profit organization, the Alliance of Logistics Centers and Freight Forwarders, has been established to develop freight transportation and logistics centers among the OTS member countries and promote mutual cooperation. This center represents a significant step towards improving logistics infrastructure and strengthening economic ties among the OTS member states.

## VII.C.2 Energy Cooperation

Energy cooperation is a key aspect of the collaboration between Uzbekistan and other Turkic states in the region. This cooperation covers a wide range of areas, including mutual energy resource supply and the implementation of joint energy projects.

### *VII.C.2.1 Türkiye-Uzbekistan*

The cooperation between Uzbekistan and Türkiye in the energy sector is vital in developing bilateral relations. In recent years, fuel energy resource trade between the two countries has been increasing. In particular, in 2023, Uzbekistan exported products worth $89.8 million to Türkiye, comprising 113.2 thousand tons of polyethylene and 4.6 thousand tons of aviation kerosene.

During January-April 2024, exports amounted to 40 thousand tons of polyethylene, 0.01 thousand tons of aviation kerosene, and 15.3 thousand tons of pyrolysis distillate, totaling $33 million.

### *VII.C.2.2 Kazakhstan-Uzbekistan*

Energy cooperation with Kazakhstan is carried out on bilateral and multilateral bases. In 2023, there were two bilateral and five trilateral meetings (with Kyrgyzstan, Kazakhstan, and Uzbekistan energy ministers).

Uzbekistan imported $32.8 million of oil in 2023, processed by the Bukhara and Fergana refineries. In January-March 2024, the Bukhara refinery imported $9.2 million of oil.

Oil is delivered to the Bukhara and Fergana refineries via rail from the "Oaziz" or "Saryagach" stations (Kazakhstan) to the "Karavulbozor" and "Ohunboboyev" stations.

Additionally, SANEG and Gazprom Neft (Russia) signed contracts to import up to 1 million tons of oil and transit volumes with Kaztransoil (Kazakhstan). As of 1 April 2024, 24.9 thousand tons of oil had been imported and transited, with 148.7 thousand tons in 2023 and 55.5 thousand tons in January-March 2024 through Kazakhstan.

These volumes are delivered through the Omsk-Pavlodar-Khymkent Chardzow oil pipeline to the Shaghir station in Kazakhstan and then to the Ohunboboev station by rail.

Moreover, agreements have been signed between Uzbekneftegaz and KazTransGas for gas transit, with volumes of 852.5 million cubic meters in 2022, 530.6 million cubic meters in 2023, and 598.6 million cubic meters in January-March 2024. Conversely, Uzbek gas transited through Kazakhstan amounted to 998.3 million cubic meters in 2022, 849.2 million in 2023, and 141.9 million cubic meters in January-March 2024.

### *VII.C.2.3 Kyrgyzstan-Uzbekistan*

Energy cooperation between the two countries mainly consists of trade and exchange of fuel and electricity, effective use of common hydroelectric power stations, and implementation of new joint projects.

In 2022, oil and gas products worth $4 million were exported from Uzbekistan. Exports included polyethylene (0.4 thousand tons), liquefied gas (3.3 thousand tons), jet fuel (0.005 thousand tons), and pyrolysis gasoline (5.2 thousand tons).

In 2023, $2.1 million worth of oil and gas products were exported, including liquefied gas (0.51 thousand tons), pyrolysis gasoline (3.23 thousand tons), and synthetic diesel (1.42 thousand tons).

Oil and gas products worth $0.31 million were exported in January-March 2024. Currently, the electricity supply to the Kyrgyz Republic is carried out based on 3 contracts. Volumes of mutual electricity supply in 2021-2023:

- 650 million kWh of electricity was delivered from Uzbekistan to Kyrgyzstan, including 504.4 million kWh in 2021 and 145.6 million kWh in 2023.
- Respectively, 578.3 million kWh were generated from Kyrgyzstan to Uzbekistan, including 246.2 million kWh in 2021, 250 million kWh in 2022, and 82.05 million kWh in 2023.

### *VII.C.2.4 Turkmenistan - Uzbekistan*

Close cooperation between Uzbekistan and Turkmenistan has been established in the trade and transit of energy resources. In particular, in November 2022, an agreement was signed on the transit of electricity from Turkmenistan to the Kyrgyz Republic in the amount of 1.6 billion kWh through the networks of "National Electric Grids of Uzbekistan" JSC.

Electricity is received at the Karakul substation and transmitted to the eastern regions of the republic through 220 kV and 110 kV power transmission lines.

Electricity was imported in the amount of 813.4 million kWh in 2022, 1771 million kWh in 2023, and 380.5 million kWh in January-March 2024. Also, an agreement was signed on providing services for the transit of 1,700 million kWh of electricity from Turkmenistan to Kyrgyzstan in November 2024.

### *VII.C.2.5 Azerbaijan – Uzbekistan*

Aiming to bolster regional cooperation in sustainable energy initiatives, Azerbaijan, Kazakhstan, and Uzbekistan are poised to finalize an intergovernmental agreement on strategic partnership.

The proposed agreement outlines a comprehensive framework for joint efforts in the energy sector, focusing prominently on clean and renewable energy sources (RES) alongside advancements in energy efficiency.

Key provisions include identifying and implementing projects for generating, transporting, and trading environmentally friendly hydrogen and ammonia. Moreover, the agreement underscores intentions to facilitate the transmission and distribution of electricity derived from renewable sources.

Central to the agreement is the strategic aim of supplying clean energy to Europe and beyond, with a mutual commitment to adopting cutting-edge technologies and enhancing energy conservation practices. To facilitate implementation and oversight, the agreement will establish a Steering Committee and a working group tasked with developing annual cooperation plans.

The forthcoming agreement builds upon a Memorandum of Cooperation signed on 1 May 2024, during the Tashkent International Investment Forum. This initial step laid the groundwork for exploring the interconnection of energy systems across Azerbaijan, Kazakhstan, and Uzbekistan.

Proposed infrastructure developments include the potential laying of a high-voltage cable along the Caspian Sea bed and through other territories, facilitating the export

of green energy to European markets. The agreement is set to be concluded indefinitely, marking a step towards sustainable energy integration and regional economic cooperation among the three nations.

Besides that, the heads of the energy ministries of Kazakhstan, Azerbaijan, and Uzbekistan signed a memorandum of cooperation at the Tashkent International Investment Forum on May 2024. The memorandum aims to pave the way for the interconnection of the energy systems of these nations.

Image VII.1: Memorandum of cooperation solidifies energy collaboration


The focal point of this collaboration lies in exploring the feasibility of laying a high-voltage cable along the bottom of the Caspian Sea, alongside ventures into other territories. This initiative promises to facilitate optimal trade in green energy across the regions.

A draft technical specification for deploying a deep-sea cable under the Caspian Sea has already been outlined. This technical groundwork lays the foundation for the forthcoming stages of the project.

Additionally, the project aims to sell green energy to EU nations, opening up a significant market for sustainable energy sources. The energy landscape between Kazakhstan, Azerbaijan, and Uzbekistan is shaped by their abundant natural resources, notably oil, natural gas, and renewable energy potential. Kazakhstan and Azerbaijan stand out as significant oil-producing nations in the Caspian region, boasting vast oil and gas reserves. Kazakhstan's Tengiz and Kashagan fields and Azerbaijan's Azeri-Chirag-Guneshli (ACG) complex rank among the largest oil fields

globally. Meanwhile, Uzbekistan holds substantial natural gas reserves, predominantly found in the Bukhara-Khiva and Amu Darya basins.

Regarding infrastructure, pipeline networks are pivotal in facilitating energy cooperation among these countries. Key pipelines include the Baku-Tbilisi-Ceyhan (BTC) pipeline, which transports Azerbaijani oil to the Mediterranean, and the Baku-Tbilisi-Erzurum (BTE) pipeline, delivering gas from Azerbaijan to Türkiye. Kazakhstan has invested in pipelines like the Caspian Pipeline Consortium (CPC) pipeline, linking its oil fields to the Black Sea, and the Kazakhstan-China oil pipeline. Uzbekistan, too, has pipelines connecting its gas fields to Russia, China, and other Central Asian nations.

Energy cooperation takes various forms, encompassing joint ventures, transit agreements, and infrastructure projects. Kazakhstan and Azerbaijan collaborate within the Caspian Sea region to develop energy resources and establish transportation routes. Uzbekistan seeks to diversify its energy partnerships through discussions with neighboring countries and participation in regional initiatives. Additionally, renewable energy sources such as wind and solar power are gaining traction in the region. Kazakhstan, Azerbaijan, and Uzbekistan possess significant potential for renewable energy development, with Kazakhstan notably active in promoting renewable projects to diversify its energy mix and reduce reliance on fossil fuels.

## VII.D Cross-border energy and transport projects

### VII.D.1 Practical measures to expand cooperation in the field of transport

It is known that India, Pakistan, and China have long been interested in accessing land transport arteries. Currently, 97 percent of trade between India, Pakistan, EU countries, and China is carried out by sea.

This, in turn, creates the necessary conditions for considering the Turkic countries as an attractive and convenient transit point, which contributes to a significant reduction of route distances.

The signing of the Agreement on the “China-Kyrgyzstan-Uzbekistan” railway project, planned to be built as part of China’s “One Place, One Road” initiative, is one of the bright examples of successful work in this regard.

It should be noted that China’s cargo transportation with countries such as Türkiye, Iran, Turkmenistan, Afghanistan, and Pakistan amounted to nearly 50 million tons, and the bulk of cargo transportation was carried out by sea transport.

Based on the current geopolitical situation, a part of the cargo of approximately 10 million tons can be attracted to the "China-Kyrgyzstan-Uzbekistan" route, and if cargo transportation along the route is organized sustainably, the volume of cargo transportation can increase significantly until 2040.

In addition, permanent cooperation has been established with the railway administrations of Kyrgyzstan, Turkmenistan, and Türkiye on the development of the "Asia-Pacific region - China - Kyrgyzstan - Uzbekistan - Turkmenistan - Azerbaijan - Georgia - Türkiye" (CASCA+) transport corridor. It is planned to establish a joint venture between the railway administrations of Kazakhstan and Uzbekistan.

Since 2012, in order to create favorable conditions in the above-mentioned directions, in particular, to transfer and simplify the cargo registration process to an electronic system to create uniform cargo transportation conditions, systematic, step-by-step work has been carried out in Uzbekistan since 2012 on the digitization of the International Road Transport (TIR) system.

This led Uzbekistan to become the first country in Central Asia to introduce TIR-EPD, Real-Time SafeTIR, and AskTIRweb technologies and to be one of the first in the world to start testing electronic guarantee technology within the TIR system.

On 17 November 2020, the first road transport using electronic guarantees (e-TIR) was carried out between Uzbekistan and Kazakhstan. Later, similar shipments were tested between Uzbekistan and Tajikistan, and in March 2022 with the Kyrgyz Republic.

In December 2022, the first transport in the world using the e-TIR system was carried out in full compliance with Annex 11 of the Convention on IRT between Uzbekistan and Azerbaijan. Thus, Uzbekistan has confirmed its full readiness to fully and quickly introduce advanced electronic IRT tools and move to regular work based on them.

Following the agreements reached within the framework of the OTS Informal Summit held in March 2021, the Ministry of Transport of the Republic of Uzbekistan and the Ministry of Transport and Infrastructure of Türkiye started work on the launch of the project of electronic exchange of permit forms (e-Permit).

## VII.D.2 Projects in the field of energy

### *VII.D.2.1 Türkiye*

Cooperation has been ongoing with the Republic of Türkiye in the energy field within the framework of several projects (Infographics VII.3). In particular, three power plants with a capacity of 740 MW have been commissioned in Uzbekistan by Türkiye's "Aksa Energy" company, and construction work is underway for one power plant with

a capacity of 400 MW. The total value of the projects amounts to $700 million. Specifically:

- A thermal power plant with a 240 MW capacity valued at $150 million was commissioned in January 2022 in the Kibray district of Tashkent region and began supplying power to the unified electricity network.
- A thermal power plant with a 230 MW capacity valued at $150 million was commissioned in March 2022 in the Kibray district of Tashkent region and began supplying power to the unified electricity network.
- A thermal power plant with a capacity of 270 MW, valued at $150 million, was commissioned in January 2022 in the Bukhara district of Bukhara region and began supplying power to the unified electricity network.
- A project to build gas-fired thermal power plants with a capacity of 400 MW is being implemented in the Nishon district of the Kashkadarya region. The project cost is $250 million, and the plant's initial capacity is planned to be connected to the grid by the end of 2024. Construction work was launched on May 2-3 of this year during the "Third Tashkent International Investment" forum.

Another Turkish company, "Jengiz Energy," has launched two power plants with a capacity of 460 MW and is working on constructing one power plant with a capacity of 550 MW. The total value of the projects is $740 million. In particular:

- A thermal power plant with a capacity of 240 MW, worth $150 million, was commissioned in the Kibray district of Tashkent region in March 2022 and began supplying power to the unified electrical network.
- In the Khavast district of the Syrdarya region, a thermal power plant with a capacity of 220 MW, worth $140 million, had its initial facilities commissioned in October 2022 and reached full capacity in March 2023.
- A project to build a power plant with a capacity of 550 MW, worth $450 million, is being implemented in the Sharof Rashidov district of the Jizzakh region. When the project is fully operational, it will be able to produce 3.5 billion kWh of electricity annually. Construction work is underway, and the project is scheduled to be commissioned in 2026.

The "Odash Energy" company launched a power plant with a capacity of 174 MW, valued at $105 million, in March 2022, which began supplying power to the unified power grid, producing 1.4 billion kWh of electricity annually.

In 2023, the "ILTEKNO" company implemented cogeneration technologies in the Chilonzor district of Tashkent city, valued at €6.2 million, with a capacity of 4.6 MW. Currently, additional cogeneration technologies are being introduced in the Olmazor, Mirzo Ulugbek, Sergeli, Yashnabad, Uchtepa, and Yangihayot districts. By the end of this year, cogeneration technologies will be implemented in the heating centers

located in the Olmazor and Sergeli districts, and it is planned to be introduced in the remaining districts of Tashkent city throughout 2025.

On 2 May of this year, during the "Third Tashkent International Investment" forum, a Memorandum was signed with "TPP" JSC, "ŞAM YAPI A.Ş.", and "AKGUN ENERJI" companies for the modernization of the Angren thermal power plant.

Additionally, negotiations are underway with "TPP" JSC and "Tasyapi Construction" to participate as the main contractor in implementing cogeneration technologies at the Mubarak heating center.

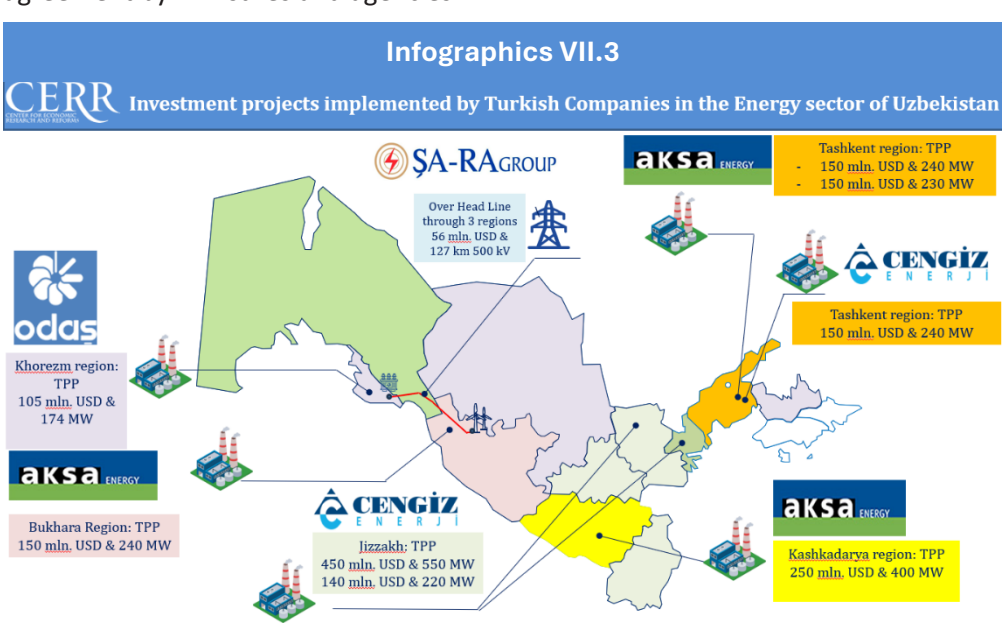
### *VII.D.2.2 Kyrgyzstan*

On 11 March 2021, an agreement was signed for the joint implementation of the investment project "Construction of the Kambarata HPP-1" in the territory of the Kyrgyz Republic.

For the information: The construction of the Kambarata HPP-1, with a capacity of 1900 MW (4x475 MW), allows for producing 5.6 billion kWh of electricity per year. At the same time, the estimated water flow will be 840 m³/s. The estimated cost of the project is $2.9 billion.

On 6 January 2023, in Bishkek, a trilateral "Roadmap" for the implementation of the project was signed with the participation of Kazakhstan and Kyrgyzstan, and a draft intergovernmental agreement was prepared. Currently, the Kyrgyz side plans to hold the next round of negotiations to finalize the approval of the draft intergovernmental agreement by ministries and agencies.

**Infographics VII.3**



# VII.E Suggestions for fostering energy partnerships

## VII.E.1 Energy sector

Strengthening ties in the energy sector between Uzbekistan and the Turkic states is crucial for achieving mutual energy security. Consequently, significant attention has been given in recent years to implementing joint projects and enhancing cooperation.

According to the Ministry of Energy of Uzbekistan, considering the technical capabilities of equipment, networks, and production balance, there is potential to export electricity from Uzbekistan to Kazakhstan during May-September 2024. The energy ministries of both countries are exploring the possibilities of electricity supply. The proposal includes delivering 2.2-2.5 million kWh daily, with an average hourly capacity of 200-250 MW, from 08:00 to 18:00. This will significantly improve Uzbekistan's energy system, considering the production of electricity from renewable energy sources (1,500 MW).

For these purposes, two payment mechanisms are proposed:

- Payments based on a contract between "KEGOC" JSC and "Uzbek National Electric Networks" JSC.
- A barter agreement where Kazakhstan will supply electricity to Uzbekistan during January-March 2025.

Additionally, a project to construct a 500 kV power transmission line connecting the Dashoguz substation (Turkmenistan), Sarimay substation (Uzbekistan), and Beineu substation (Kazakhstan) to facilitate the transit of electricity produced in Turkmenistan through Uzbekistan to Kazakhstan is being considered by the Ministries of Energy of each country.

To implement the project, it is necessary to construct 500 kV power transmission lines with a length of 100 km from Doshkhovuz to Sarimay and 700 km from Sarimai to Beineu. As a result, the possibility of annually transiting 9 billion kWh of electricity to the Republic of Kazakhstan will be created. The proposed project aims to improve electricity supply to the Mangystau, Atyrau, and West Kazakhstan regions.

To connect to the Azerbaijani energy system, on 14 November 2023, in Baku, the economy and energy ministers of Azerbaijan, Kazakhstan, and Uzbekistan held the first trilateral meeting to discuss exporting electricity generated from renewable sources in Kazakhstan and Uzbekistan through the Azerbaijani energy system to Europe (Infographics VII.4).

## Infographics VII.4

CERR CENTER FOR ECONOMIC RESEARCH AND REFORMS

### PROJECT ON INTERSYSTEM CONNECTION OF ENERGY SYSTEMS OF AZERBAIJAN, KAZAKHSTAN AND UZBEKISTAN

ENERGETIKA VAZIRLIGI

### TENDER STAGES

**1** — MEMORANDUM OF COOPERATION
on interconnection of Energy Systems of Azerbaijan, Kazakhstan and Uzbekistan

**2** — MAKING TERMS OF REFERENCE
development of a strategy and master plan for the optimal development and export of renewable energy sources for the period 2025-2040

**3** — CREATION OF A CONSORTIUM
the process of bringing together several companies or organizations to jointly undertake a specific project or achieve a common goal

**3** — TENDER ARRANGING
choosing the best offer from global energy consultants

**4** — SELECTION OF THE TENDER WINNER
According to the terms of reference, the consultant begins work

**5** — LAUNCH OF THE FIRST STAGE OF THE PROJECT
This stage plays a key role in research, allowing us to obtain objective and reliable data for subsequent analysis.

### TASKS

- development of a strategy and master plan for Azerbaijan, Kazakhstan and Uzbekistan for the optimal development and export of renewable energy sources for the period 2025-2040;
- identifying interconnection solutions that can optimize energy exchanges between participating countries and make the best use of trade opportunities with third countries;
- providing technical specifications for the selected internetworking infrastructure;
- determining the economic and technical benefits of the project for each country;


Construction of DC converter substations in the territories of the Republic of Uzbekistan

Construction of a substation – 500 million US dollars
Construction of overhead lines – 110 million US dollars

1 substation with voltage 1150 kV

30-60 billion kWh per year

Networks 1150 kV - 103 km

average cost electricity 4-5 cents

The Ministry of Energy of Kyrgyzstan proposed a joint project to build two hydroelectric power stations with a total capacity of 1,800 MW on the Chatkal River in the Chatkal district of Jalalabad region, Kyrgyzstan and supply the entire generated electricity to Uzbekistan's energy system (technically unfeasible for Kyrgyzstan).

During the state visit of the President of Uzbekistan to Kyrgyzstan (January 26-27, 2023), both sides signed a memorandum of understanding on the construction of the Chatkal HPP.

On 4 February 2023, an on-site inspection of the prospective project area was organized with the participation of the energy ministers of both countries and EDF company representatives (by helicopter). On 16 March 2023, a memorandum of understanding was signed between the energy ministries and EDF company, which includes:

- EDF will develop the project's preliminary feasibility study within six months, according to technical specifications agreed upon with both countries' energy ministries;
- EDF will lead the developer consortium and attract necessary investments for project implementation.

Currently, EDF is developing technical terms, with preliminary data indicating that the potential site for the HPP and flood zone is located in the 5$^{th}$-Aral Reserve, which could complicate financing by international financial institutions.

Following the outcomes of the next trilateral meeting of the energy ministries of Uzbekistan, Kazakhstan, and Kyrgyzstan in Astana in August 2023, an agreement was reached to expedite the approval of an intergovernmental agreement to implement the project based on the Kambarata HPP-1 interconnection station.

Problematic issues for the project implementation:

- The project site in Kyrgyzstan is part of the Western Tien Shan World Heritage Site, protected by UNESCO.
- Arrangements are being made to organize a reactive monitoring mission visit by the World Heritage Centre and the International Union for Conservation of Nature to demonstrate these areas.
- Additionally, constructing the HPP on the project site could lead to flooding of the surrounding reserve areas.

The Ministry of Energy and the Ministry of Ecology, Environmental Protection, and Climate Change of Uzbekistan have agreed on a draft letter to be sent by Kyrgyzstan to UNESCO. The Ministry of Energy of Kyrgyzstan is consulting with UNESCO on this

matter. The parties will commence project survey works depending on the outcomes of delisting these areas from environmental protection zones.

As the country with the most advanced energy infrastructure and the longest coastline in the Black Sea, Türkiye can offer significant contributions to energy transmission projects to Europe.

### VII.E.2 Transport sector

At the recent meeting of the Council of Heads of State of the Organization of Turkic States held in Astana in 2023, the President of Uzbekistan, Shavkat Mirziyoyev, emphasized the importance of developing and diversifying global logistics chains and transport corridors, forming a unified transit network.

Integrating the transport systems of Central Asia into the trans-Eurasian transit corridors will allow partner countries to diversify mutual trade relations and build a comprehensive logistics supply chain. There is a need to develop a unified standard for international electronic transport documents: a single electronic consignment note – "railway–road–sea," as well as unified rules for transportation by rail, road, and water transport, and integration with border control and customs authorities of South Asian countries.

During the 7th OTS Summit held in Baku on October 14-15, 2019, President Mirziyoyev proposed that the relevant institutions and organizations of member states explore the possibilities of using the modern infrastructure of the ports of Aktau, Turkmenbashi, Alat, Samsun, and Mersin, and offered mutual beneficial discounts and privileges for transit and logistics centers and the transport of foreign trade goods among OTS member states.

The 8th OTS Summit on 12 November 2021 was memorable for President Mirziyoyev's initiative to develop a program for ensuring interconnectedness in the OTS transport sector, which will help find practical solutions for developing interregional multimodal corridors.

All Heads of State supported the signing of the "Declaration on the Creation of a Simplified Customs Corridor between the Governments of the Member States of the Organization of Turkic States." Additionally, permanent cooperation has been established with the railway administrations of Kyrgyzstan, Turkmenistan, and Türkiye to develop the "Asia-Pacific Region – China – Kyrgyzstan – Uzbekistan – Turkmenistan – Azerbaijan – Georgia – Türkiye" (CASCA+) transport corridor, and efforts are underway to include other countries in this agreement.

To accelerate the above-mentioned efforts, find quick and effective solutions to emerging problems, and integrate the railways of China, Asia-Pacific countries, and

South and Southeast Asia with those of Central Asia, the Caucasus, and the European Union, the President of Uzbekistan proposed at the 10th OTS Summit in Astana to establish an international railway council with its directorate in Tashkent.

As an independent international body, the council could unite the Eurasian transport community and implement numerous transport-logistics tasks, such as:

- Simplifying the preparation of necessary documents;
- Developing and adopting unified standards for digital transport documents;
- Creating a multiplier effect in diversifying regional transport systems and developing corridors;
- Increasing revenues from transport service exports for countries located along transit corridors.

Additionally, all countries joining the e-TIR and e-Permit systems within the OTS framework will facilitate the transportation process and reduce transport costs. A joint venture between the railway administrations of Kazakhstan and Uzbekistan would increase cargo volumes between the two countries and provide convenient conditions for transporting goods passing through their territories. Moreover, practical measures need to be developed to address the following issues:

- High tariffs for ferry crossings on the Kuruk - Baku (899 euros/1204 euros) and Turkmenbashi - Baku (899 euros/1204 euros) routes, leading to transport costs up to 50% higher than traditional land routes through Türkiye.
- High demand for foreign permit forms for road transport on traditional land routes through Türkiye.
- Additional charges and fees for transport vehicles in Turkmenistan, as well as long visa issuance periods for drivers (up to 30-40 days). Currently, Uzbek road carriers in Turkmenistan spend $725 for bilateral transportation and $350 for transit transportation.

## VII.F Conclusion

The analysis of Uzbekistan's transport and energy relations with Turkic states demonstrates the importance of these sectors in promoting regional integration and economic development. As noted in this report, Uzbekistan's strategic geographical location and significant economic potential make it an important center for improving connections in the Turkic-speaking world. The analysis identified significant achievements and areas that need development and improvement.

The transport and energy sectors are key pillars of Uzbekistan's economy, contributing not only significantly to the country's GDP but also creating numerous jobs and helping to improve the quality of life for the population.

A modern and efficient transport infrastructure allows Uzbekistan to strengthen its regional hub position, which helps develop trade and economic relations with neighboring countries.

In the energy sector, Uzbekistan is actively developing projects for processing fuel and energy resources and the extensive use of renewable energy sources, contributing significantly to energy security and sustainable development.

The current transport and energy connections between Uzbekistan and Turkic states have demonstrated significant achievements, but some issues need to be addressed. Aging infrastructure, bureaucratic obstacles, and insufficient investment in certain sectors prevent full utilization of existing potential.

Analyzing the existing connections allows for identifying weak points and establishing clear directions for resolution. Addressing these issues will allow Uzbekistan and its partners to significantly improve transport and energy connections, which will be an important step towards regional integration.

The important aspects of developing transport and energy relations between Uzbekistan and Turkic states include forming a unified transit network, developing additional multi-route directions, including corridors that pass through regional countries to the markets of China, South Asia, and Europe, digitizing transport services, modernizing the existing energy infrastructure, and expanding the use of alternative energy resources through large-scale projects and agreements.

These projects reduce transit times and costs and ensure energy security, contributing to economic growth and regional cooperation. To further strengthen transport and energy ties between Uzbekistan and Turkic states, the following measures are proposed:

- Infrastructure development: Directing investments towards modernizing and expanding transport infrastructure is of vital importance. Joint efforts in renewing railways, highways, and airports will help create seamless connections and efficient trade routes.
- Simplifying regulations: Harmonizing rules and simplifying customs procedures at borders will reduce bureaucratic barriers and improve business conditions. Standardizing technical requirements could further enhance operational efficiency.
- Energy cooperation: Developing an integrated energy market and strengthening cross-border energy trade can enhance energy security and efficiency. Joint efforts to explore and utilize new energy sources contribute to sustainable development.

In conclusion, Uzbekistan's transport and energy connections with Turkic states are a significant regional economic integration and development factor. Additional efforts are needed to address existing issues and fully realize Uzbekistan's strategic and economic potential.

Uzbekistan and its Turkic partners can create a more integrated and flourishing region by focusing on infrastructure development, harmonizing regulation, engaging the private sector, and strengthening energy cooperation.

CHAPTER

# VIII

## Building Sustainable Transport and Energy Links: Hungary-Europe-Turkic States

## VIII.A Introduction

As the global geopolitical landscape continues to shift, the search for secure, sustainable, and diversified transport and energy corridors has become a strategic imperative for the European Union. At the heart of this transition lies Hungary—a country positioned not only at the crossroads of East and West but also at the intersection of historical and economic currents shaping the future of Eurasian connectivity. Amid rising geopolitical tensions, supply chain disruptions, and growing urgency around climate resilience, Hungary's role in bridging the European Union and the Turkic States is increasingly vital.

The convergence of European climate goals, infrastructure investment strategies, and energy diversification efforts with the Turkic region's logistical potential and resource endowments presents a unique opportunity. In this context, sustainable development is no longer just an environmental commitment—it is a cornerstone of energy security and regional cooperation. The Trans-Caspian International Transport Route (TITR) has emerged as a viable alternative to fragile northern and maritime routes, promising faster, cleaner, and safer trade and energy links across the continent.

This chapter explores how Hungary can drive forward a coordinated European vision to modernize infrastructure, foster energy interdependence, and deepen ties with the Turkic countries. By aligning transportation and energy strategies with long-term sustainability goals, Hungary has the potential to not only boost its own strategic relevance but also support the EU in building a more resilient and future-proof Eurasian partnership.

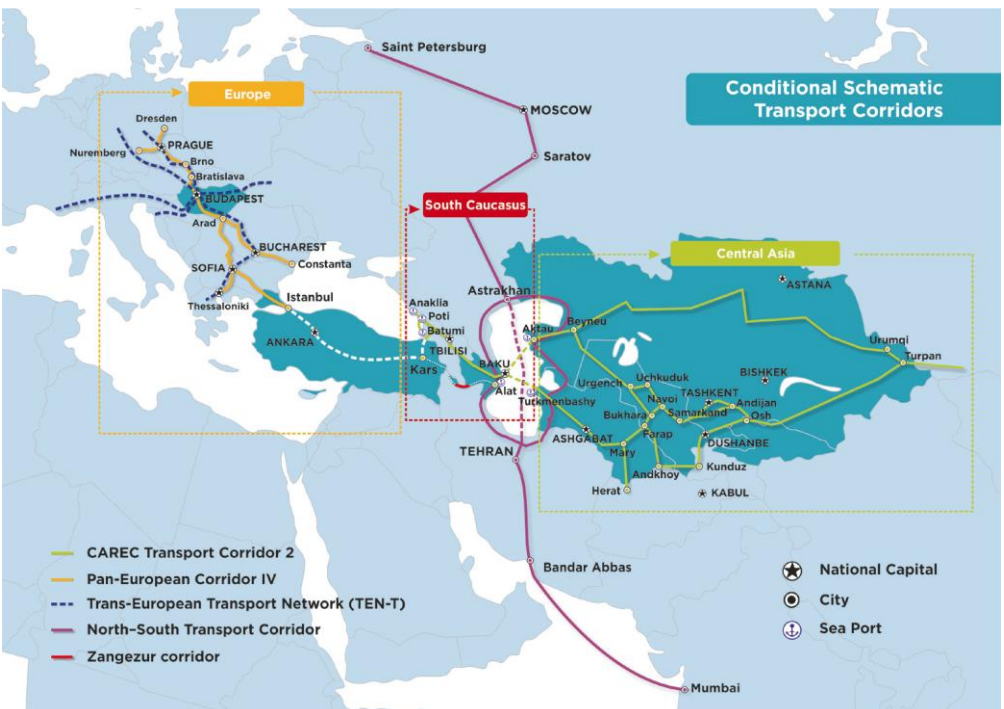
## VIII.B Overview

In today's globally interconnected world, integrating transportation and energy networks is crucial for promoting economic growth, securing energy supply, and supporting sustainable development. As countries in Europe and Asia increasingly strive to meet their climate targets, there is a growing need for durable and environmentally friendly infrastructure that supports economic activity and takes environmental concerns into account. Developing sustainable transportation and energy relations can ensure more efficient flows of goods and resources while also playing a key role in strengthening regional cooperation. Such developments can break down existing barriers and create previously unimaginable opportunities for cooperation among participating countries, benefiting both the economy and the environment in the long term (Arshi, Rai, Gupta et al., 2024).

As demonstrated in Figure 1, Hungary's geographical location provides a strategic advantage, allowing it to act as a bridge between Europe and the Turkic States. As a

result, Hungary can play a key role in developing sustainable transportation and energy corridors. The map highlights several important routes, including TITR, which could become crucial, providing a vital east-west connection from Central Asia across the Caspian Sea to Europe. This route offers Hungary an opportunity to solidify its role in the regional supply chain, particularly in transportation and energy.

Map VIII.1: Geographic positioning of Hungary as a bridge between Europe and the Turkic States




Source: Turkic Economics Outlook, 2023.

It is important to note that the current transportation and energy infrastructure state between Hungary, Europe, and the Turkic States presents both opportunities and challenges. While progress has been made in developing these links in recent years, much of the existing infrastructure is outdated and often reliant on traditional energy and transportation methods. Many pipelines, electrical grids, and transportation corridors connecting the region were built during a time when sustainability was not a priority. This aging infrastructure causes significant inefficiencies and can have serious environmental impacts. These shortcomings are further exacerbated by geopolitical tensions and economic inequalities in the region, which continue to hinder the establishment of a coordinated and sustainable network. Therefore, the challenge lies in modernizing infrastructure and ensuring that this development is sustainable and geopolitically stable over the long term, meeting the changing needs of the EU and the Turkic States.

While there has been progress in establishing critical transportation and energy connections, the road ahead is filled with challenges. Aligning the infrastructure with modern sustainability requirements will require significant investment and close international cooperation. It is also important not to overlook the need for a coordinated approach to overcoming geopolitical and economic barriers, which often means balancing the sometimes-divergent interests of the parties involved. Hungary's unique position may offer an opportunity to lead in building a more integrated, environmentally sustainable transportation and energy network, which could benefit Europe and its eastern partners.

## VIII.C The current state of transport links between Europe and Asia

Before the war broke out, around 95% of rail freight traffic between China and Europe passed through the Northern Corridor, which runs through Kazakhstan, Russia, and Belarus (Trans.info, 2023). However, the West's economic and financial sanctions imposed on Russia have severely disrupted Russia's freight and logistics sector, making it difficult to move goods smoothly along this traditional route. As a result, international shipping companies are increasingly seeking alternative routes that avoid Russian territory and ensure trade continuity.

One prominent alternative, gaining increasing attention, is the "New" Silk Road, also known as the Middle Corridor or the Trans-Caspian International Transport Route (TITR). This route has seen significant development since 2017 (Barkanyi & Vasa, 2023), highlighting the growing strategic role of the Turkic States in global transport networks. The Middle Corridor can provide a key connection, enhancing economic and logistical ties between the larger Eurasian economies.

The development and wider use of TITR diversify shipping options and respond to geopolitical shifts, where alternative routes have gained importance. These routes would ensure uninterrupted trade between Asia and Europe, especially in the current geopolitical climate, where avoiding sanctions-affected areas has become increasingly important. However, several additional factors must be considered when selecting the optimal route:

The ongoing conflict between Russia and Ukraine and the changing security situation in the Red Sea region significantly disrupt global trade routes. For example, attacks on ships by the Yemeni Houthi movement in the Red Sea – previously a stable maritime trade corridor – pose a serious challenge. The main issue is that both the northern corridors through Russia and traditional sea routes through the Red Sea and the Suez Canal have become increasingly risky. Due to these rising geopolitical tensions and volatility, it has become an urgent priority for Europe to establish a

stable and reliable trade route that reduces dependence on geopolitically uncertain regions and ensures uninterrupted trade with Asia, particularly China.

Map VIII.2: The Middle Corridor


Source: Koishibayev, 2022.

This is why Europe's strategic focus is increasingly shifting towards the Middle Corridor, a multimodal trade route linking China with the European Union via Central Asia and the Caspian Sea. This route integrates land, sea, and rail networks, offering a viable and sustainable alternative that avoids both the northern corridors through Russia and the conflict-ridden Red Sea region. This shift is especially significant given the strong trade relations between the EU and China: in 2023, China was the EU's third-largest export partner, accounting for 8.8% of total EU exports, while imports from China represented 20.5% of the EU's total trade (Eurostat, 2024). These statistics illustrate the deep economic interdependence between Europe and China, highlighting the growing demand for secure and efficient trade routes.

As Europe's largest economy (Statista, 2024a), Germany plays a key role in promoting the infrastructural development of the Middle Corridor. The country is directing increasing investments toward this route, as the northern trade corridor – severely impacted by conflicts in Ukraine and economic sanctions – has become increasingly unreliable. The importance of this strategic initiative is further underscored by the significant volume of European Union exports to China. Germany, which exported goods worth €97 billion to China in 2023, was the EU's largest exporter, followed by France with €25 billion and the Netherlands with €22 billion (Eurostat, 2024). These countries – especially Germany – have a deep interest in securing a stable and reliable trade route to China, safeguarding their economic interests, and reducing the risks to global supply chains.

Developing the Middle Corridor could be critical for maintaining access to China and protecting European trade. This is particularly relevant in light of geopolitical conflicts and regional instabilities – such as those in northern regions and along the Red Sea – which have harmful effects. Developing the Middle Corridor also provides a unique opportunity to strengthen sustainable transportation and energy links between

Europe, particularly Hungary and the Turkic States. Hungary's strategic location – sitting at a key junction of major transportation routes such as the Trans-European Transport Network (TEN-T) and the Pan-European Corridor IV – positions the country to play a central role in this initiative. Hungary is well-positioned to promote sustainable transportation and energy cooperation between regions, enhancing its strategic significance in both Europe and its relationships with the Turkic States.

Emphasizing the need to expand and modernize the Middle Corridor, Hungary could significantly improve the EU's relations with the Turkic States, facilitating the flow of goods and energy in the region. This strategy would strengthen Hungary's position in European and global supply chains and align with Europe's goal of establishing more resilient and sustainable trade networks. Hungary could actively contribute to diversifying European transportation and energy routes, reducing dependence on vulnerable or geopolitically unstable regions. Furthermore, this endeavor could foster greater regional cooperation and economic integration, benefiting both Europe and the Turkic States in the long term.

At the two-day Global Gateway Investment Forum held in Brussels on January 29, 2024 (European Commission, 2024b), which aimed to develop transportation connectivity between the European Union and Central Asia, one of the key announcements was a €10 billion investment (EUNews, 2024) in the development of the Middle Corridor connecting China and Europe. This investment reflects a strong financial commitment to improving the region's infrastructure. In addition to this major announcement, participants at the forum discussed investments to modernize and enhance transport corridors' competitiveness, sustainability, and predictability across the Caspian Sea, enabling goods exchange between Europe and Central Asia within as little as 15 days.

The forum's first day saw the European Investment Bank (EIB) signing a Memorandum of Understanding worth €1.47 billion with Kazakhstan, Kyrgyzstan, and Uzbekistan to co-finance regional projects in Central Asia (The Astana Times, 2024). Over the two-day event, several important agreements were reached, including an EU-funded regional transportation program expected to take effect in 2025. This program will provide technical assistance to advance Central Asian transportation projects as part of a €1.5 billion fund allocated by the European Commission and the European Investment Bank to develop the region's transportation infrastructure. A Coordination Platform will also be established to monitor logistics processes, contributing to closer cooperation between Europe and Central Asia and the development of transportation corridors across the Caspian Sea. This forum represents an important step in advancing the ambitious Trans-Caspian Corridor project, which could stimulate regional economic growth and expand global trade connections. Investments in developing this strategic transportation corridor will enable the European Union and its partners to create a more connected and sustainable trade route. This would facilitate deeper integration of Central Asia into

global markets while contributing to broader regional development goals, such as sustainable infrastructure and economic stability. Such projects could enhance the region's international role and ensure long-term economic growth.

The fact that the European Union has become the most significant investor in Central Asia, accounting for over 42% of all foreign direct investment (FDI) in the region (European External Action Service, 2022), underscores the strategic importance of the region for the EU, particularly in areas such as security, diplomatic relations, and the diversification of energy sources and resources. This investment level highlights Central Asia's increasingly pivotal role in the EU's efforts to reduce dependence on more uncertain sources and find stable, reliable partners in the global economic and geopolitical landscape.

It is evident that strengthening ties between Central Asia and Europe requires promoting regional economic integration, where transportation infrastructure development must play a central role. Historically, the Middle Corridor has received less attention than the northern routes and could now become key to improving connectivity. During the development of the corridor, the European Commission identified 33 infrastructure investment needs (European Commission, 2024), including the modernization of rail and road networks, upgrades to rolling stock, increased transshipment capacity, improvements at border crossings, the creation of multimodal logistics hubs, and the establishment of complementary network connections. These investments are crucial for enhancing the region's economic integration and strengthening Europe's links with Asia.

The European Bank for Reconstruction and Development (EBRD) estimates that the total investment required for the Middle Corridor's infrastructure development amounts to approximately €18.5 billion (European Commission, 2023). Such large-scale investments will improve the quality and capacity of transportation infrastructure and promote growth in regional and transcontinental trade flows.

It is worth noting that China's Belt and Road Initiative (BRI) also aims to establish infrastructural links between China and Europe. This is being pursued through three main overland transportation corridors, which are critical for transcontinental freight, particularly rail freight. Until the recent conflict, the northern route handled about 95% of the freight traffic (Maizland, 2023). This route spans about 10,000 kilometers and provides transit times of 15–20 days between China and Europe, passing through Kazakhstan, Russia, and Belarus.

Previously, the northern route became the most cost-effective option for overland freight transport due to the presence of the Eurasian Economic Union (EaEU) – consisting of Russia, Belarus, and Kazakhstan – which created a single economic area and customs union. This integration allowed goods to move smoothly across borders by minimizing inspections and customs procedures. As a result, once Chinese

container trains crossed the China-Kazakhstan border, they could reach the Belarus-Poland border relatively quickly and with minimal checks (RailFreight, 2024), ensuring fast and efficient transportation to European markets. The customs union significantly reduced transit times and costs, making this route a crucial artery in China-Europe freight traffic. The harmonized logistics and customs system helped lower administrative barriers and transit times, fostering economic cooperation and trade among the participating nations. This seamless flow of goods made the northern route attractive for overland trade between China and Europe.

Economic and financial sanctions imposed on Russia by the West significantly disrupted traffic along the Eurasian land-based Northern Corridor (Index 1520, 2024). Pressure on Russia's transportation and logistics sector and international shipping companies' search for alternative routes, reduced dependence on the Northern Corridor. Consequently, three alternative routes have come into focus: two overland connections between China and Europe and one sea route, all of which are receiving greater attention to diversify and ensure the sustainability of global trade networks. The most widely recognized alternative is the sea route linking China with Europe. This route stretches approximately 20,000 kilometers and requires 45–60 days of transit, passing through the South China Sea and the Indian Ocean (Mubarak, 2021). Although it is the longest and most time-consuming route, it remains suitable for transporting large quantities of goods. The sea route is particularly efficient for bulk cargo and plays a key role in maintaining trade between China and Europe, especially given the disruptions in overland routes.

Another important alternative for China-Europe trade, which has gained prominence due to the Russia-Ukraine conflict, is the Middle Corridor, which has been operational since 2017. This route passes through Central Asia, primarily Kazakhstan, crosses the Caspian Sea, and reaches the Caucasus. Shipments then continue by rail or sea via Azerbaijan and Georgia across the Black Sea to Europe. This corridor offers an efficient alternative for trade that avoids Russian territories and is increasingly being highlighted as part of the diversification of global supply chains.

The third alternative is the southern overland corridor, which passes through Kazakhstan, Uzbekistan, Turkmenistan, and Iran, reaching Türkiye. Although this route is currently less well-known and therefore, less competitive – with transit times ranging from 22 to 37 days – it still offers strategic advantages. One of the key benefits is that it provides Central Asian countries with direct access to the Indian Ocean. Additionally, this route could promote the development of infrastructural links with Afghanistan, Pakistan, and India, making it a potentially important trade route for the region's countries in the long term (shiphub, n.d.).

The decline in traffic along the Northern Corridor and the growing importance of alternative routes have necessitated reconsidering logistics strategies and diversifying transportation routes in global trade. As a result, the Middle Transport

Corridor has come back into focus and is positioned as an efficient alternative to the Northern Corridor. This corridor offers several advantages for international freight, the most important of which is that it provides the shortest overland connection between China and Europe: the Middle Corridor is only 7,000 kilometers long, which is about 3,000 kilometers shorter than the northern route. Consequently, transit times are significantly reduced, typically ranging between 10 and 15 days, enabling faster and more efficient transportation between the two continents.

This corridor is particularly attractive to international shipping companies seeking new, safer trade routes and markets. The route avoids sanctioned countries such as Russia and Iran, reducing geopolitical risks. This risk mitigation makes the corridor more appealing to Western countries, increasing their willingness to invest in the route. Avoiding geopolitically strained regions offers a secure and reliable alternative for global trade networks, further reinforcing its importance in international freight.

It is also important to consider the challenges of using the Middle Corridor. For example, loading and unloading goods along the Caspian Sea segment generates additional costs, potentially increasing shipping expenses. Furthermore, this sea segment poses significant logistical challenges, particularly during adverse weather conditions, which can cause delays. Additionally, existing logistical problems and inadequate infrastructure could further hinder the corridor's efficiency, making development essential to ensuring more competitive operations.

Countries along the Middle Corridor, such as Kazakhstan, Azerbaijan, and Georgia, are actively working to increase capacity and address infrastructural shortcomings. Azerbaijan, for instance, plans to expand the capacity of its Baku seaport, while Georgia is making progress on constructing the new Anaklia deep-sea port, which would significantly improve shipping options across the Black Sea. Additionally, Central Asian countries are working on creating a joint logistics company and standardizing rail tariffs, which could increase the corridor's competitiveness. These measures can enhance the corridor's attractiveness in international trade and help overcome logistical obstacles.

The recent rise in the significance of the Middle Corridor is particularly noteworthy in light of changing geopolitical dynamics. In 2021, this corridor handled only about 8% of the rail freight traffic between Europe and China (World Bank, 2023). However, the situation has dramatically changed following the outbreak of the war in Ukraine and the growing geopolitical risks associated with the Northern Corridor. The Middle Corridor has increasingly come to the fore, offering a safer and more reliable alternative for China-Europe trade, reducing risks associated with transportation through conflict zones.

By 2022, after freight traffic along the Northern Corridor dropped by approximately 40%, traffic on the Middle Corridor increased sixfold, reaching 3.2 million tons (Guy

Carpenter, 2023). Forecasts suggest this volume could rise to 10 million tons in the future. Consequently, the Middle Corridor's share of rail freight traffic between Europe and China rose dramatically, from 8% to 48% within a year, while the northern route's share fell from 92% to 52% (Chang, 2024). This shift underscores the growing significance of the Middle Corridor, particularly amid geopolitical uncertainties, as alternative trade routes become increasingly important.

This significant shift demonstrates the Middle Corridor's rising role in Eurasian trade, offering a more stable, geopolitically less risky alternative for transporting goods. Ongoing development efforts and capacity-enhancing measures, such as port infrastructure improvements and the strengthening of logistics networks, further support the corridor's growing importance. These investments are expected to increase further the corridor's competitiveness and attractiveness to international shippers, particularly those seeking more reliable, conflict-free routes for transporting goods between China and Europe. All of this could significantly contribute to the growing importance of the Turkic States in Asia.

Azerbaijan's strategic location at the intersection of east-west and north-south transportation corridors offers the country significant advantages in facilitating regional transit traffic. As a key player in the Belt and Road Initiative (BRI) and the International North-South Transport Corridor (INSTC), which links Moscow, Tehran, and New Delhi, Azerbaijan plays a central role in managing transit traffic across the Caspian Sea and the Caucasus region. This position allows the country to serve as a strategic hub in global freight flows, facilitating trade connections between Asia, Europe, and the Middle East.

Caspian Sea countries such as Kazakhstan, Turkmenistan, and Iran have made significant infrastructural investments to improve their sea and overland freight capacities. Kazakhstan, for example, has built new port infrastructure in Aktau, improving the country's maritime connectivity in the Caspian Sea region. Turkmenistan has modernized the Turkmenbashi port, now capable of handling larger regional and international traffic volumes. Iran has established new port facilities in Astara, near the Azerbaijani border, increasing freight flow efficiency between the two countries. These investments all contribute to the growing strategic role of the Caspian Sea region in global trade.

While developing freight traffic across the Caspian Sea is an important strategic goal, several constraints hinder progress, particularly the former monopoly of Azerbaijan's ASCO shipping company. The ferries operated by ASCO are outdated, resulting in high costs and long, unscheduled transit times. These issues have significantly increased the difficulties of shipping goods across the Caspian Sea. To mitigate these challenges, Azerbaijan and Turkmenistan agreed in January 2022 to establish a regular ferry service between Turkmenbashi and Baku, running twice a week, offering the shortest route across the Caspian Sea. While this service is a step forward, its

success depends significantly on further improvements in Turkmenistan's rail infrastructure, without which the overall efficiency of the transport chain will remain limited.

With its extensive coastline, Georgia could play a key role in Middle Corridor trade, promoting the region's economic integration. Two key infrastructural elements are particularly important in this regard: the Baku-Tbilisi-Kars (BTK) railway line and the 1,000-kilometer-long Trans-Kazakhstan railway line. The BTK railway line connects Azerbaijan, Georgia, and Türkiye, facilitating the flow of goods for shipments crossing the Caspian Sea. The Trans-Kazakhstan railway line, in turn, creates a direct link between China and Europe. Both lines significantly improve the efficiency of east-west and north-south trade corridors, contributing to the speed and reliability of freight transport in the region.

Kazakhstan plays a crucial role in rail freight transport between Europe and China, serving as a transit hub, particularly at the two main Chinese-Kazakh transshipment stations, Horgos-Khorgos and Dostyk-Alashankou. These stations are vital for freight flows from China to Kazakhstan, as goods must be transferred from the wider-gauge rail used in China to the narrower-gauge rail used in post-Soviet countries, including Kazakhstan. The transshipment process is critical to the logistics chain's efficiency and plays a central role in the growth of Kazakhstan's transit traffic, facilitating trade between China and Europe.

Kazakhstan plays a significant role not only in rail transportation but also in sea transportation. The Aktau port serves as a key departure point for transit traffic across the Caspian Sea. Goods crossing the Caspian Sea from Aktau arrive in Azerbaijan, primarily at the ports of Baku and Alat, which provide further gateways to Europe. This sea route is integral to the Middle Corridor, enabling transportation between China and Europe while avoiding geopolitically unstable regions.

The Kazakh government is actively working to strengthen European infrastructural links, as reflected in the growing rail freight volume. Last year, Kazakhstan handled 300 million tons of rail freight, of which 85 million tons were Kazakh exports, while 27 million tons represented transit traffic (Prime Minister of the Republic of Kazakhstan, 2023). Particularly notable is that by the end of the year, transit traffic with China had doubled, while Kazakhstan's total transit traffic grew by 43% (The Astana Times, 2023). This significant increase highlights the country's growing role in China-Europe trade routes and the effectiveness of Kazakhstan's infrastructure development.

The Baku-Tbilisi-Kars (BTK) railway line, inaugurated in 2017, marked a significant development in regional rail connectivity, as it restored direct rail links between Türkiye and the Caucasus after a 25-year hiatus. The 829-kilometer-long railway runs through Azerbaijan (504 km), Georgia (246 km), and Türkiye (79 km), improving

regional freight transport and facilitating economic integration along the Middle Corridor (RT, n.d.). The BTK railway line, with its direct rail connection between the Caucasus and Türkiye, creates new opportunities for freight traffic between China and Europe, reducing transit times and costs. The historical context of this railway line is particularly significant, as Türkiye previously had a rail connection to Tbilisi via Armenia. However, this route was cut off in 1993 due to the first Nagorno-Karabakh conflict. The BTK railway line plays a particularly important role in the region's development, as eastern Türkiye is less developed in terms of infrastructure, and the railway line provides a direct connection between the Caucasus and Türkiye.

Nevertheless, significant infrastructural challenges remain in Türkiye, particularly in terms of rail connectivity in border areas with Iran. One particularly problematic issue is the lack of a railway track around Lake Van, requiring rail cars to be transported across the lake by ferry, which causes significant delays. Addressing this logistical bottleneck is essential to improving regional economic integration and the efficiency of transcontinental freight transport. Therefore, the Baku-Tbilisi-Kars railway line could have economic and strategic importance by establishing stable and efficient transportation links between eastern Türkiye and the Caucasus, contributing to broader political and economic stability in the region.

It is worth highlighting the part of the Middle Transport Corridor that connects Europe with China through Georgia, the Black Sea, Ukraine, and Poland, which could be increasingly important in transporting goods between the two regions. The corridor's endpoint is the Sławków Euroterminal in Poland, which is the westernmost terminus of the European broad-gauge railway network. In early 2020, the terminal received its first container train from Xi'an, with a competitive transit time of just 11 days. Expanding the terminal has thus become a priority in the development plans of the new Polish government, as it could play an important role in improving the efficiency of freight traffic between China and Europe. Unfortunately, the ongoing war presents a significant obstacle to expanding traffic along this section of the Middle Corridor, particularly due to uncertainties related to using the Ukrainian section. Since the conflict began, diplomatic efforts to further develop the corridor have intensified, reflecting the European Union's desire to secure reliable transportation routes between China and Europe, especially given the constraints on the northern route.

This is why the Budapest-Belgrade railway line could play a key role, as it may become one of the most important overland links for shipments arriving from Georgia. This railway connection could enable direct transportation through Türkiye and the Balkans, bypassing the Black Sea route, which typically requires time-consuming transshipments. The development of the Budapest-Belgrade railway line could play a critical role in strengthening the Middle Corridor's operation, reducing transit times, and improving the region's connectivity. This overland route, which could

provide access to the EU via Hungary, offers logistical advantages and enhances Hungary's significance in the Trans-European Transport Network.

Rail and other infrastructure developments are essential to capitalize on these benefits fully. Such improvements would strengthen the region's economic integration and solidify Hungary's position as a transportation hub between Eastern and Western Europe. This would make Hungary a key part of the Middle Corridor, facilitating efficient trade flows between East and West.

Hungary's involvement in promoting the Middle Corridor aligns with the EU's broader sustainability goals by encouraging greener and more efficient transportation solutions, such as rail and multimodal systems. These alternatives can help reduce carbon emissions and improve energy efficiency. Developing the corridor can help reduce Europe's reliance on less reliable, more polluting routes, creating a more resilient and sustainable regional transportation and energy network.

The Middle Corridor's strategic location could promote increased trade flows and offer new energy partnership opportunities between Europe and the Turkic States, particularly in renewable energy sectors. During Hungary's EU Council presidency, there may be an opportunity to prioritize these partnerships, advancing solar and wind energy integration into regional networks. Such progress could support energy security and sustainability, particularly in light of the EU's green transition objectives.

At the same time, it is important to consider that natural gas continues to play a central role in Hungary's energy supply. Although its share has fluctuated over the past decade, Eurostat data shows that it consistently accounts for more than 40% of Hungarian household energy consumption (Szőke, 2024). Therefore, alongside promoting renewable energy sources, securing natural gas supplies must also remain a priority in future energy policy decisions.

## VIII.D A present context of energy relations between Europe and Asia

Under the 2019 Ukrainian-Russian gas transit agreement, Russia is obliged to deliver gas to Europe through Ukraine until the end of 2024. The agreement stipulates minimum transit volumes of 65 billion cubic meters for 2020 and 40 billion cubic meters per year from 2021 to 2024 (DIW Berlin, 2024). However, the contract between Ukraine's Naftogaz group, the state pipeline operator GTSOU, and Russia's Gazprom was not extended after 1 January 2025. Following Russia's invasion of Ukraine in February 2022, the amount of gas delivered through Ukraine dropped significantly, driven by the European Union's drastic reduction in Russian gas purchases. In addition, Kyiv closed one of the two entry points for Russian gas, further limiting transport capacity (Euronews, 2023). This situation presents new

challenges for Europe in terms of gas supply and could accelerate the transition to renewable energy sources and alternative gas supply routes.

The sharp decline in Russian gas supplies reflects the geopolitical shifts taking place. While Russia delivered 41.6 billion cubic meters of gas through Ukraine in 2021, by 2023, this amount had fallen to just 14.6 billion cubic meters, representing a drop of nearly two-thirds. Before the COVID-19 pandemic, annual transit volumes exceeded 80 billion cubic meters (Statista, 2024b). Since Russia's invasion, Europe's imports of Russian gas have dropped by more than 80% since 2022 (Atradius, 2024), while imports from the United States, Norway, Azerbaijan, and Algeria have increased.

Nevertheless, some European countries, such as Slovakia and Austria, remain heavily dependent on Russian gas. In 2023, 69% of Slovakia's gas imports and 60% of Austria's came from Russia (Economx, 2024). Hungary is also heavily dependent on Russian gas: in recent years, about 60% of its gas supply arrived via Ukrainian pipelines, either directly or through Slovakia, while the remainder came from Austria, which is also predominantly Russian in origin (Halser & Skaug, 2024).

These data underscore the need to reduce dependence on Russian gas supplies, particularly in countries facing geographic and infrastructural challenges. This could accelerate the search for alternative sources and the transition to renewable energy.

This situation was exacerbated by the September 2022 explosion of the Nord Stream pipeline. As a result, Russia's ability to expand gas supply routes to Europe was severely curtailed. Currently, only remaining routes is the TurkStream pipeline, which delivers Russian gas across the Black Sea to Türkiye and then to Bulgaria, Serbia, and Hungary via the Balkan Stream pipeline (Index.hu, 2024). While the possibility of increasing transport capacity via Türkiye is being explored, existing infrastructural limitations currently prevent this.

A question now arises as to whether the OTS, with Türkiye as a central member, could become a key hub in the European Union's gas supply network. Several factors will influence this. Türkiye's strategic location and its existing infrastructure provide a strong foundation for the region to play an important role in Europe's gas supply. Additionally, Türkiye's relations with Central Asian energy-producing countries, such as Azerbaijan, and the potential for future energy partnerships, especially with the Turkic states, as well as its extensive gas regasification capacity could further increase the region's role in diversifying energy supplies. However, for the OTS to become the EU's most significant gas supply hub, further infrastructure development, such as increasing pipeline capacity and establishing new connections with Central Asia, would be required. Furthermore, political stability, the geopolitical environment, and the EU's energy policy goals – such as the shift towards renewable energy – will also influence Türkiye's and the OTS's role in Europe's energy supply.

Map VIII.3: The "Vertical Gas Corridor"


Source: Halser & Skaug, 2024.

Indeed, the region's potential to become a more significant gas supplier to the European Union is substantial, especially given the existing gas reserves and energy networks. Türkiye is already an important player in the EU's gas supply, primarily due to the TurkStream and the Southern Gas Corridor's transit role. The Sakarya gas field's exploration could further strengthen this position, which has started production as of 2023, increasing Türkiye's exportable gas supply.

The region's additional gas supply potential, such as the growth in Azerbaijani and Turkmen gas volumes passing through Türkiye, will also be crucial. Azerbaijan's future electricity exports and closer energy partnerships with the EU could further bolster this cooperation.

However, geopolitical tensions in the region, particularly in the Eastern Mediterranean, where political and economic disputes occasionally arise between the countries involved, complicate cooperation.

Azerbaijan's gas exports to the EU could significantly increase in the coming years, thanks to a declaration of intent to double its gas exports from 10 to 20 billion cubic meters by 2027 (Eurasianet, 2024). Azerbaijan has already successfully increased its export volume, which is a positive sign of future commitment (President of the Republic of Azerbaijan, 2024).

Turkmenistan could also become a key player in the future, as it holds some of the world's largest natural gas reserves. While it has so far been unable to deliver large volumes of gas to the European market, the potential exists for Turkmenistan to become one of the EU's most significant gas exporters once the necessary connections are in place. Gas exports from Turkmenistan to Europe have been planned for a long time, but geopolitical and infrastructural obstacles have delayed their realization.

Alongside natural gas, region's role as an electricity exporter may also expand through various projects that are on the agenda. These energy initiatives, focused on exporting natural gas and electricity, offer Azerbaijan and Turkmenistan an opportunity to play a significant role in enhancing EU energy security and diversifying the region's energy network.

Overall, the region's geographical advantages favor these energy route development initiatives, but several factors, such as geopolitical tensions, infrastructural challenges, and regional conflicts, may hinder their realization. Nonetheless, diversifying energy sources and routes is becoming an increasing priority, as improving security and stability is crucial amid shifting alliances and ongoing regional conflicts (Jamasb & Pollitt, 2005). Both Hungary and Türkiye stand to benefit from this energy-dependent transformation. Türkiye's strategic location, which could make it the EU's energy gateway for resources from Central Asia and the Eastern Mediterranean, and Hungary's role in diversifying the EU's energy network could be particularly important. Both countries could capitalize on this shift to enhance their regional influence and promote economic growth while strengthening European energy security.

## VIII. E Conclusion

Hungary could play a key role in developing sustainable transportation and energy relations between the European Union and the Turkic States, offering both economic and political benefits in the future. The country's geographical location, political commitment, and connection to European infrastructure provide an opportunity for Hungary to serve as a bridge between the other EU member states and Central Asia. This linking role may become particularly important in the current geopolitical situation, where the demand for alternative trade and energy routes has become more pressing due to the Russian-Ukrainian conflict.

The significance of the Trans-Caspian International Transport Route (TITR) in this process cannot be overstated, as this route provides a commercial link between Europe and Central Asia across the Caspian Sea, bypassing geopolitically unstable areas like Russia. TITR's development allows European countries to diversify trade and energy routes, reducing dependence on more traditional, riskier regions.

Hungary, located at the intersection of the region's logistics and transportation networks, could play a leading role in supporting and developing this alternative trade route.

Developing sustainable transportation and energy infrastructure will also play a crucial role in ensuring that relations between the EU, Hungary, and the Turkic States remain functional and stable in the long term. Modernizing current outdated transportation and energy networks allows the flow of goods and energy to become more efficient while contributing to the EU's sustainability goals. Green energy sources and environmentally friendly transportation solutions are increasingly prominent on the EU's political agenda, offering Hungary a chance to become a significant player in the EU's green transition. Developing rail transport and multimodal transportation systems, among other initiatives, can help reduce carbon emissions from transportation, contributing to global climate goals.

Regarding energy cooperation, Hungary's relationship with the Turkic States could become particularly important in the future. While natural gas will continue to play a central role in Hungary's energy supply in the short term, and despite the long-term goal of transitioning to renewable energy sources, the region's natural gas reserves are likely to remain crucial in the near future. Hungary, which is heavily dependent on Russian natural gas, has become interested in diversifying its energy sources, particularly due to tensions with Russia. Therefore, the Turkic States, particularly Azerbaijan, which possess significant potential for natural gas and energy supply, could become important players in Hungary's energy supply.

Strengthening energy links along the Middle Corridor could also be crucial for European energy security. Investments in infrastructure in the region, such as the development of Caspian Sea ports and railway networks, could provide significant benefits in terms of trade and energy flows. Despite regional geopolitical challenges, Hungary could capitalize on strengthening these connections, playing a central role in further expanding cooperation between Europe and the Turkic States.

In summary, Hungary's bridging role in establishing sustainable transportation and energy relations will benefit both the country and the European Union. Exploiting the region's economic and energy opportunities will support economic growth and contribute to the diversification and sustainability of European supply chains. Developing the Middle Corridor for the EU will become geopolitically important, as it can reduce dependence on unstable regions and increase the security of trade routes. For Hungary, supporting the green transition, modernizing infrastructure, and establishing strong energy links will provide long-term stability and competitive advantage, further enhancing its strategic significance in the region.

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CHAPTER

# IX

# Turkish Republic of Northern Cyprus

# IX.A Institutional Framework in the Turkish Republic of Northern Cyprus

The economy of the Turkish Republic of Northern Cyprus (TRNC) consists mainly of the service sector, including the public sector, trade, education, and tourism, with small agricultural and light manufacturing sectors. Tourism and education are the lifeblood of the economy.

With the advantages of its strategic location, TRNC offers a favorable and equal-opportunity business environment for local and foreign investors. The TRNC, which has a developed infrastructure, is an attractive region for investors and provides a quality business environment and various investment incentives for direct investments. In addition, with its small but fast-growing economy, the TRNC offers many economic advantages to both local and foreign investors. The qualified and young labor force provided by many universities and a high literacy rate is another advantage that TRNC offers investors.

The Ministry of Finance of the TRNC, which provides effective and people-oriented services at the international standards by working in cooperation with relevant stakeholders in line with the principles of transparency and accountability with sustainable and effective fiscal policies, using technology effectively, and the Ministry of Economy and Energy of the TRNC works to increase the economies' competitiveness at the global level, and to shape the economic and fiscal policies of the TRNC.

More about the TRNC economy can be found on the website of the State Planning Organization, which operates under the Prime Ministry, and information on investment opportunities and incentives can be found on the website of the Cyprus Turkish Investment Development Agency.

Brief information about some other important institutions related to the TRNC economy is given below:

*Development Bank of the TRNC:* The Development Bank of the TRNC is another institution that contributes to the sustainable development of the country's economy by taking the necessary initiatives for the development, improvement, and development of various sectors of the economy and providing long-term loans with favorable interest rates.

*Central Bank of the TRNC:* The Central Bank of the TRNC is responsible for implementing monetary-credit policies following development plans and annual programs in a manner that will assist economic development, regulating and supervising the banking system, preventing any transactions and practices that may

jeopardize the rights of savers and the orderly and safe operation of banks and cause significant damage to the economy, and taking and implementing the necessary decisions and measures to ensure the effective operation of the credit system.

*Cyprus Turkish Chamber of Industry:* The aim of the Cyprus Turkish Chamber of Industry is to assist the development of the industry in a planned and programmed manner, help the development of existing industrial organizations within the borders of the TRNC, ensure the development of their fields of activity and to increase their efficiency.

*Turkish Cypriot Chamber of Commerce:* The duties of the Chamber of Commerce are to protect professional ethics and solidarity; to work for the development of trade following the general interests; to work for the development of the commercial, industrial, tourism, and agricultural activities of the Turkish Cypriot people, to protect them and to give encouragement, support ideas of business people in these matters; to establish relations and exchange information with international economic organizations, chambers of commerce and similar organizations, institutes or private individuals and companies; to provide advice or references on traders, producers, manufacturers and other business people and/or institutions.

## IX.B Transport Sector

Ercan International Airport has been redesigned and expanded to a much larger area with modern facilities. Enabling direct or transit flights to and from Ercan International Airport connecting the TRNC with the Turkic World can boost tourism and mobilize people. Ercan International Airport can also serve as a culture hub, hosting cultural events from different Turkic states.

Similarly, maritime links of the TRNC can be utilized to enable connectivity with Central Asian ports and, therefore, boost trade. TRNC has different investment support schemes and mechanisms, and these investment initiatives can be directed to investors from Turkic states to set up logistic hubs in the TRNC for re-exporting and warehousing of goods.

To further enable people's mobility, the same standards for issuing driver licenses can be undertaken in OTS member countries, leading to a long-term mutual recognition of member states' driving licenses without any conversion procedure. This can also enhance the cooperation of driving schools of Turkic countries, focusing on joint educational programs and teacher training.