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Table of Contents:

1 **Environmental Safety and Legal Regulation of Medical Waste Management: International Experience** 1817
Roza SEILKASSYMOVA, Daniya NURMUKHANKYZY, Aktoty RZABAY, Zhangali BAKTYKHOZHAYEV, Indira NESSIPBAYEVA

2 **A Comparative Analysis of Green Finance Awareness in Poland and Romania** 1825
Małgorzata SIEMIONEK-RUSKAŃ, Błażej LEPCZYŃSKI, Mina FANEA-IVANOVICI

3 **The Role of the Public Administration in Protecting the Environment from Pollution** 1835
Noor ALHENDI, Muamar Hasan SALAMEH

4 **Bird Diversity as a Support of Ecotourism Activities in the Mangrove Ecosystem of Lembongan Island Bali** 1840
I Ketut GINANTRA, I Ketut MUKSIN, Martin JONI, Luh Putu Eswaryanti Kusuma YUNI

5 **Criminal Behavior as a Basis for Criminal Responsibility for the Crime of Introducing Substances Hazardous to the Environment in Jordanian Legislation** 1851
Abdullah ALKHSEILAT, Tareq AL-BILLEH, Majd ALMANASRA, Naji ALWERIKAT

6 **Resource Endowment of Rural Areas: Indicators, Assessment Procedures** 1859
Talgat KUSSAIYNOV, Sandugash TOKENOVA

7 **Culture-Based Landscape Concept of the Sea Tribe Old Kampong of Batam City** 1867
Nabila Tamaya CHANET, Andi GUNAWAN, Aris MUNANDAR

8 **Criminalization of the Transmission of the Coronavirus C0VID-19 and Its Impact on the Right to a Healthy Environment** 1881
Noor AL-KHAWAJAH, Abdullah ALKHSEILAT, Tareq AL-BILLEH, Majd MANASRA, Naji ALWERIKAT

9 **Features' Enterprises Related to Environmental Protection and Environmentally Friendly Products for Sustainable Industries of Kazakhstan** 1888
Gulmira DAMBAULOVA, Andrey KOVAL, Aigul MUKATAY, Saida KAIDAROVA, Aziza DAULETOVA, Gulnara KURMANOVA

10 **Sustainable Development Prediction of Start-ups in Ukraine** 1901
Oleh SOKIL, Nazar PODOLCHAK, Sviatoslav KNIAZ, Yana SOKIL, Lesia KUCHER

11 **Environmental Concerns in the Framework of General Sustainable Development and Tourism Sustainability** 1911
Eka PURWANDA, Willya ACHMAD

12 **Opportunities for Using Green Bonds to Finance Environmental Projects in Developing Countries: Experience of the Republic of Kazakhstan** 1918
Aliya M. NURGALIYEVA, Zhanar S. KAZBEKOVA, Laura K. BOKENCHINA, Dana BEKNIYAZOVA, Kazbek K. BOKENCHIN

13 **Environmental Education - A Commitment Assumed by Elementary School Teachers** 1927
Melba Rita VÁSQUEZ TOMÁS, Maruja Dionisia BALDEÓN DE LA CRUZ, Judith Soledad YANGALI VICENTE, Delsi Mariela HUAITA ACHA, Enaidy REYNOSA NAVARRO

Winter 2022
Volume XIII
Issue 7(63)

ASERS Publishing
http://www.asers.eu/asers-publishing
ISSN 2068 – 7729
Journal DOI: https://doi.org/10.14505/jemt

14	**Agri-Food Industry and Environmental Impact to Ensure Sustainable Development. Factors and Threats' Awareness in the Post-Pandemic Period** Gulnar KASHAKOVA, Murat AIMURZINOV, Akzhan YEGINBAYEVA, Zhamilya MIZAMBEKOVA, Dariga KHAMITOVA, Gulmira NAKIPOVA	1937
15	**Criminal Responsibility for the Crime of Discharging Polluting Substances for Water Sources in Jordanian Legislation** Majd ALMANASRA, Abdullah ALKHSEILAT, Tareq AL-BILLEH, Naji ALWERIKAT, Ahmad Hussein ALSHARQAWI	1948
16	**Innovative Potential of Regional Economic Systems under Conditions of Variability of Ecological and Economic Processes** Gulzira AKZHANOVA, Aigul BAKIRBEKOVA, Talgat DEMESSINOV, Halina SHMARLOUSKAYA, Zubirash SMAGULOVA	1955
17	**Is Mandatory Ecological Information Disclosure Linked with Real Ecological Performance? Evidence from Gauteng Local Government, South Africa** Thomas NYAHUNA, Mishelle DOORASAMY	1970
18	**Environmental Approaches for the Benchmarking of International Experience in the Use of Scientific Research in State Strategic Planning for a Sustainable Development** Ayapbergen TAUBAYEV, Zhadyra ARKENOVA, Assemgul MUSSATAYEVA	1978
19	**Development of Ecosystem Stability as a Tool for Managing Agricultural Areas in the Republic of Kazakhstan: Problems and Opportunities for their Resolution** Aiym SEIDAKHMETOVA, Daniyar KALDIYAROV, Stefan DYRKA, Assel BEDELBAYEVA, Alimzhan KALDIYAROV	1993
20	**Using Tools to Regulate the Transition to a Green Economy and Preserve the Environment for Countries Exporting Raw Materials** Aida TATIBEKOVA, Marat ALTAY, Almas KURALBAEV, Bayanslu A. MARKHAYEVA, Alma KARSHALOVA	2002
21	**Reporting of Endangered Animals at Tourist Destination Locations using Self-Reporting Applications** Marvin Chandra WIJAYA	2010
22	**Ecologization: Barriers and Opportunities to Overcome Them in the Conditions of Post-War Recovery** Bohdana KOSOVYCH, Kateryna VASKIVSKA, Anatolii KUCHER	2017
23	**Marketing Strategy and Performance in Tourism Industry: SMART Tourism Development in Madura Island** Muh. SYARIF	2029
24	**Mapping Analysis of the Research Trends on Digital Technologies and Circular Economy in Tourism** Samalgul NASSANBEKOVA, Gaukhar YESHENKULOVA	2048
25	**Halal Tourism Governance Based on the Fatwa of the National Sharia Council on Tourism Improvement** Moh. BAHRUDIN	2058
26	**Examining the Development of Sustainable Tourism on Phuket Island: A Literature Review with Implications for Tourism Planning** Kevin FUCHS	2069

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Journal of Environmental Management and Tourism

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Features' Enterprises Related to Environmental Protection and Environmentally Friendly Products for Sustainable Industries of Kazakhstan

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Abstract:

Creating favorable conditions for the sustainable industries is an important task of the present generation associated with the action of a complex of economic, industrial, environmental and social factors that ensure their transformation in accordance with the changing environmental factors. This study shows the dynamics of changes in sustainable industries, highlights the features of Kazakhstani enterprises, calculates their share of activities in the volume of industry, the contribution of regions to the republican volume of industry, the financial stability of industrial enterprises, the disposal of fixed assets, the level of investment in fixed capital of industry in conjunction with production environmentally friendly products.

Keywords: sustainable industries; environmental protection; environmentally friendly products; competitiveness.

JEL Classification: Q56; Q57.

Introduction

The increase in the pace of development and increase in the competitiveness of industry as one of the priority tasks for the sustainable development of industries is noted in the annual messages of the head of state. The

global pandemic and post-pandemic processes affected the economic conditions and contributed to the awareness of decision-makers that the future development must be closely related to the ability of enterprises to produce ecologically and to maintain a weighted pace of natural resource exploitation to contribute for sustainable development.

The resource potential of the extractive sector does not allow increasing production by more than 1% - 3% per year, while some domestic extractive industries are heavily dependent on imported technology and equipment from abroad. As of 2021, the industrial production index decreased from 104.1% to 99.5%, and in the manufacturing industry by 1.7%. There are also negative trends in the decline in production potential in industries, including a decrease in production capacity utilization (depreciation of fixed assets at industrial enterprises amounted to more than 45% in 2020), etc. It was revealed that the growth of prime cost at domestic enterprises is not accompanied by an increase in the share of innovative products in the total volume of production. Under these conditions, in order to increase the level of sustainability of industrial production, it is advisable to restore output and increase the competitiveness of manufacturing industries through the development of high-tech industrial enterprises.

The concept of sustainable industrial development is revealed and realized through inclusive and sustainable industrial development, the vision of which is to use the full potential of industry's contribution. The main distinguishing feature of the industrial ecosystem is industrial symbiosis, which combines the concepts of industrial ecosystems and sustainable development. Industrial symbiosis is an approach that combines several factors (economic systems, organizations or enterprises), based on the physical exchange of materials, energy and production waste, creating economic advantages for factors and environmental, environmental, social benefits for society. In a general sense, industrial symbiosis can be viewed as a circular economy within the concept of industrial ecology.

1. Literature Review

The urgent need to stimulate the development of our own high-tech and innovative base requires further development of the theoretical and methodological foundations for assessing the level of competitiveness of enterprises. At the same time, in the economic literature there is no comprehensive presentation of the factors for increasing the competitiveness of the industrial complex as a whole and its individual sectors.

The innovative component of industrial sustainability enterprises also requires research and creates the basis for the use of intellectual potential and the production of high-tech products which could enhance low waste production processes, and the use of safe and environmentally compatible materials. The mechanism for increasing the level of innovativeness of industrial enterprises, the existing tools and mechanisms for implementing economic policy to increase the competitiveness of industrial enterprises need further theoretical study. The identified problems, their significance in theoretical and practical terms predetermined the choice of the topic and the purpose of the study.

The research methodology is based on existing theoretical works on the study of the competitiveness of industrial enterprises. This study used the methods of system analysis, graphical analysis, economic and statistical analysis, etc. The sustainability of the industry has a positive impact on the financial, environmental and social performance of the enterprise. Investing in the sustainable activities of small and medium-sized businesses, attracting innovation and technology is an advantage of public policy in the field of enterprise development (Rodríguez-Espíndola *et al.* 2022).

A study of Zhu, Nguyen, Sarm Siri and Malik (2022) proposes a transformational conceptual model for small and medium-sized enterprises (SMEs) applied to the theory of sustainable innovative entrepreneurship. Small and medium enterprises (SMEs) are at the center of the global economy's transition to more sustainable development patterns. However, small and medium-sized enterprises, individual entrepreneurs and small businesses have always faced obstacles in implementing the concepts of social responsibility and sustainable development. Green innovation, eco-efficiency, social innovation plays a big role in enterprise sustainability (Corazza *et al.* 2022).

Factors influencing the sustainable development of enterprises are shown in the developed model for studying the relationship between social pressure, environmental obligations, environmental economic incentives (Centobelli *et al.* 2021).

Solving problems with recyclability, financial problems and weak vision of SMEs by management, "strong will of management", innovation, technology upgrading, employee training, motivation and related guidelines are the directions for achieving the enterprise's sustainable development goals (Sharma *et al.* 2021). The transition to sustainable development focuses on the regional aspect of the environment, which favorably affects the

investment attractiveness of industrial enterprises. It is necessary to pay attention to a balanced solution of economic, social and environmental problems, threats and challenges of an economic, administrative-legal, resource-technical, social and environmental nature (Aleksandrov and Skvorsova 2021).

Micro-Small and Medium Size Enterprises have made a significant contribution to achieving the Sustainable Development Goals through job creation, poverty reduction and improved living standards. However, the review found that access to finance, access to electricity and trade regulation are the main barriers to the development of the sector (Endries and Cassegne 2021). Micro-Small Medium Enterprises (MSMEs) play an important role in the country's economy, so managers should try to conduct their business in accordance with the modern concept of a green economy (GE). The green economy is an economic concept that makes environmental sustainability an important part of achieving the Sustainable Development Goals (SDGs) (Astadi *et al.* 2022).

The problems of sustainable development of industry are becoming increasingly relevant in the modern world. Many countries are refocusing on sustainability due to new climate change challenges.

In recent years, many different institutions, namely governments, non-governmental organizations, universities, social enterprises and the private sector, have become the building blocks for promoting and realizing sustainability in society. Social entrepreneurship is a key driver of sustainable development (Halsall *et al.* 2022). Governance implications relate to the promotion of knowledge and practice in the area of knowledge sharing initiated by business incubators. The role of business incubators (BI) in the field of small and medium-sized enterprises (SMEs) has grown rapidly, supporting SMEs, especially at an early stage (Ilyina 2021).

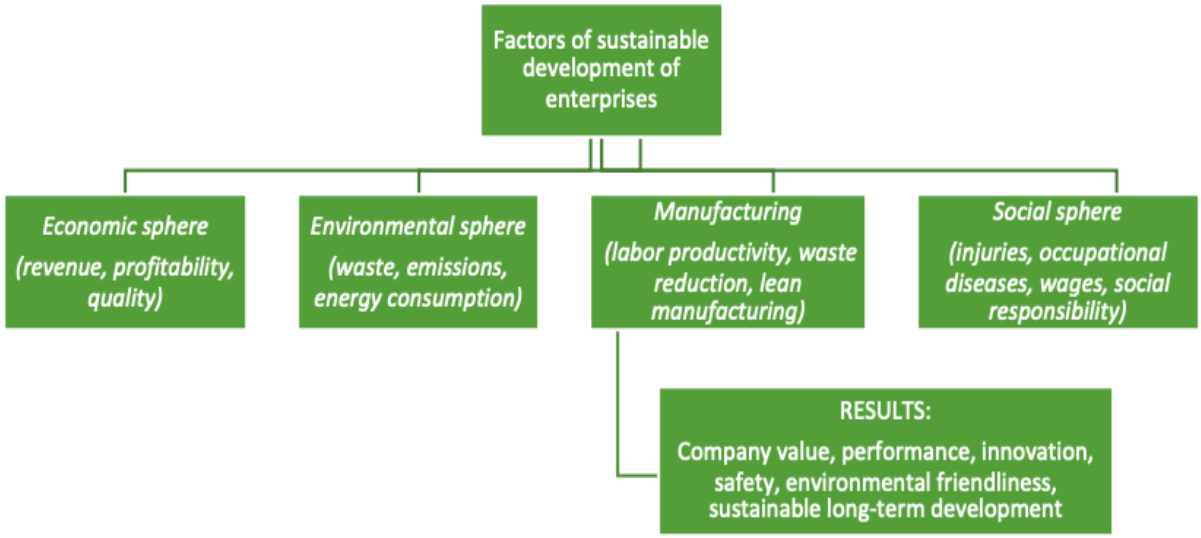
Also, modern research in the field of the essence and nature of the competitiveness of enterprises is reflected in the modern studies of the authors as: Zinchenko and Silvestrov (2017), Kondrakov (2019), Strykh (2020), Pushkarev (2020), Kamenova and Omarova *et al.* (2019).

2. Indicators of the Development for Sustainable Industries

The conducted research of scientific sources allows us to identify the main indicators of the development of enterprises in terms of sustainable industries, namely:

- in the economic sphere (revenue, quality);
- in the manufacturing sector (labor productivity, loss reduction, lean production);
- in the social sphere (injuries, occupational morbidity, wages, welfare of people);
- environmental sphere (waste, emissions, energy consumption) (Figure 1).

Figure 1. The indicators of enterprise's development for sustainable industry



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Sustainable development is the ability of a system of interrelated elements of an enterprise to improve the growth of the economic efficiency of an enterprise, taking into account the influence of various environmental factors (Grashchenkova 2021). Sustainability is a property of the system that provides effective counteraction to the influence of the external environment, as well as internal factors in the development of the organization, both explicit and latent (Klevtsov 2018, Kondaurova 2018). Sustainable development of a socio-economic system (enterprise) is its ability to carry out a progressive purposeful movement towards the goal of increasing the level

of economic, social and environmental sustainability, achieving the maximum result by changing the internal environment and productive constant interaction with the external environment (Gardt 2021).

Figure 2. Stages of assessing the level of sustainable development of an enterprise

3. Relation with the Development and Sustainable Industries

The negative macroeconomic dynamics of recent years has shown that enterprises' own resources are one of the sources of real investment and a significant benchmark for investors, which requires a fundamental study of the mechanisms for generating income and expenses of subjects of the real sector of the economy. Practice has shown that profit and depreciation deductions are their own resources, which can be used to increase the volume of investment financing.

Depreciation, first of all, is a source of financial resources of the enterprise and renewal of fixed assets. Influencing this process, the state has the ability to regulate the processes of expanded reproduction by updating and modernizing fixed capital, which is the first step towards increasing the competitiveness of enterprises in Kazakhstan.

In general, the share of costs associated with the depreciation of fixed assets of intangible assets has a positive trend. Table 1 shows that the consumption of fixed capital for the analyzed period increased by 78.1% or 3,910.9 billion tenge. Also, its share in the gross domestic product in 2016 was only 10.1%, and in 2021 it increased slightly to 10.6%.

Table 1. Gross domestic product at market prices

Indicators	2016	2017	2018	2019	2020	2021
Salary	14.253.989,5	16.610.443,3	18.825.518,4	21.199.133,2	23.319.046,0	25.650.951,0
Taxes on production and imports	3.465.723,7	3.973.441,9	4.890.902,8	5.778.552,1	6.356.407,3	6.992.048,0
Subsidies for production and imports	143.451,8	188.984,9	164.369,2	206.349,3	226.984,2	249.682,6
Consumption of fixed capital	5.009.473,7	5.726.334,4	6.394.457,4	7.372.240,6	8.109.464,6	8.920.411,1
Net income and net mixed income	24.385.414,9	28.257.623,1	31.873.027,0	35.389.049,9	38.927.954,0	42.820.750,4
Gross domestic product at market prices	46.971.150,0	54.378.857,8	61.819.536,4	69.532.626,5	76.485.889,2	84.134.478,1

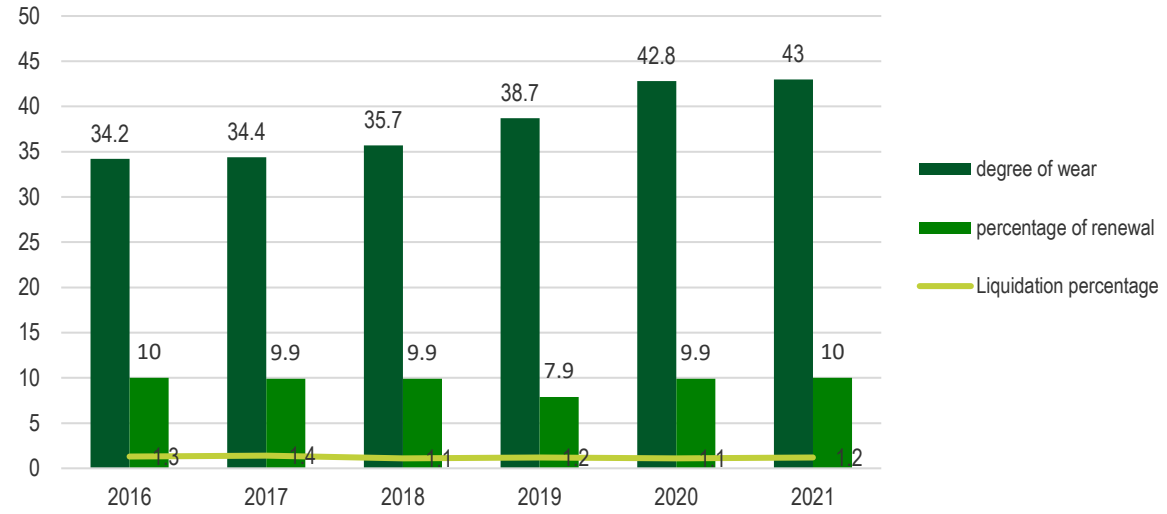
Source: compiled by authors according to *https*://www.stat.kz

That is, the depreciation fund is no longer considered the main source of investment resources and the mechanism for the formation of fixed capital and has actually lost the value of depreciation savings. This factor is aggravated by the indicator of the moral and physical obsolescence of technical parks, which suggests that depreciation reflects only the depreciation process, defining and fixing the boundary between the working and worn parts of fixed assets.

As a result of the analysis of the data shown in Figure 3, we found that the average degree of depreciation of the fixed capital of enterprises in the republic over the past 6 years is 38.1%, with an average level of its input and disposal - 9.6% and 1.2%, respectively. That is, the increase and renewal of fixed capital occurs only in relation to their 1/11 parts, and 1/61.9 of the available fixed assets is liquidated and written off from turnover. Such

a gap between the last two indicators (by 7.5 times) speaks of the small volumes and speed with which worn out and unsuitable for production means of labor are withdrawn from circulation, which is especially important in the transition to an accelerated development of domestic production.

Figure 3. The level of depreciation of fixed assets of industrial enterprises in Kazakhstan, 2016-2021



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Along with this, one can note a slight increase in the coefficient of validity of the fixed capital of domestic enterprises over the period under consideration. If in 2020 the degree of depreciation of fixed assets was 42.8%, then in 2021 the degree of suitability of the property complex increased by 0.2%.

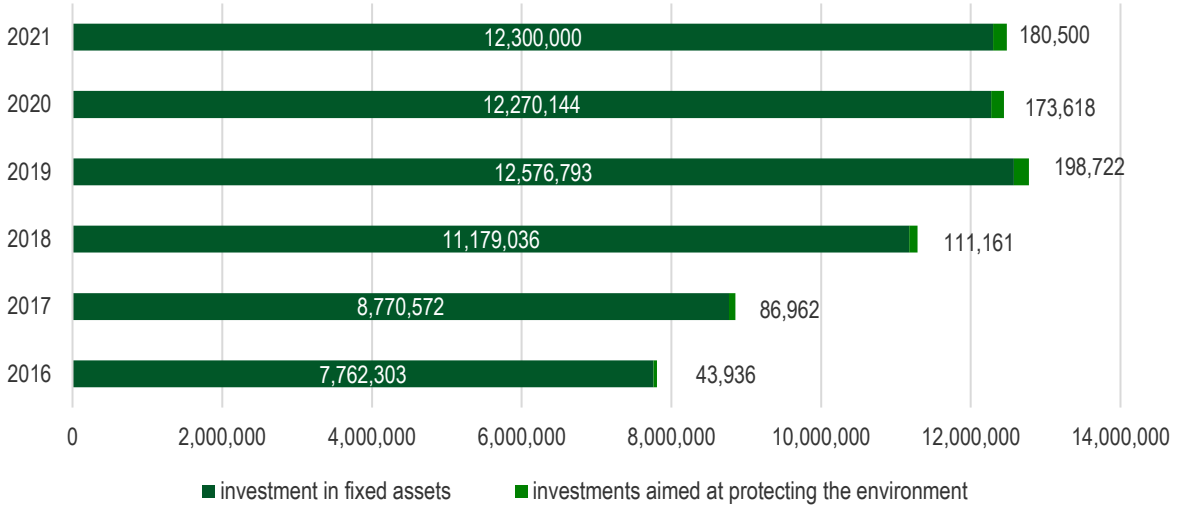
That is, one of the main sources of investment - depreciation - is not involved. In this regard, there is a need to develop a progressive depreciation policy that ensures the fastest restoration of the competitiveness of the real sector and the intensification of investment activity. In particular, in order to streamline the circulation of depreciation deductions and increase their role in the reproduction process, it is necessary to legislate the capital nature of depreciation deductions, revaluate fixed assets in accordance with their real value, taking into account moral and physical depreciation, strengthen control and responsibility of business entities for the targeted use of depreciation funds, training of independent expert appraisers, publication of reference materials, methodologies, *etc*.

The key principle of the state investment policy regarding the use of own funds of enterprises and organizations of all forms of ownership for investment purposes should be non-interference in the activities of private investors and maximum stimulation of their investment activity. Thus, domestic enterprises currently have a financial and production mechanism devoid of any investment potential, which, first of all, affects the goals of work, in most cases, related to the solution of tactical tasks, while the economic conditions of today require promising approaches to state priorities.

It is impossible not to note the emerging mechanism for the formation and strengthening of investment work in terms of the formation of fixed capital and increasing its quantitative basis. Fixed capital, as the main part of the national wealth, is the fastest growing active element of production, which is mainly due to its functional characteristics. Abstracting this process from the impact of other kinds of factors, one can note some revival in the field of investment of fixed capital of industrial enterprises in 2016-2021, where there is an increase in the share of fixed capital investment by 58.1%, although from 2019 to 2020 there is a slight decrease by 2.4%.

An analysis of the dynamics of development of investments in fixed capital of enterprises in the republic over the past 6 years made it possible to establish that the average rates of their growth and growth are 158.5% and 58.5%, respectively (Figure 4). At the same time, investments in environmental protection also increased almost 4 times to 180.5 billion tenge. Taking into account the fact that one of the important factors of economic growth is the growth of environmentally exploiting industrial production, it is necessary to focus on the formation of new areas of the economy that help reduce the burden on natural capital while stimulating the development of scientific and technological progress.

Figure 4. Investments in fixed capital and environmental protection, mln. tenge



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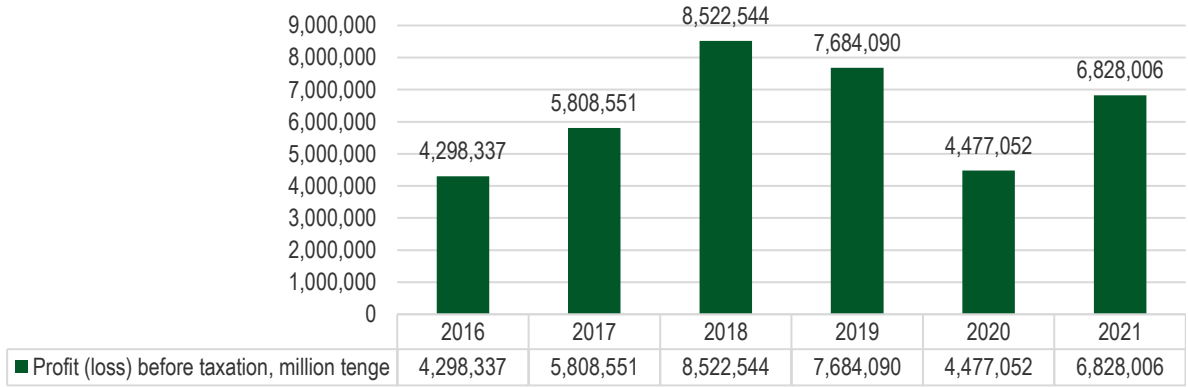
Reducing the pressure of resource and environmental constraints is possible through the development and implementation of new advanced technologies in production cycles, as well as by taking into account the trends in industry digitalization and the use of fundamentally new materials. Negative moments in the accounting and depreciation of fixed assets at existing enterprises in Kazakhstan are revealed, which significantly reduces the efficiency of using their own sources of financing investment activities.

The resulting disproportion between the size of the value of fixed assets and manufactured products is the result of a reduction in production and the preservation of idle fixed assets on the balance sheets of enterprises. In Kazakhstan, there is a positive trend in the growth of the share of enterprises and organizations that have received a profit (Figure 5). The data in Figure 5 show that the profits of industrial enterprises increased from 4.3 billion tenge to 8.5 billion tenge, or almost doubled. In 2020, it reached the level of 2016, falling to 4.5 billion tenge, which is associated with the coronavirus pandemic. In 2021, there is an increase of 52.5% or 2,350.9 billion tenge.

Figure 5. Dynamics of profit of industrial enterprises, million tenge



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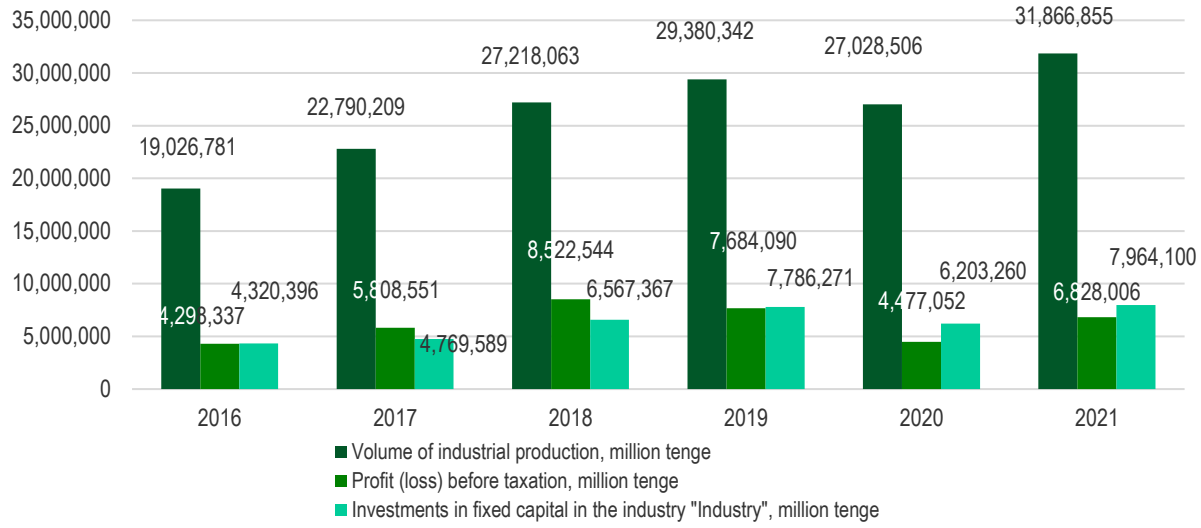
Profit is the next important own source of increasing the volume of investment financing, the reason for the positive growth dynamics of enterprises. After relatively good growth rates of the country's GDP in 2016-2019, the share of industrial GVA in the republic's GDP decreased from 27.5% in 2019 to 27.1% in 2020, or by 0.4%. Industrial growth rates decreased from 107.3% in 2017 to 104.4% in 2018, 104.1% in 2019 and 99.5% in 2020. Despite these indicators, industrial output in in monetary terms increased by 54.4% in 2016-2019 (Figure 1). However, in 2020, the volume of industrial production in the amount of 27,028 billion tenge decreased by 8.2% compared to 2019, profit decreased by 41.6%. Investments in fixed assets in 2020 decreased from 7,786.3 billion

tenge to 6,203.3 billion tenge, or 20.3%. In 2021, there is an increase in industrial production by 17.9% compared to last year, investments by 28.4% and a decrease in profit by 11.2% (Figure 6).

Figure 6. Industrial production in Kazakhstan, million tenge



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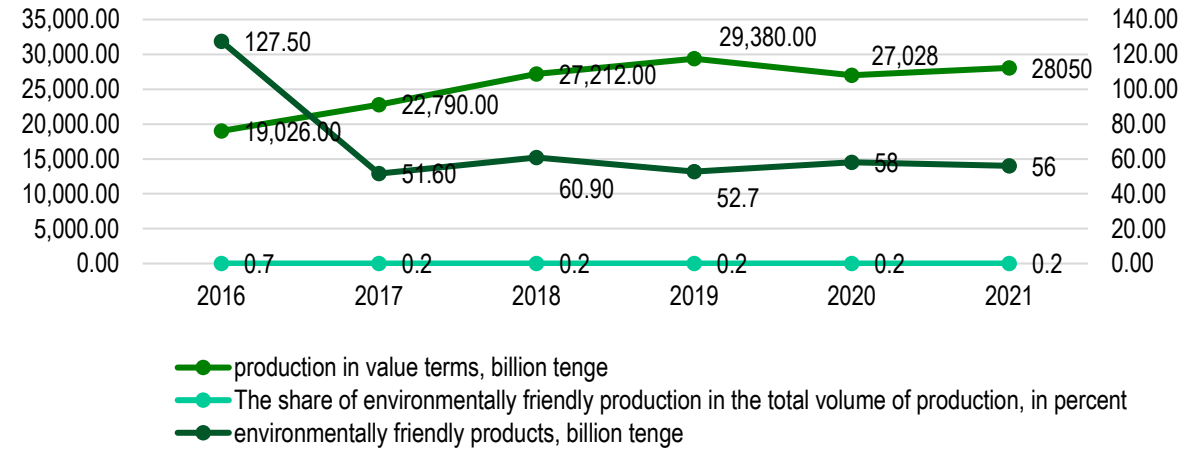
The structural dynamics of industrial production shows that a certain decline is recorded in a number of industries. In 2020, compared to 2019, the largest decline was recorded in crude oil production - 5.6%, coal production - 3.3%, natural gas production - 1.9%. A certain growth in manufacturing industries by 4.1% is also recorded in 2020, although in the previous three years it was significantly higher (from 5.6% to 5.8%). As for the structure of manufacturing industries, in 2020 the largest growth was shown by such an industry as the production of wood and cork products, except for furniture - 29.4%. The main volume of industrial production falls on the mining industry on average for 2016-2021 50.6%, manufacturing - 42.0%, food production - 6.6%. In the structure of the mining industry, more than 30% is occupied by the extraction of crude oil and natural gas, the extraction of metal ores - 8.3%. At the same time, more than 70% of industrial products are produced by private enterprises and less than 1% by the state.

Figure 7. Production of environmentally friendly products, billion tenge



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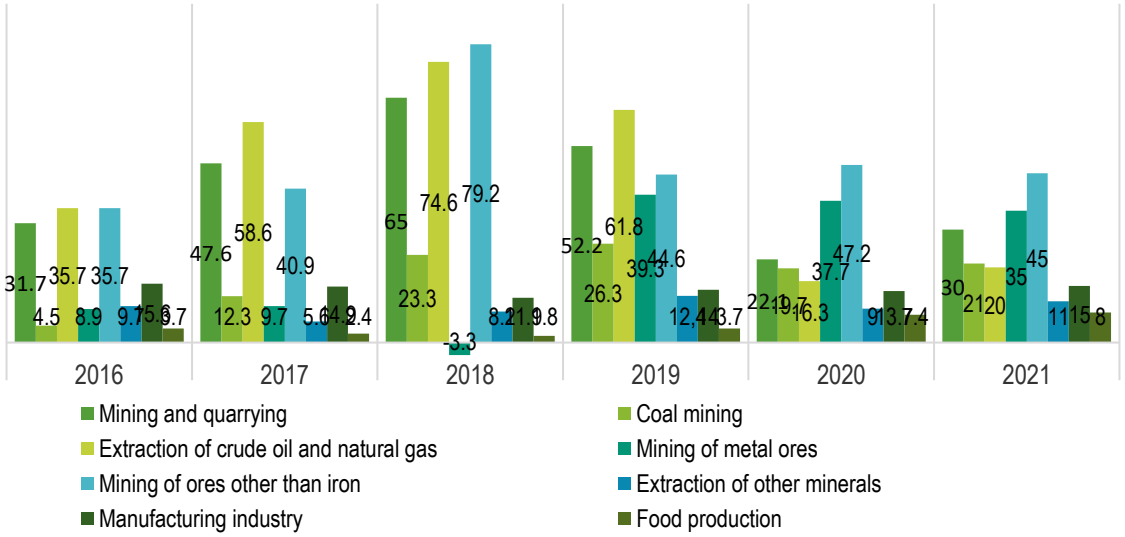
The production of environmentally friendly products takes only 0.2% of the production in value terms (Figure 7). There is a decrease from 0.7% or 127.5 billion tenge in 2016 to 0.2% in 2021 56 billion tenge or almost 2.3 times, which requires the modernization of existing industries through the introduction of cleaner

technologies, ensuring rational use of resources by promoting the technological re-equipment of national industries, the development and implementation of progressive "green" technologies in production cycles.

The production of chemical industry products in 2021 takes 1.8%, pharmaceuticals - 0.5%, metallurgical production - 21.0%, production of oil refining and petrochemical products - 3.1% (Figure 8).

Figure 8. The volume of industry by areas, %



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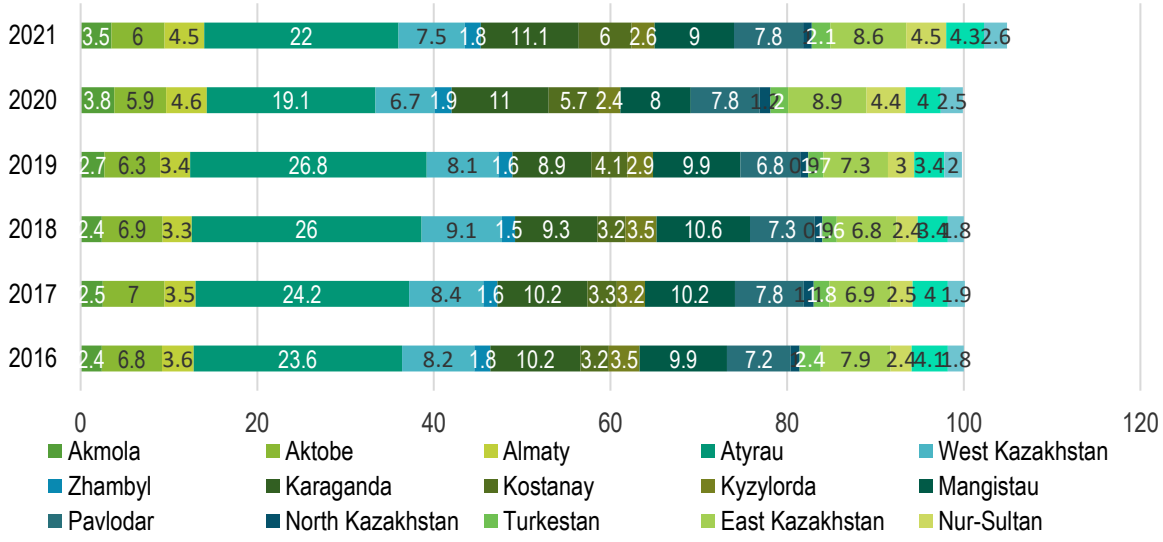
In Kostanay and Akmola regions, there is an increase in industry in 2021 by 7.8% and 6.8%, in Kyzylorda and Mangystau regions there is a decrease by 12.9% and 5.9%. The main volume of industrial production falls on the regions: Atyrau region - 19.1%, Karaganda - 11.0%, East Kazakhstan - 8.9%, Pavlodar -7.8%. The smallest volume falls on the Zhambyl region - 1.9%, Northern Kazakhstan - 1.2%, Turkestan - 2% (Figure 9).

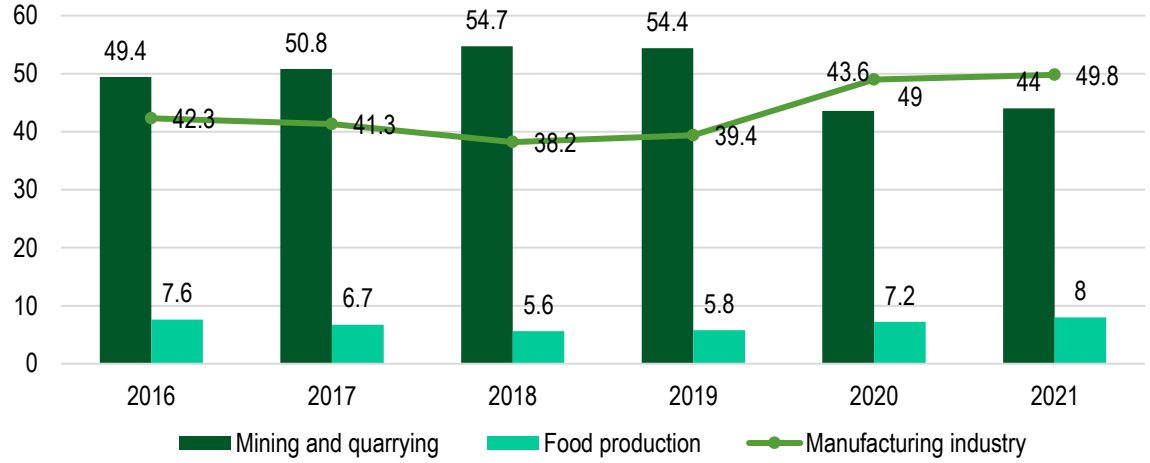
Figure 9. The share of regions in the republican volume of industry, %



Source: compiled by authors

One of the factors for increasing competitiveness is the achievement of positive results of the financial and economic activities of an industrial enterprise. Based on Figure 10, it can be seen that the profitability of the mining industry in 2020 decreased by 30.1% compared to the previous year, including coal mining by 6.6%, crude oil and natural gas mining by 45.5%, mining of metal ores - 1.6%. The financial results of the manufacturing industry also decreased from 14.0% to 13.7%, but food production almost doubled from 3.7% to 7.4%. In 2021, profitability indicators increased compared to 2020: manufacturing industry by 0.8%, mining by 0.4% and food production by 0.8%.

Figure 10. Profitability of industrial enterprises for 2016-2021, in %



Source: compiled by authors

The reasons for the decline in the stability of industrial enterprises can be called:

- irrational use of the resource potential of enterprises, a high degree of disposal of property, plant and equipment
- increase in the level of dependence on imports in the sectors of high-tech and knowledge-intensive industries;
- decrease in profitability due to the increase in the cost of energy and raw materials;
- decrease in knowledge-intensive industries and increase in the share of material-intensive industries;
- increasing the rate of substitution of domestic products with imported goods and services;
- a significant increase in environmental risks, increased instability of ecosystems;
- reduction in the rate of reproduction of the mineral resource base.

4. Issues Related to Sustainable Development of the Economy

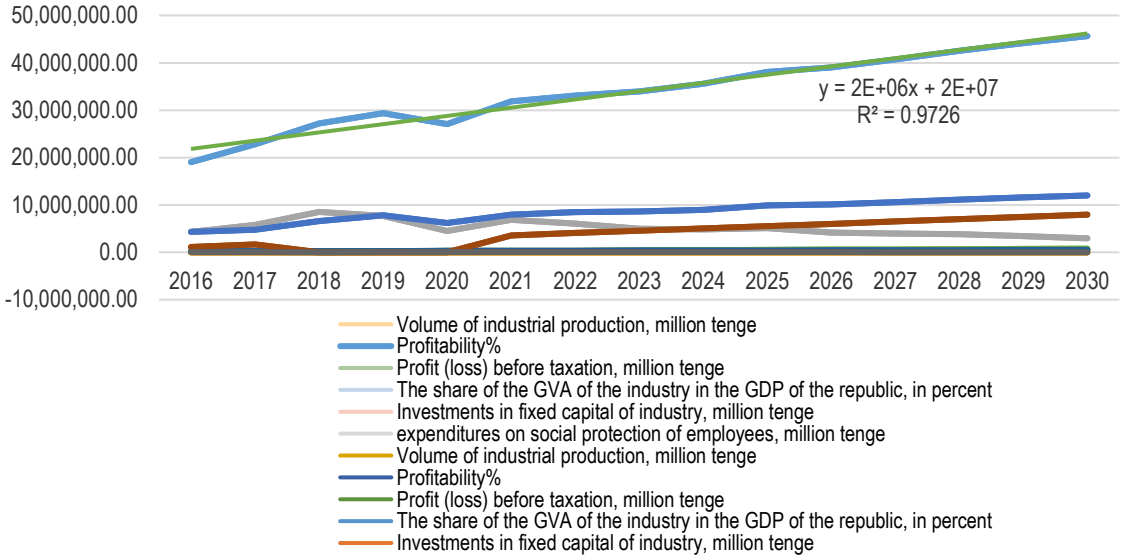
Sustainability is achieved by industrial enterprises under certain conditions and is subject to violations under the influence of internal and external factors. For the sustainability of industrial enterprises that are influenced by external and internal factors, certain conditions are necessary. It is necessary to diagnose sustainability and the impact of various factors on it, evaluating the role of industrial enterprises in the sustainable development of the economy (Table 2).

Table 2. Correlation of industrial tasks and target priorities of sustainable development

Years	Volume of industrial production, million tenge	Profitability (%)	Profit (loss) before taxation, million tenge	Share GVA in GDP (%)	Investments in fixed capital of industry, million tenge	Expenditures on social protection of employees, million tenge	Salary, tenge	Environmental taxes, million tenge	Victims of work-related accidents, total, pers
2016	19026781	22,5	4298 337	26,1	4.320.396,00	92.987,500	197.298	1.149.132,5	2034
2017	22790209	28,3	5808 551	26,8	4.769.589,00	111.852,700	215.970	1.634.505,3	2045
2018	27218063	35,9	8522 544	28,2	6.567.367,00	126.136,600	236.109	2.148.554,1	2160
2019	29380342	30,0	7684 090	27,5	7.786.271,00	134.805,800	262.994	2.279.946,4	2111
2020	27028506	15,8	4477 052	27,1	6.203.260,00	284.962,500	285.302	1.389.912,2	2033
2021	31866855,1	22,9	6828005,5	27,9	7.964.099,60	272.219,950	306.444	3.575.996,5	2095
2022	33045915,6	17,3	6062073,6	27,8	8.465.591,58	329.863,630	330.406	4.061.369,3	2081
2023	33950601,8	11,2	4981645,43	27,6	8.589.601,16	393.058,159	353.864	4.546.742,1	2044
2024	35601822,9	8,6	4860613,04	27,9	8.962.462,24	451.403,762	375.855	5.032.114,9	2047
2025	38067854,4	7,3	5118106,52	28,1	9.880.174,73	482.417,820	398.932	5.517.487,7	2053
2026	38993981,7	1,5	4183711,26	28,0	10.071.092,10	548.373,426	422.228	6.002.860,5	2029
2027	40736050,7	-1,4	3955150,9	28,1	10.544.256,80	598.937,136	444.871	6.488.233,3	2023
2028	42558979,3	-4,2	3800878,18	28,3	11.114.899,70	647.456,346	467.666	6.973.606,1	2021
2029	44166490,6	-7,9	3398964,37	28,3	11.605.264,20	698.305,043	490.779	7.458.978,9	2009
2030	45633352,3	-11,8	2945027,03	28,4	11.991.333,50	754.355,163	513.635	7.944.351,7	1998

Source: compiled by authors according to *http://www.stat.kz*

Figure 11. Diagram of the impact of investments on the volume of industrial production and profitability of enterprises



Source: compiled by authors

The constructed trend line for the period 2016 - 2030 (Figure 11), indicates that the growth of investment leads to an increase in industrial production and financial results of enterprises. This also confirms the approximation coefficient R2 close to 1, (the square of the correlation coefficient between the level of the time series and time).

Using the "Data Analysis" add-in in the MS Excel software package and its "Regression" function, we determine the form of the linear regression equation. Next, it is necessary to predict for the near future the factors of sustainable development (economic sphere, environmental sphere, production sphere and social sphere) and their influence on industrial development and its efficiency. To do this, we use two options: use in forecasting the resulting multiple regression equation that describes the dynamics of industrial output; use a linear trend. For the second option, it is necessary to build a linear trend line, using the time factor as a defining feature.

The data in Figure 11 show that between these indicators there is a rather strong dependence with the correlation coefficient dependence with the correlation coefficient r = 0.97, which indicates a significant influence of these factors on the efficiency of the industry. The linear regression equation has the following form: Y = 2E + 0,6X +2E + 0,7.

In accordance with the basic scenario of economic development for the period 2016-2030. with an increase in investment in fixed capital by 2.7 times to 11,991 billion tenge, an increase in industrial output by almost 2.3 times to 45,633.3 billion tenge is expected. This factor will continue to have a positive impact on increasing the profitability of industrial production. In order to identify the degree of significance of the above factors in the development of industry in the Republic of Kazakhstan, we will conduct a one-way analysis of variance. The volume of industrial production and the profit of enterprises (Y) are used as a resultant indicator, while X is chosen as a factor indicator in the study - investments in fixed capital, million tenge.

Table 3. One-way analysis of variance

One-way analysis of variance						
RESULTS						
Groups	Check	Sum	Average	Dispersion		
Year	5	10090	2018	2,5		
Investments aimed at the development of industry, million tenge	5	29646883	5929377	1,97E+12		
Volume of industrial production, million tenge	5	1,25E+08	25088780	1,72E+13		
Analysis of variance						
Source of Variation	SS	df	MS	F	P- Meaning	F critical
Between groups	1,72E+15	2	8,6E+14	134,6525	6,03E-09	3,885294
Within groups	7,66E+13	12	6,38E+12			
Total	1,8E+15	14				

Identification of the relationship between the signs is possible by analyzing the matrix of paired correlation coefficients, for the compilation of which the correlation coefficients were calculated using the MS Excel program and summarized in a table. The table contains data on coefficient values between groups and within groups. This is the sum of the squared deviations (SS), the number of degrees of freedom (df) and the dispersion (MS). In the last three columns - the actual value of the Fisher coefficient (F), p-level (P-value) and the critical value of the Fisher coefficient (Fcrit).

The actual value of the Fisher coefficient (134.6) is greater than the critical value (3.88), which means that the volume of investment has a greater effect on industrial production and profit. When analyzing the volume of investments in industrial enterprises, we recommend using the following indicators: NPV (Net Present Value), PP (Payback Period of investments), IRR (Internal Rate of Return); P (yield) - return on investment; PI (Profitability Index). All calculations of performance indicators (integrated indicators) are performed by discounted cash flows representing cash inflows or cash inflows (Cash Inflows) and cash outflows or cash outflows (Cash Outflows) during the implementation of the project. The decision rule based on P and PI says that all projects are eligible if they have:

P > 0 PI > 1 PI = 1.40 (ROI)

The higher the P and PI, the more attractive the project is considered. These indicators are especially informative when evaluating projects with different initial investments and different project implementation periods. The return on investment and the profitability index fully meets the criteria for evaluating the project. Thus, summarizing the above calculations of performance indicators (integral indicators) and the project evaluation criteria (Table 4), we can state that the project is highly profitable, showed high sustainability and economic efficiency.

Table 4. Estimated values of the main financial indicators of project

Financial performance and profitability of the project	Meaning
Net present value (NPV), thousand tenge	162.230
Profitability index (PI)	5,81
Internal rate of return (IRR), %	88,7
Modified internal rate of return (MIRR), %	47,4
Simple payback period (PB), years	1,6
Discounted payback period (DPB), years	1,9

Source: compiled by authors

Conclusion

The sustainable industries from Kazakhstan refers to greening of energy intensive industries such as the manufacturing industries and food production, which provide a high level of profitability, should become priority points for the sustainable growth. Directions for increasing the competitiveness of enterprises in terms of sustainable production should be:

- expansion of regional economic policy through the use of road maps to support import-substituting production;
- allocation of subsidies to regional producers participating in the road map;
- attracting loans from regional banks, reimbursement of costs for scientific and management activities, infrastructure;
- the introduction of direct subsidies, interest rate subsidies;
- implementation of the involvement of private partnerships,
- reduction of credit interest, guarantees to borrowers,
- development of investment projects.

Since, the main source of investments in a healthy economy are the own funds of enterprises (profit and depreciation), some inadvertences could be present due the rate of modern inflation, which practically drying them. The production downsizes, inflation, the payment crisis led to a practical halt in domestic investment activity which can affect environmentally sustainable industries tend. Saving resources to meet the needs of future generations, safe and modern working conditions, low-waste production processes, the use of safe and environmentally friendly materials are the features of sustainable industries, as noted in this article.

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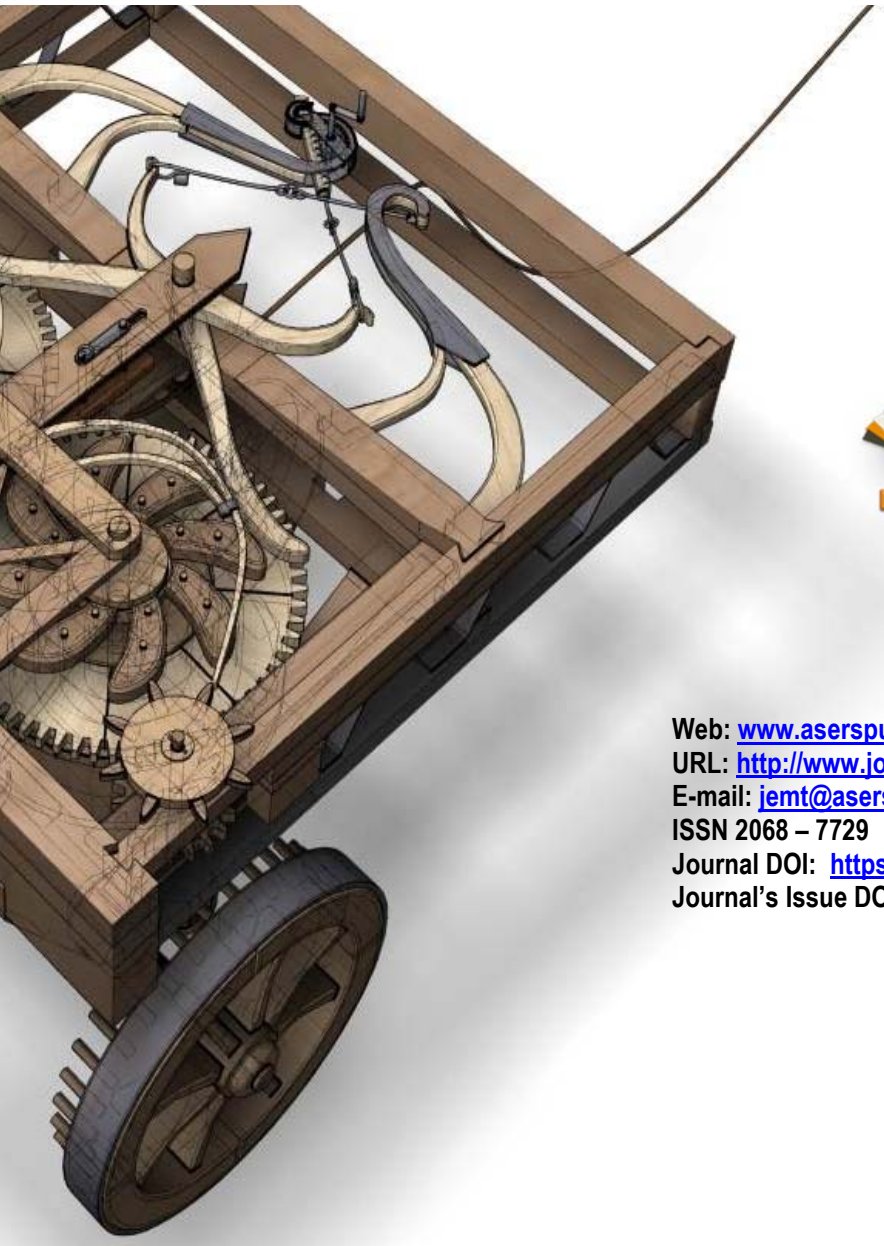

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