Forecast of the Long-Term Trajectory of the Potential GDP of Kazakhstan in the Context of the Global Energy Transition

S. N. Alpysbaeva*, Sh. Zh. Shuneev, A. A. Bakdolotov, K. S. Beisengazin, E. I. Tautenov, and N. N. Zhanakova

a Economic Research Institute, Nur-Sultan, 020000 Kazakhstan
b Agency for Strategic Planning and Reforms, Republic of Kazakhstan, Almaty, 050040 Kazakhstan

* e-mail: saranur@mail.ru

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Abstract—The article presents a forecast of the potential GDP of Kazakhstan performed using a structural method based on a production function that establishes relationships between the factors of production, total factor productivity, and output. Forecast estimations of trends of the key factors of production and the total factor productivity that form the long-term trend of the potential GDP of the country in the context of the global energy transition are presented. The baseline scenario of a long-term forecast of the potential GDP of Kazakhstan for the period until 2050 as adjusted for the objective of decarbonization of the economy is developed. Approaches to economic policy that could “nudge” the potential GDP up are proposed.

Keywords: potential GDP, carbon neutrality, decarbonization, energy transition, modeling, workforce productivity, total factor productivity, investment

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Methodological approaches to forecasting the potential GDP of Kazakhstan. At the time of writing, 137 countries have committed to carbon neutrality [1]. Most of the countries set the goal of carbon neutrality by 2050, while five—Australia, Singapore, Ukraine, Kazakhstan, and China—plan to reach the desired milestone by 2060.

The energy transition is traditionally understood as phasing out of the use of fossil fuels as the primary energy source and transitioning to renewable energy and other forms of energy with low or zero levels of greenhouse gas emissions.1

The International Energy Agency (IEA) believes that the peak of global greenhouse gas emissions has already been reached and proposes measures to achieve net-zero balance by 2050.2

The more realistic forecasts by IHS Markit state that the transformation of the global energy infrastructure requires time and a gradual transition in order to adapt to changes in energy demand (see Table 1).

1 Power System Flexibility for the Energy Transition. Part 1: Overview for Policy Makers. International Renewable Energy Agency. Abu Dhabi, November 2018. https://www.irena.org/publications/2018/Nov/Power-system-flexibility-for-the-energy-transition.
2 Net Zero by 2050: A Roadmap for the Global Energy Sector Launch to the press, 18 May 2021. https://iea.blob.core.windows.net/assets/84c1a929-670a-4321-b7fd-a68f60ebbe8e/NZ-E2050_launch_slides.pdf.

There are a number of studies on the impact of the energy transition on the economic growth of countries around the world.

A study by Timilsina and Shrestha uses the CGE model to demonstrate that a transition to hydropower in Thailand would slow down the country’s economic growth [2].

A report of the Intergovernmental Panel on Climate Change (IPCC 2014) [3] states that a transition to low-carbon development would decrease the annualized consumption growth rate by an average of 0.06 p.p.

A study by the Massachusetts Institute of Technology (MIT) (2019) has proven that the US electricity sector has an upper limit for the use of renewable energy, after which the extra costs become inefficient for the energy system as a whole [4].

Most of the forecasts presented in a comprehensive study by Bashmakov et al. coincide in the conclusion that the growth rates of Russia’s GDP in the conditions of low-carbon development will be moderate and declining [5].

Kriegler and colleagues, presenting the results from the Stanford Energy Modeling Forum, revealed that achieving the goal of limiting CO2 concentrations in the period between 2010 and 2100 would be associated with consumption losses of 0.9–3.3% [6].
Belik et al. have demonstrated that a verbal assessment of the development level of a low-carbon economy gives a “low-level” result [7].

Safonov, in collaboration with other researchers, has used scenarios of the TIMES industry model to obtain a cost-benefit analysis of low-carbon development of Russia for the period until 2050 [8].

Van Heerden et al. have found that implementing an environmental tax in South Africa would increase the growth rate of the economy and decrease poverty [9].

Roland-Holst and Kahrl show that improving household and enterprise energy efficiency in the state of California increases the growth rate of the economy and generates added employment under all scenarios [10].

De Gouvello et al. estimate that investing in reducing CO₂ emissions could increase Brazil’s GDP by an average of 0.5% per year over the 2010–2030 period and increase employment by an average of 1.13% per year over the same period [11].

Felderer has provided an overview of models of mitigation policies aimed at adaptation to decarbonization [12].

Fankhauser and Jotzo have shown that while low-carbon development would significantly increase energy costs, that increase would not be significant compared to the increase in GDP growth rates [13].

Yang and colleagues have calculated that China’s pilot low-carbon development project has reduced CO₂ emissions and accelerated economic growth of Chinese cities, production, and incomes of enterprises [14].

Porfiriev has conducted a critical analysis of the paradigm of low-carbon economy in terms of solving the problems of stabilizing the climate situation, improving the quality of life, and achieving sustainable economic growth [15].

Kazakhstan’s commitments to the global energy transition will have a systemic long-term impact on the country’s entire economy.

In view of that, it is already relevant to consider the issues of forecasting the potential gross domestic product (GDP) of Kazakhstan in the long-term, adjusting for the possible decline in production volumes in carbon-intensive industries that are currently foundational for the country’s economy.

The theoretical concept of potential output is a characteristic of the highest sustainable aggregate production capacity of the economy that can be achieved with full use of all factors of production.

Modern macroeconomic studies place a lot of focus on analyzing the contributions of the factors “capital,” “labor,” “natural resources,” and “total factor productivity” (TFP) to GDP growth.

According to a review by the Network of EU Independent Fiscal Institutions (EU IFI, 2018), most members of the Network (15 out of 20 respondents) produce their own independent estimates of potential output, with the production function approach being the most popular [16].

The method used in this study is classified as structural and is based on the use of a production function that explicitly establishes relationships between the factors of production, total factor productivity, and output.

The growth trajectory of the potential GDP of Kazakhstan is constructed based on a computable general equilibrium (CGE) model of Kazakhstan’s economy created as part of the development of the Strategy for Low-Carbon Development of Kazakhstan until 2050.

By projecting possible directions for the development of the key factors of production, the CGE-KZ model can generate various trajectories of the growth of the economy as a whole and individual industries, in particular, detailing the impact on GDP, gross value

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Table 1. Prospects of global consumption of primary energy sources by fuel type in the period until 2050: annualized growth rates and changes of shares in global demand, %*

| Indicator          | Annualized growth, % | Share in global consumption, % |
|--------------------|----------------------|--------------------------------|
|                    | 2020–2030  | 2030–2040  | 2040–2050  | 2020–2050 | 2020 | 2030 | 2040 | 2050 |
| Oil                | 1.3       | -0.1      | -0.6      | 0.2       | 30   | 30   | 28   | 25   |
| Natural gas        | 1.6       | 0.8       | 0.4       | 0.9       | 24   | 25   | 25   | 25   |
| Coal               | -1.4      | -2.1      | -1.1      | -1.5      | 27   | 21   | 16   | 13   |
| Hydropower energy  | 1.6       | 0.9       | 0.7       | 1.1       | 3    | 3    | 3    | 3    |
| Nuclear energy     | 0.9       | 1.3       | 1.0       | 1.1       | 5    | 5    | 5    | 6    |
| Renewable energy   | 10.7      | 6.1       | 3.9       | 6.8       | 3    | 6    | 11   | 15   |
| Modern biomass     | 1.8       | 1.8       | 1.2       | 1.6       | 5    | 5    | 6    | 6    |
| Other              | 2.2       | 1.4       | 1.4       | 1.7       | 5    | 5    | 6    | 6    |

* IHS Markit Insight In 2020, a leap forward for net-zero pledges, 29 January 2021.
added (GVA) by industry, output, product and input prices, and levels of greenhouse gas emissions and energy. The model forecasts the development of Kazakhstan’s economy for the period until 2050 and can be used to assess the consequences of various policies and global decisions.

**Forecast assumptions of long-term trends of production factors and total factor productivity.**

**Natural resources.**

**Oil production.** According to long-term forecasts of the development of the global energy market,\(^3\) the following trends can be expected to emerge in the global oil market by 2050:

— The share of fossil fuels in primary energy consumption will continually decrease, but will remain significant.

— Introduction of CO\(_2\) emission fees will lead to increases in energy costs and, consequently, in oil prices.

— Structural changes in the transport sector will begin to affect the demand for liquid hydrocarbons after 2030.

— As the growth rate of the demand for liquid hydrocarbons slows down, the decisive factor for new projects will be the cost of production.

In Kazakhstan the total volume of oil production decreased by 5.4%, to 85.7 million tons, in 2020, the first year of the pandemic, and then in 2021 remained at approximately the same level, with due regard to Kazakhstan’s commitments under the OPEC+ agreement.

At the end of 2022, when the current OPEC+ deal expires [17], Kazakhstan will begin to increase production.

Currently, over 60% of all oil production in Kazakhstan is sourced from the three largest projects in the country—Tengiz, Kashagan, and Karachaganak. By 2025 the total share of the three giant oilfields in total production will increase to 72% (2020—63%, 2014—47%).\(^4\)

Naturally, in the context of the ongoing global energy transition, the potential of new oil production projects in Kazakhstan will decrease. According to the estimates of the 2021 National Energy Report, oil production in Kazakhstan is expected to peak at around 102 million tons in the mid-2020s, followed by a slow decline to about 73 million tons in 2050.\(^5\)

In general, our estimate is that disregarding possible additions of new reserves, oil production in Kazakhstan will return to a growth trajectory in 2022 and will continue to grow until 2034. For the rest of the forecast period, given the global decarbonization trend, a slow and gradual decline in oil production can be expected—to 79.6 million tons by 2050, which is 7% lower than the 2020 level (Fig. 1).

**Gas production.** In 2021–2022, global spot gas prices increased sharply. The increase was caused by a number of factors: the lifting of quarantine restrictions and the consequent rapid recovery of economic activity across the world, the reduction of domestic production and imports of gas in European countries, and the low level of gas reserves in developed countries just before the 2021–2022 winter season.

According to long-term forecasts of the development of the global economy, the following trends can

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\(^3\) Perspektivy razvitiya mirovoi energetiki do 2050 goda (Development Prospects of the Global Energy Sector until 2050), 2021. https://lukoil.ru/FileSystem/9/570591.pdf.

\(^4\) Obzor nefteservisnogo rynka Kazakhstana — 2020 (An Overview of the Kazakhstan Oil Service Market — 2020), Deloitte, 2021. https://www2.deloitte.com/content/dam/Deloitte/ru/Documents/energy-resources/Russian/oil-gas-survey-kazakhstan-2020.pdf.

\(^5\) Natsional’nyi energeticheskii doklad (National Energy Report), KAZENERGY, 2021, p. 84.
be expected in the global gas market by 2050. In the medium term the demand for gas will grow at a higher rate than the demand for liquid hydrocarbons, due to the lower carbon intensity of natural gas compared to oil and coal, which will lead to an increase in investment in the gas industry.

A distinguishing feature of gas production in Kazakhstan is that most of the produced gas is associated (i.e., produced as part of activities aimed primarily at oil production). Accordingly, the level of gas production in Kazakhstan is largely determined by the extraction of liquid hydrocarbons.

In 2021, 81% of total gas production and about 70% of commercial gas in Kazakhstan was sourced from the Kashagan, Karachaganak, and Tengiz projects, since these three projects require significant volumes for reinjection in order to increase oil recovery. Thus, according to the estimates of the Ministry of Energy of the Republic of Kazakhstan, by 2030 the volume of reinjected gas will almost double the current level [18] (from 20.3 to 39.9 billion m³ per year).

According to IHS Markit estimates, commercial gas production in Kazakhstan will peak at about 36 billion m³ in 2030 followed by a decline to about 30 billion m³ by 2050.7

Coal production. The decarbonization policies of most countries involve reducing and phasing-out coal generation.

In Kazakhstan, in 2020 coal production generally remained at the average annual level of the past decade (about 109 million tons per year). Most coal production—95%—involves bituminous coal, 9.7% of which is metallurgical coking coal.8

Almost 70% of electricity and 99% of heat in Kazakhstan is produced by burning coal.

The global energy transition will directly impact coal production. Thus, the draft of the Doctrine of Achieving Carbon Neutrality in the Republic of Kazakhstan until 2060 proposes to reject any new coal generation projects starting from 2022. It is also proposed to reduce the volume of coal generation by 50% by 2030 and to completely phase out coal-fired heat generation by 2045.9

Implementing that scenario is associated with a drastic reduction in coal production, leaving only coking coal for metallurgical uses.

Meanwhile, the project “Development Concept of the Fuel and Energy Complex of the Republic of Kazakhstan until 2030” forecasts that coal production (excluding coal concentrate) will amount to 98 million tons in 2025 and to 95 million tons in 2030.

Under the baseline scenario, by 2030 the Ministry of Energy expects a reduction in the share of coal in electricity generation from the current 70 to 55% and an increase in gas generation from 20 to 25%, in renewable energy and large hydropower plants, from 12 to 20%.

Our forecast assumptions are based on the estimates presented in the “National Energy Report KAZENERGY 2021,” which suggest a gradual reduction in coal production: in the period up to 2050 it will decrease by an average of 1.5% per year, reaching around 98 million tons in 2030 and 69 million tons in 2050.

Fixed capital. Gross fixed capital formation and economic growth. In the structure of Kazakhstan’s GDP,9 the share of gross fixed capital formation increased from 12 to 20%.

In developed economies, a low gross formation rate characterizes the achievement of a high efficiency of the process of fixed capital formation, when each subsequent unit of GDP growth requires a smaller amount of capital investment.

In Kazakhstan, the index of physical volume (hereafter the IPV) of investments began to outpace the IPV of Kazakhstan’s GDP starting from 2013, which indicates that Kazakhstan’s economy is showing a tendency towards the extensive type of development (Fig. 2).

Additionally, between 2000 and 2019 the degree of depreciation of fixed assets in Kazakhstan increased from 29.7% to 38.7%, while the coefficient of renewal of fixed assets decreased from 13.8 to 7.9% during the same period.10

10 O vnesenii izmeneniy v postanovlenie Pravitel’stva Respubliki Kazakhstan ot 29 iyunya 2014 goda No. 724 Ob utverzhdenii Konseptsi razvitiya toplivno-energeticheskogo kompleksa Respubliki Kazakhstan do 2030 goda” (On Amendments to the Resolution of the Government of the Republic of Kazakhstan dated June 28, 2014, No. 724 On Approval of the Concept for the Development of the Fuel and Energy Complex of the Republic of Kazakhstan until 2030). 11 Natsional’nyi energeticheskii doklad (National Energy Report), KAZENERGY, 2021, p. 160.

https://lukoil.ru/FileSystem/9/570591.pdf.

https://www.samruk-energy.kz/images/aaapro- tokol/Otchet_na_russkom_1_tom.pdf.

Doktrina (strategiya) dostizheniya uglernodoi neitral’nosti Respubliki Kazakhstan do 2060 g. (Doctrine (Strategy) of Achieving Carbon Neutrality in the Republic of Kazakhstan until 2060), 2021. https://legalacts.egov.kz/npa/view?id=11486215.
According to World Bank estimates, the trends in Kazakhstan’s economic growth and its quality will increasingly depend on increasing productivity. Given the high degree of depreciation of Kazakhstan’s fixed assets and insufficiently developed infrastructure, additional investments in fixed assets can provide only a slight increase in GDP. Without an increase in productivity, maintaining the current investment level of about 25% of GDP would result in only a slight increase in capital stock per person employed and, consequently, only a small increase in GDP per capita over the next decade (under 0.4% per year).14

**Forecast assumptions.** One of the most important factors for predicting potential GDP trends is the growth rate of fixed capital. Under the baseline scenario, the volume of investment will consistently increase from $70.8 billion in 2023 to $177.7 billion in 2050 in value terms at constant 2017 prices. Meanwhile, the growth rate of investment will gradually decline after reaching its maximum value of 8% in 2023 (Fig. 3).

**Labor supply.** The forecast of the population and workforce for the period until 2050 was developed on the basis of the Demographic model constructed by the authors using the *age-shifting method* (Cohort Component Method).15

**Population forecast.** Population growth in Kazakhstan is mainly natural, with migration balance playing a significantly smaller role.

According to the forecast, the population of Kazakhstan will exceed 19.6 million people by 2025, 20.4 million by 2030, 22.3 million by 2040, and 24.4 million by 2050. The average annual population growth rate in 2021—2050 will be 1.0% (over the past 20 years, the average rate was 1.1% per year). Increases in population will come from natural population growth (Fig. 4).

With internal migration from rural to urban areas, the level of urbanization will increase from 59.1% in 2021 to 64.0% by 2050.

The results of this demographic forecast are quite similar to the results of the corresponding UN forecast (World Population Prospects 2019).16

**Labor supply forecast.** The forecast of the workforce (labor supply) in Kazakhstan for the period until 2050 has been developed on the basis of the long-term working-age population forecast adjusted for the different levels of economic activity of the population across five-year gender and age groups. In Kazakhstan, the retirement age for women has been increasing by 6 months per year since 2018 and will continue to increase in the same increment until 2027 inclusive up to the level of 63 years. Nevertheless, the share of working-age people in the total population will decrease from 58.7% in 2020 to 57.1% in 2050.

In general, the workforce will show positive growth, albeit at a moderate rate (Fig. 5).

According to the calculations, the workforce will reach 11.2 million people by 2050, while the share of the workforce in the total population will decrease from 48.9% in 2020 to 44.9% in 2050.

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14KAZAKHSTAN. Reversing Productivity Stagnation. Country Economic Memorandum, World Bank, 2018.

15Methods for Population Projections by Sex and Age. Manuals on Methods of Estimating Populations. Manuals III. United Nations. Department of Economic and Social Affairs, New York, 1956. ST/SOA/Series A. Population Studies, No 25. P. 94. https://www.un.org/en/development/desa/population/publications/manual/projection/sex-age.asp.

16World Population Prospects 2019: Highlights. ST/ESA/SER.A/423, United Nation, New York, 2019. https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf.
Workforce productivity and total factor productivity. Due to the decreasing marginal productivity of labor and capital, accumulating these factors provides progressively smaller effects on long-term growth, with the exogenous factor of technical progress that determines the level of total factor productivity (TFP) playing a larger role.

Total factor productivity increases if real production costs associated with labor and capital costs decrease. Thus, workforce productivity can be consid-
erased as a function of the TFP and the capital—labor ratio.

According to researchers of the National Research University Higher School of Economics (Russian Federation), workforce productivity has a significant impact on the TFP. “...workforce productivity will not remain at the same level throughout the entire specified period: this forecast only illustrates the limitations of economic growth if higher long-term growth rates of workforce productivity are not achieved. Workforce productivity growth can, in turn, be fostered by increasing the capital—labor ratio, the total factor productivity, and the contribution of human capital” [19, p. 25].

Trends of the workforce productivity index and economic growth in Kazakhstan in 2010–2020 [20]. At the macroeconomic level, increasing workforce productivity is closely connected to increasing economic growth: the correlation between these variables is 91%. Total factor productivity increases if real production costs associated with labor and capital costs decrease. This is confirmed by economists’ conclusions that the greatest TFP growth is expected in the industries in which a significant reduction in the number of employees is observed [21]. TFP trends may correlate with output trends, but simultaneously differ from its industry structure [22]. Comparing the workforce productivity index with the economic growth of Kazakhstan reveals that the trend of the IPV of the GDP is ahead of the labor productivity index (Fig. 6).

A positive trend is observed in the production of goods, where the workforce productivity index is ahead of the trends of the industries’ GVA. However, the service sector has since 2010 been showing an extremely unfavorable trend of a growing gap between the economic growth rate and the workforce productivity trend. The structural economic shifts of the 2000s have formed intensive reallocation processes in the labor market — the outflow of working-age population from agriculture to the service sector.

For reference. In 2021, the highest share of people employed (16.6%) across all sectors of the economy was concentrated in the sphere of trade. However, the number of people officially employed in Q3 2021 amounted to only 14.3% of the total number of people employed in trade. The rest constituted the self-employed or the informal sector. The factor of labor reallocation may be the cause of the stagnation of workforce productivity in the service industry, especially in trade.

Forecast assumptions about the trends of workforce productivity by industry and the total factor productivity. Analyzing workforce productivity by industry and the TFP over time makes it possible to assess the country’s progress over the considered period and make appropriate forecast assumptions until a certain time (in our case, until 2050) based on the calculated data. Forecast calculations of the TFP by industry for the period until 2050 were performed for 34 industries of product-

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17 ILO Centenary Declaration for the Future of Work, International Labor Conference, 2019. https://www.ilo.org/wcmsp5/groups/public/—europa/—ro-geneva/—sro-moscow/documents/publication/wcms_774539.pdf.

18 Zanyatoe naselenie po vidam ekonomicheskoi deyatelnosti i regionam za 2010—2021. (People Employed by Types of Economic Activity and by Region in 2010—2021) http://www.stat.gov.kz.

19 Chislennost’ i zarabotnaya plata rabotnikov v Respublike Kazakhstan, III kvartal 2021. (Number of people employed and their wages in the Republic of Kazakhstan; Q3 2021), Table 1. http://www.stat.gov.kz.
tion of goods and services, incorporating functional dependences between workforce productivity, capital, and the TFP.

According to the calculations, in the period until 2050 the best TFP trend is expected in the manufacturing industries (the food, pulp and paper, printing, petroleum-refining, chemical, and other such industries). Correspondingly, this has a positive effect on workforce productivity trends in these industries.

In agriculture, despite the reduction in employment in 2010–2020, the contribution of the TFP to the development of agriculture does not increase in the period until 2050, but remains unchanged at 0.1%.

The worst TFP trend in the period until 2050 is expected in coal mining, iron ore mining, non-ferrous metals mining, electricity, and water industries.

Productivity of the analyzed industries is affected by increasing production costs associated with labor costs (number of people employed) and capital (investments). The decline in production growth in these industries in the 2010–2020 period has, according to our calculations, ultimately led to a decrease in the TFP in these industries. These trends adversely affect these industries’ productivity in the period until 2050.\textsuperscript{20}

\textbf{Baseline scenario of the long-term forecast of the potential gdp of Kazakhstan.} The baseline scenario projects a continuation of historical trends into the future with adjustments associated with the objective of decarbonization of the economy of Kazakhstan. It is assumed that the principles of the country’s economic policy will overall not undergo significant changes.

The main assumptions and forecast estimates of the trends of the main production factors that form the long-term trend of the country’s potential GDP are described above.

\textsuperscript{20}From 2010 to 2013, the official statistics of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan on investments in fixed assets (hereafter IFA) by industry list the statistics on iron ore mining and non-ferrous metals mining separately. Since 2014, iron ore mining is included in the statistics on mining of metal ores, and non-ferrous metals mining is included in the statistics on mining of other minerals. Therefore, these indicators may not be completely accurate, which may affect the final results of these industries’ IFA.
Figure 7 presents the results of modeling the potential GDP of Kazakhstan for the period until 2050.

The above graph demonstrates that the country’s GDP fell sharply in 2020 due to the shocks of aggregate demand associated with the COVID-19 pandemic. After 2020, the country’s GDP resumed its growth, which is expected to reach its maximum in 2023 and 2026, 5.2% per year in each. In the future, until the end of the calculation period in 2050, the annual growth rate of potential GDP will gradually slow down. According to the baseline scenario, in 2050 the potential GDP of the country will amount to $462.5 billion at 2017 prices, i.e., will increase 2.6-fold compared to 2020.

Thus, given unchanged basic principles of the state economic policy and the estimated rates of population growth (1.0% on average), workforce productivity growth (1.5% on average), and fixed capital growth and oil production decline (0.5% on average), the average annual increase in the potential GDP for 2021–2050 will be 3.3% (in 2021–2030, 4.6%, and in 2031–2050, 2.6%).

**Conclusions.** The presented long-term forecast of the potential GDP of Kazakhstan is one of the hypothetical options for the country’s “production capacity curve.”

The analysis of the programs of various state bodies on the prospects for the production of the key types of natural resources (oil, gas, coal) by industry demonstrated uncertain positions on medium-term forecasts of production volumes.

There is insufficient information about the costs, benefits, and degree of influence of economic instruments of low-carbon development on the trends and sustainability of the growth of foundational industries and the economy as a whole. Thus, EU countries introducing a border carbon tax carries risks of reducing revenues from Kazakhstan’s exports [23].

In the context of the global energy transition, the country needs to develop well-considered approaches to its economic policy in order to minimize the costs of the decarbonization process of the economy.

Priorities for a long-term economic policy aimed at achieving optimal structural shifts in the economy must be developed. These priorities should not only “make up” for the losses from the reduced production of natural resources, but also to replace the possible reduction in energy exports with low-carbon-footprint goods.

In terms of labor supply, the key problem will be the limited demand for labor in the formal sector of the economy rather than the volume and structure of labor supply. The labor reallocation effect will have consequences associated with an increased heterogeneity of productivity levels between industries (the Denison effect) [24].

The study has shown that the main source of productivity growth can be its growth in industries with a particularly high potential for improvement: agriculture, manufacturing, and the service industry.

Postpandemic, new trends are expected to manifest in global production, transforming global investment flows.21

The reserve of export-oriented investments aimed at making use of foreign factors of production, resources, and cheap labor is expected to decrease.

In the new global conditions, it will be necessary to adequately adapt to the new global production trends, taking into account national characteristics of fixed

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21World Investment Report 2020. International Production Beyond the Pandemic. UNCTAD, UN, 2020. https://unctad.org/system/files/official-document/wir2020_overview_ru.pdf.
capital accumulation and investment processes in the country’s economy.

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