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MODERNIZATION OF PRODUCTION CAPACITIES OF JSC "NAC "KAZATOMPROM": STRATEGIC ANALYSIS

Abstract

The study examines the modernization processes of production capacities at JSC "NAC Kazatomprom" through a comprehensive strategic analysis based on SWOT, PESTLE, and BCG-matrix assessment methods. As the world's largest uranium producer, the company faces the dual challenge of maintaining its cost leadership and adapting to global market volatility, technological change, and growing ESG requirements. The research identifies key drivers of modernization including increasing extraction efficiency, capital investment growth, digitalization, and technological innovation — as well as constraints related to rising production costs and external geopolitical risks. The analysis demonstrates that modernization is essential for sustaining Kazakhstan's competitive position in the global nuclear fuel market and ensuring long-term operational stability. Practical implications include recommendations for optimizing investment programs, enhancing technological upgrading, and strengthening strategic resilience in the context of the global energy transition.

Key words: modernization of production capacities, uranium mining industry, strategic analysis, production digitalization, enterprise efficiency.

Introduction

Kazakhstan, the world's largest uranium producer, accounts for up to 40% of global production, and the sustainability of its position largely depends on the technical condition of its production facilities and their adaptation to changing global market conditions [1].

The majority of JSC NAC Kazatomprom's assets were established in the 1990s and 2000s, and despite their unique resource base and competitive costs, a significant portion of their equipment and technological solutions require updating. The dominance of in-situ leaching (ISL), which ensures environmentally friendly and relatively cost-effective production, is currently associated with

challenges related to the need to increase uranium recovery rates, optimize chemical reagent costs, and implement digital monitoring systems.

An additional aspect of the problem is the need for modernization in the face of volatile global uranium prices and increased competition from Canada, Australia, and new players in the African market. Long-term contracts with international partners and growing interest in nuclear energy as a low-carbon energy source are creating the preconditions for increased demand for Kazatomprom's products. However, this growth is only possible with timely modernization of capacities, which will improve the efficiency and stability of production and minimize environmental and social risks.

The current challenge lies in the need to transition from exploiting existing production potential to its technological upgrade, which will allow the company to maintain its leadership position in the global uranium market and ensure strategic sustainability in the face of the energy transition and stricter environmental requirements.

The relevance of studying the modernization of Kazatomprom's production capacities is determined by the company's key role in the global uranium industry and its importance to the economy of Kazakhstan. Amid the global energy transition and growing interest in nuclear energy, competition among leading raw material suppliers is intensifying, requiring the company to upgrade its technology, improve the efficiency of its production processes, and implement innovative solutions. Maintaining a leading position in the global uranium market is impossible without modernizing capacity, which ensures cost reduction, sustainable development, and compliance with modern environmental and industrial standards.

The purpose of this study is to conduct a strategic analysis of modernization processes at the company's enterprises, identify the factors determining its effectiveness, and substantiate development directions that can strengthen JSC NAC Kazatomprom's position as a global leader in the uranium mining industry.

The practical significance of this study lies in the potential application of the obtained results to improving Kazatomprom's corporate strategy, developing investment programs, and increasing the efficiency of resource utilization. This analysis can serve as a tool for government agencies in formulating nuclear energy policy and Kazakhstan's export potential, as well as for investors and industry experts assessing the development prospects of the national nuclear industry in the context of the global energy transformation.

Materials and methods

One of the key conditions for ensuring high competitiveness is the modernization of production processes. In the classical sense, modernization (from the English "modern" — updated, contemporary, rapid growth of scientific knowledge), as O. Bobkov points out, is interpreted as "updating an object, bringing it into compliance with new requirements and standards, technical specifications, and quality indicators" [2]. Through modernization, enterprises gain the ability to maintain a modern level of technical and technological potential, ensure high product quality, increase labor productivity, and successfully integrate into foreign markets.

M.E. Nadezhdina points out that modernization presupposes the development of the ability to generate advanced scientific and technological ideas, export the results of research and development, and quickly transition to the use of new information technologies and the production of competitive products [3]. In this regard, enterprise modernization can be implemented as a structural process encompassing a system of interconnected areas. It includes the creation of new types of products or the improvement of existing ones, increased efficiency in the use of technological equipment, a reduction in the labor intensity of production processes, and the optimization of personnel. An important consequence of these changes is the reduction of production cycle times, the minimization of production and non-production losses, and a reduction in production costs, achieved through the use of advanced technologies, new materials, and the rational use of energy and labor resources.

According to A.I. Shinkevich, "modernization of an enterprise's production capacity is a set of measures aimed at improving and enhancing the enterprise's technical base to increase production efficiency, expand production capacity, and enhance the company's competitiveness" [4]. Table 1 shows the types of modernization of enterprise production capacity.

Table 1 – Types of Modernization of Enterprise Production Capacity

Type of modernization	Characteristics	Economic effects	Cost scale
Partial	Replacement of individual equipment elements or subsystems while maintaining the production structure and product range. Disruption to the production cycle is minimal.	Cost reduction, increased reliability of individual processes, and maintenance of current capacity.	Low
Comprehensive	Upgrading significant parts of the production system, including retooling workshops or sections, introducing new technologies and workflow methods.	Temporary reduction in production output, accelerated capacity growth after implementation, and increased production efficiency.	Medium
Full	Complete reconstruction of production using modern equipment and the latest technology and restructuring the organizational structure.	Significant increase in productivity (up to 20–30%), improved product quality, and enhanced competitiveness.	High
Note: compiled by the author based on data from the source [5].			

An analysis of the presented data allows us to conclude that modernizing an enterprise's production facilities is an essential condition for improving the efficiency of production processes and strengthening its competitive position in the market. The nature and depth of the transformation are determined by the chosen type of modernization, which can range from localized upgrades of individual equipment elements to a comprehensive restructuring of the entire production system.

A detailed comparative analysis of these groups is presented in Figure 1. Technological modernization involves the implementation of the latest technologies, the re-equipping of industrial enterprises with modern equipment, and the upgrading of employee skills. These processes ensure increased labor productivity, improved product quality, and enhanced competitiveness in both domestic and global markets, but require significant investment.

Infrastructure modernization encompasses the banking, financial, social, and medical sectors, as well as the transport and logistics system, which unites industries, enterprises, and organizations that ensure the organizational and economic interaction of economic entities based on the principles of economic efficiency. It involves creating conditions for the sustainable functioning of the national economy and its entities in the face of market fluctuations. Public administration plays a key role in this process, guiding development and supporting the stability of infrastructure [7].

Institutional modernization is a complex of transformations that depends on the degree of involvement of various entities and the nature of their interaction. In some cases, it is implemented primarily through the efforts of the private sector, with the state acting as a coordinator; in others, it is based on the strict dominance of state institutions, which determine the priority areas of transformation. There are also models that assume a balance of interests between the state and the private sector, based on their interaction in the formation and implementation of modernization strategies. Thus, modernization of production facilities is a key factor in improving the efficiency and competitiveness of an enterprise. It ensures technological innovation, increased productivity, and the rational use of resources.

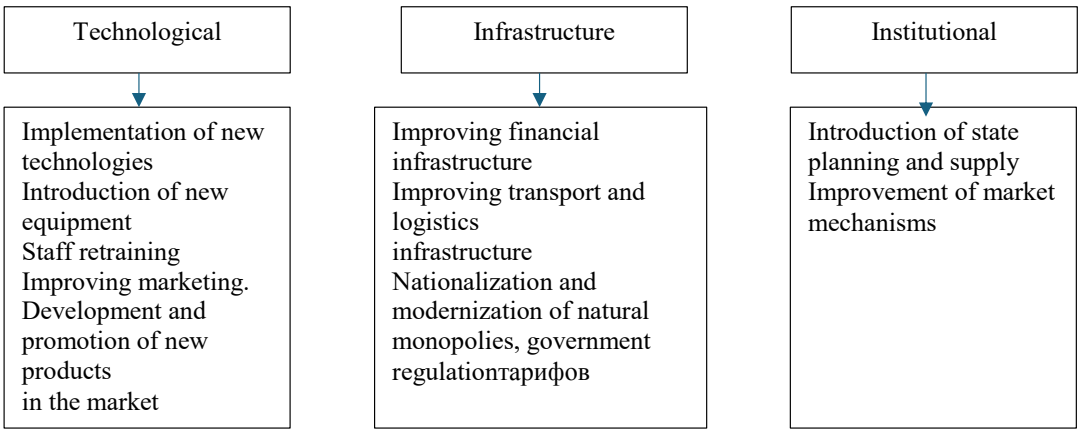

Figure 1 – Types, Methods, and Measures of Modernization

Note: Compiled by the author based on [6].

Comprehensive modernization contributes to strengthening economic resilience, developing competitive advantages, and adapting to environmental changes. Its implementation lays the foundation for the transition to innovative development and long-term growth of the enterprise.

To ensure the scientific validity of the analysis of production facility modernization processes, it is important to define strategic analysis methods that allow us to identify the internal and external factors influencing the effectiveness of an enterprise's development. The use of these methods provides a comprehensive understanding of the company's current state, its competitive advantages, and areas for strategic growth. A comparative analysis of the most common strategic analysis methods is presented in Table 2.

Table 2 – Comparative Analysis of Strategic Analysis Methods

Strategic Analysis Method	Method Contents	Advantages	Limitations	Appropriateness of Use
SWOT-analysis	Assessment of the company's strengths and weaknesses, as well as external opportunities and threats	Ease of use, clarity, integration of qualitative and quantitative factors	Subjectivity of assessments, limited depth of analysis	Effective for a comprehensive assessment of a company's current position and the formation of strategic development directions
PESTLE-analysis	Analysis of political, economic, social, technological, legal, and environmental factors in the external environment	Allows consideration of a wide range of macrofactors, including legal and environmental aspects; provides a more comprehensive understanding of the external environment	Does not reflect the internal characteristics of the enterprise; can be labor-intensive given the large number of factors	Optimal for an in-depth analysis of the external environment's impact on modernization processes and long-term strategic planning

Continuation of table 2

BCG-matrix	Classification of business areas by market growth rate and company share	Forms a strategy for managing a portfolio of business areas	Requires accurate market data; applicable to diversified structures	Suitable for assessing the effectiveness of individual production areas
SPACE-analysis	Determination of the company's strategic position based on an assessment of financial, competitive, industry, and stability factors	Provides a holistic view of strategic sustainability	Difficulty in quantitatively assessing factors	Appropriate for choosing a strategic development model for an enterprise
SNW-analysis	Modification of the SWOT analysis by highlighting neutral characteristics that do not directly impact strategy	Increases the accuracy and objectivity of analysis	Requires high analytical skills	Useful for refining strategic modernization priorities
Note: compiled by the author based on data from the source [8].				

A comparison of strategic analysis methods reveals that SWOT analysis is most applicable to studying production capacity modernization, as it provides a comprehensive assessment of the internal and external factors that determine an enterprise's strategic position. Its use in Chapter 2 will help identify the strengths and weaknesses of JSC NAC Kazatomprom's production system, identify opportunities and threats in the external environment, and substantiate modernization strategies that will improve the company's efficiency and sustainability.

Thus, modern approaches to strategic modernization management are aimed at improving the efficiency, sustainability, and competitiveness of enterprises. Their results depend on a combination of innovation, resource optimization, and adaptation to environmental changes.

The use of strategic analysis methods allows for the informed determination of development directions. The most effective tool is SWOT analysis, which, in Chapter 2, will help identify key modernization factors and define the strategic priorities of JSC NAC Kazatomprom.

The research methodology relies on a systems approach, allowing the company's production complex to be considered as a holistic socio-economic and technological system operating within the global uranium market. Concepts of strategic management, institutional economics, and sustainable development serve as a theoretical framework, enabling analysis of the impact of internal and external factors on modernization processes.

The research methodology combines quantitative and qualitative analytical tools. Corporate reporting data, statistics from the World Nuclear Association and the International Atomic Energy Agency, and analytical materials from industry research centers are used. Comparative analysis and economic-statistical modeling are used to assess production capacity dynamics, enabling the identification of key trends and growth factors. SWOT and PEST analysis elements, as well as the BCG matrix, are used to identify the company's strengths and weaknesses, as well as the opportunities and threats associated with the transformation of production processes. The use of a case study method provides a deeper understanding of the practical aspects of modernization, including technological innovation, digitalization of production chains, and improvements to the corporate governance system.

Results and discussion

Joint Stock Company National Atomic Company Kazatomprom is the world's largest producer of natural uranium, with priority access to one of the most significant resource bases. Since 2018,

the company's shares have been traded on the Astana International Financial Centre (AIFC) and the London Stock Exchange, demonstrating its high level of transparency and investment appeal.

Kazatomprom is the national operator of the Republic of Kazakhstan for the export and import of uranium, its compounds, nuclear fuel for nuclear power plants, and specialized equipment and technologies. This status grants the company unique rights, including the ability to obtain subsoil use licenses through direct negotiations with the Government of Kazakhstan. This system of interaction guarantees priority access to deposits with high-quality natural uranium reserves suitable for cost-effective in-situ recovery (ISR) mining.

The company's operations are focused exclusively on Kazakhstan, home to the industry's largest uranium reserve base, exceeding 300,000 tonnes. The in-situ leaching (ISL) method used ensures high environmental safety and low production costs, allowing Kazatomprom to maintain its leading position in the global market in terms of production costs. This technology eliminates direct human involvement in the production process, reducing production risks and environmental impact [9]. The industrial safety indicators of JSC NAC Kazatomprom are presented in Table 3.

Table 3 – Industrial Safety Indicators of JSC NAC Kazatomprom in 2022–2024

Indicator	2024	2023	2022	Deviation 2024/2023, %	Deviation 2023/2022, %
Industrial Accidents	–	–	–	–	–
LTIFR (per 1 million man-hours)	0,09	0,15	0,11	−40 %	+36 %
Reporting of hazardous conditions, actions, and near-misses, cases	33 434	36 145	36 913	−8 %	−2 %
Number of accidents	3	4	3	−25 %	+33 %
Fatalities	–	–	1	–	−100 %
Note: compiled by the author based on sources [10–11].					

JSC NAC Kazatomprom's industrial safety indicators for 2022–2024 demonstrate consistent improvements in occupational safety and reduced production risks. The LTIFR decreased from 0.15 in 2023 to 0.09 in 2024, reflecting a 40% reduction in lost-time accidents. This indicates improved effectiveness of the safety management system and preventive measures at production facilities.

The indicators for analyzing the production capacity of JSC NAC Kazatomprom are shown in Table 16. The analysis of the production capacity indicators of JSC NAC Kazatomprom for 2022–2024 demonstrates stable operation of the production complex and efficient use of resources with moderate growth in capital intensity. Uranium production increased from 21,112 tonnes in 2023 to 23,270 tonnes in 2024, representing an increase of 2,158 tonnes, or 10%. Capacity utilization increased from 95.96% to 99.02%, indicating that the company is approaching optimal asset utilization.

Table 4 – Performance Indicators for JSC NAC Kazatomprom's Production Capacity Analysis in 2022–2024

Indicator	2022	2023	2024	Изменение, +/-	
				2023	2024
U_3O_8 Production Volume (100% basis), tons	21 227	21 112	23 270	-115	2 158
Planned Production Volume	21500	22000	23500	500	1 500
Capacity Utilization Rate (CU)	98,73	95,96	99,02	-3	3
Revenue	1 001 171	1 434 635	1 813 352	433 464	378 717
Capital Expenditures	146499	201321	317540	54 822	116 219

Continuation of table 4

Capital Productivity (CPO)	6,83	7,13	5,71	0	-1
Materials and Materials Costs	261 825	364 841	518 578	103 016	153 737
Material intensity ratio (Km)	26,15	25,43	28,60	-1	3
Capital intensity ratio (Kk)	6,90	9,54	13,65	3	4
Cost	442 881	615 994	840 134	173 113	224 140
Cost of 1 ton of uranium (C_1t)	20,86	29,18	36,10	8	7
Average annual capital investment	135 636	182 904	290 022	47 268	107 118
Sales profit	348 048	419 184	872 263	71 136	453 079
Profitability of production capacity (RPM)	256,60	229,18	300,76	-27	72
Note: compiled by the author based on sources [10–11].					

Revenue for the analyzed period increased from 1,001,171 million tenge in 2022 to 1,813,352 million tenge in 2024, an increase of 812,181 million tenge, confirming the positive trend in product sales and rising uranium market prices. Capital expenditures increased from 146,499 million tenge to 317,540 million tenge, an increase of 116,219 million tenge, reflecting the expansion of the investment program and the active modernization of the production base. Meanwhile, the productivity of capital decreased from 7.13 to 5.71, indicating a temporary decline in investment efficiency amid the growth in capital expenditures.

The SWOT analysis of JSC NAC Kazatomprom is shown in Table 5.

Table 5 – SWOT Analysis of JSC NAC Kazatomprom

Strengths	Weaknesses
1	2
- Лидерство на мировом рынке урана (>40 % мирового производства). - Низкая себестоимость добычи (36,1 млн тг/т в 2024 г.). - Сильная государственная поддержка (63 % акций у ФНБ «Самрук-Қазына»). - Рост чистой прибыли до 1 132 115 млн тг (+139 % к 2022 г.). - Высокий ESG-рейтинг (50 баллов от S&P Global).	- Увеличение себестоимости на 96 % за 2022–2024 гг. (475 097 → 931 621 млн тг). - Снижение объемов продаж урана по группе на 8 % в 2024 г. - Зависимость от конъюнктуры мирового рынка и валютных колебаний. - Ограниченная географическая диверсификация добычи (вся деятельность в Казахстане).
Opportunities	Threats
- Рост мирового спроса на ядерное топливо и «зеленую» энергетику («ядерный ренессанс»). - Расширение на рынок редких и редкоземельных металлов. - Укрепление сотрудничества с Китаем (CNNC, CGNPC). - Участие в ядерном топливном цикле с повышением добавленной стоимости.	- Геополитические риски и санкционные ограничения. - Волатильность цен на уран (спотовые колебания с 49,8 до 85,1 долл./фунт). - Рост налоговой нагрузки (+64 % налогов в 2024 г.). - Возможные экологические ограничения и ужесточение требований ESG.
Note: compiled by the author based on sources [10–12].	

A SWOT analysis of JSC NAC Kazatomprom shows that the company possesses sustainable competitive advantages that ensure its leading position in the global uranium market. Key strengths include a high level of government support, strategic control over more than 40% of global uranium production, and low production costs, reaching 36.1 million tenge per tonne in 2024. A significant

increase in net profit to 1,132,115 million tenge and a high ESG rating indicate financial stability and effective sustainability management.

However, the analysis identified a number of internal constraints related to a near doubling of production costs between 2022 and 2024 and an 8% decline in uranium sales volumes across the group in 2024. The company's operations remain concentrated exclusively within Kazakhstan, increasing its dependence on national economic and political conditions. External threats, such as geopolitical instability, fluctuations in global uranium prices, and rising tax burdens, also have a significant impact.

At the same time, the identified opportunities offer prospects for long-term development. Increasing global demand for nuclear fuel and growing interest in green energy are creating favorable conditions for expanding the company's participation in the nuclear fuel cycle and developing new market segments, including rare and rare earth metals. Strengthening strategic cooperation with Asian partners, particularly China, contributes to strengthening its export position and geographic diversification of sales. Overall, Kazatomprom's strategic position can be characterized as stable, with high potential for further growth, subject to effective cost and external risk management.

The results of the PEST analysis of JSC NAC Kazatomprom indicate a high degree of influence of the external environment on the company's strategic development. Political factors have the most significant impact, as Kazatomprom's activities are closely linked to government policy on subsoil use and export regulation (Table 6).

Table 6 – PESTLE analysis of JSC NAC Kazatomprom

Factor	Elements of analysis	Level of influence on the company
P – Political	State control (63% of shares held by the National Welfare Fund Samruk-Kazyna). Direct licensing of subsoil use through the Government of the Republic of Kazakhstan. Strategic cooperation with China, the EU, and the US in nuclear energy. Geopolitical risks (sanctions, market redistribution, import/export restrictions). State policy on the development of nuclear energy and critical minerals.	High – determines strategy, export opportunities, and business sustainability.
E – Economic	Revenue growth (from 1,001,171 million tenge to 1,813,352 million tenge, an increase of 81%). Increase in capital expenditures (from 146,499 million tenge to 317,540 million tenge, an increase of 117%). Dependence on global uranium prices (+27% in 2024). Increase in production costs (+96% for 2022–2024). Currency fluctuations (dollar/tenge). Inflationary increase in material prices (+42%).	Medium-high – impacts profitability, investment, and project ROI.
S – Social	Reducing LTIFR from 0.15 to 0.09 (improving safety). Job creation and support for regional development (14 companies). Dependence on skilled personnel in the mining industry. Implementation of social programs and development of corporate culture. Increased public expectations for environmental responsibility.	Medium – determines sustainability, social stability, and reputation.

Continuation of table 6

T – Technological	Use of in-situ leaching (ISL) as a low-cost and environmentally friendly mining technology. Automation of drilling, geotechnical, and monitoring processes. Digitalization of production facilities and real-time data management.	High – key factor in competitiveness and cost reduction.
L – Legal	Strict requirements of Kazakhstan legislation in the area of subsoil use and environmental control. International nuclear safety standards (IAEA, WNA). Possible changes in tax regulations (tax burden increase by 64% in 2024). Disclosure and reporting requirements (listing on AIX and LSE). Contractual regulation of foreign trade activities and export deliveries.	High – defines the scope of activities, the risk of fines, and the need to ensure compliance.
E – Environmental	Environmental requirements for uranium mining and waste management. Groundwater impact control during ISR. Tightening of global ESG standards (S&P Global ESG score = 50). Climate risks (droughts, groundwater level changes, extreme temperatures). Increased requirements for land reclamation and well abandonment.	Medium-high – important for sustainable development and compliance with international standards.
Note: compiled by the author based on sources [10, 11, 13].		

Oversight by the Samruk-Kazyna National Welfare Fund, direct licensing through government agencies, and participation in international partnerships with China, the EU, and the US provide a stable foundation for development, but simultaneously increase the company's vulnerability to political stability and geopolitical risks.

Economic conditions determine the dynamics of financial results and investment activity. Revenue growth from 1,001,171 million tenge in 2022 to 1,813,352 million tenge in 2024 indicates a positive market trend. However, a 117% increase in capital expenditures and dependence on the volatility of global uranium prices pose additional challenges to maintaining profitability. Inflationary pressure, reflected in a 42% increase in material costs, requires cost optimization and improved production efficiency.

Social factors shape the company's strong reputation as a responsible employer and a reliable participant in regional development. The reduction of the LTIFR from 0.15 to 0.09 and the absence of fatalities in 2024 demonstrate the effectiveness of the occupational safety system. Supporting employment in the regions where the company operates and developing a corporate culture contribute to strengthening social stability and compliance with international ESG standards.

Technological factors are a key driver of Kazatomprom's competitiveness. The use of the in-situ leaching method ensures environmental safety and low production costs, while the increase in R&D investment to 59.6 billion tenge in 2024 facilitates technological modernization. Overall, the impact of external environmental factors is characterized as generally favorable, with political and technological determinants dominating, defining Kazatomprom's sustainability and strategic orientation. The BCG matrix (analysis of Kazatomprom's product portfolio) is shown in Table 7.

The results of the Kazatomprom product portfolio analysis using the BCG model reveal a balanced asset structure dominated by mature and highly profitable businesses, along with promising growth segments. Uranium mining (U_3O_8), which accounts for over 40% of the global market, is the company's "star" business, combining high industry growth with the company's stable leadership. A 27% increase in uranium prices in 2024 and revenue growth to 1,813,352 million tenge confirm the strategic importance of this business as a key source of income and the foundation of Kazatomprom's competitive advantage.

Table 7 – BCG matrix (analysis of Kazatomprom's product portfolio)

Segment	Market share	Market growth rate	Matrix Position	Commentary
Primary uranium mining (U_3O_8)	>40% of the global market	High (+27% price growth in 2024)	«Star»	Key source of profit and industry leadership.
Joint ventures (Inkai, Karatau, Katko)	30–50% participation	Average	«Cash Cow»	Stable profits, low investment risks.
Processing and fuel cycle	<10 %	High	«Question Mark»	Growth potential with investment in R&D and partnerships.
Rare and rare earth metals	<5 %	Very high	«Star/ Question»	Strategic direction for future growth.
Note: compiled by the author based on sources [10, 11, 14].				

Joint ventures such as Inkai, Karatau, and Katko are considered "cash cows" due to their stable profits, minimal investment risks, and sustainable production levels. Their activities ensure consistent cash flow, supporting the company's financial stability and creating a resource base for the development of new areas.

Conclusion

Thus, a comprehensive strategic analysis of JSC NAC Kazatomprom's operations shows that the company holds a stable leadership position in the global uranium market, possessing significant financial and technological advantages. A strategic focus on creating long-term value, diversifying sales channels, and developing new business lines, including rare and rare earth metals, provides Kazatomprom with high adaptability to changing market conditions and growing global demand for nuclear fuel.

At the same time, Kazatomprom remains dependent on global prices, geopolitical factors, and the concentration of production in Kazakhstan, requiring constant attention to risk management and cost optimization. Overall, the company's strategic position allows it to combine current high profitability with sustainable growth potential, supporting the strengthening of its competitive advantages and ensuring long-term business sustainability.

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«ҚАЗАТОМӨНЕРКӘСІП» ҰАК» АҚ ӨНДІРІСТІК ҚУАТТАРЫН ЖАҢҒЫРТУ: СТРАТЕГИЯЛЫҚ ТАЛДАУ

Аңдатпа

Бұл мақалада «Қазатомөнеркәсіп» ҰАК» АҚ өндірістік қуаттарын жаңғырту үдерісіне стратегиялық талдау жүргізілді. SWOT, PESTLE және портфельдік талдау әдістерін қолдану компанияның технологиялық жаңаруға, өндірістік шығындардың өсуіне, әлемдік нарықтағы өзгерістерге және ESG талаптарының күшеюіне бейімделу қажеттігін көрсетеді. Зерттеу жаңғыртудың негізгі факторларын айқындайды: уран өндіру тиімділігін арттыру, капиталдық инвестицияларды ұлғайту, өндірісті цифрландыру және инновациялық технологияларды енгізу. Алынған нәтижелер «Қазатомөнеркәсіптің» жаһандық уран нарығындағы жетекші орнын сақтау үшін өндірістік қуаттарды уақтылы жаңғыртудың маңыздылығын дәлелдейді. Зерттеудің практикалық мәні – инвестициялық бағдарламаларды жетілдіруге, технологиялық жаңғыртуды жеделдетуге және энергетикалық ауысу жағдайында компанияның стратегиялық тұрақтылығын нығайтуға бағытталған ұсынымдар әзірлеу.

Тірек сөздер: өндірістік қуаттарды жаңғырту, уран өндіру өнеркәсібі, стратегиялық талдау, өндірісті цифрландыру, кәсіпорын тиімділігі.

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МОДЕРНИЗАЦИЯ ПРОИЗВОДСТВЕННЫХ МОЩНОСТЕЙ АО «НАК «КАЗАТОМПРОМ»: СТРАТЕГИЧЕСКИЙ АНАЛИЗ

Аннотация

В статье представлен стратегический анализ процессов модернизации производственных мощностей АО «НАК «Казатомпром», основанный на применении методов SWOT-, PESTLE- и портфельного анали-

за. Учитывая статус крупнейшего мирового производителя урана, компания сталкивается с задачей технологического обновления при одновременном реагировании на ценовую волатильность, рост издержек и ужесточение экологических требований. Исследование выявляет ключевые факторы модернизации, включая повышение коэффициента извлечения, расширение инвестиционных программ, цифровизацию производственных процессов и внедрение инновационных технологий. Показано, что модернизация является определяющим условием для сохранения конкурентоспособности компании и обеспечения устойчивого функционирования в условиях глобального энергетического перехода. Практическая значимость работы заключается в формировании рекомендаций для совершенствования инвестиционной политики, оптимизации производственных процессов и укрепления стратегической устойчивости предприятия.

Ключевые слова: модернизация производственных мощностей, уранодобывающая промышленность, стратегический анализ, цифровизация производства, эффективность предприятия.

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