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PRINCIPLES OF BUILDING AN ORGANIZATIONAL AND ECONOMIC MECHANISM FOR MANAGING OIL AND GAS FIELDS

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ПРИНЦИПИ ПОБУДОВИ ОРГАНІЗАЦІЙНО-ЕКОНОМІЧНОГО МЕХАНІЗМУ УПРАВЛІННЯ НАФТОГАЗОВИДОБУВНИМИ РОДОВИЩАМИ

The article examines the conceptual foundations and strategic approaches to effective management of oil and gas resources in the context of growing global demand for energy. The development of an effective, adaptive and sustainable organizational and economic mechanism for the management of oil and gas fields is a key task for ensuring energy security and economic stability.

The basic principles of building this mechanism are considered, which include general (system approach, complexity), organizational (structure of processes, effective planning), economic (cost optimization, profit maximization) *and specific (innovative development, environmental responsibility) approaches. Particular attention is paid to the integration of strategic planning, efficient allocation of resources, risk management and regulatory compliance, which are key factors for the long-term efficiency and profitability of oil and gas production operations.*

The article analyzes the challenges faced by the oil and gas industry of Ukraine, in particular geopolitical risks, economic instability, regulatory constraints, growing environmental requirements, as well as the need to introduce modern technologies and digital solutions to improve management efficiency.

In addition, the article considers the functions of forming an organizational and economic mechanism, which include coordination of the activities of all industry participants, financial and investment support, regulation of operational processes, adaptation to changes in the external environment and control of the effectiveness of production and management decisions. It is determined that each of these functions plays an important role in increasing the competitiveness of the oil and gas industry and ensuring its stable development.

Practical recommendations for building an organizational and economic mechanism that will contribute to increasing productivity, reducing costs, reducing risks and ensuring sustainable development of the oil and gas sector are proposed. It is proved that adaptability and strategic planning combined with innovative management methods are critical for overcoming modern challenges and ensuring sustainable economic growth in the energy sector.

У статті досліджено концептуальні засади та стратегічні підходи до ефективного управління нафтогазовими ресурсами в умовах зростаючого світового попиту на енергію. Розробка ефективного, адаптивного та сталого організаційно-економічного механізму управління нафтогазовидобувними родовищами є ключовим завданням для забезпечення енергетичної безпеки та економічної стабільності.

Розглянуто основні принципи побудови цього механізму, які включають загальні (системний підхід, комплексність), організаційні (структурованість процесів, ефективне планування), економічні (оптимізація витрат, максимізація прибутку) та специфічні (інноваційний розвиток, екологічна відповідальність) підходи. Особливу увагу приділено інтеграції стратегічного планування, ефективного розподілу ресурсів, управління ризиками та дотримання нормативних вимог, що є ключовими факторами довгострокової ефективності та прибутковості нафтогазовидобувних операцій.

У статті здійснено аналіз викликів, з якими стикається нафтогазова галузь України, зокрема геополітичних ризиків, економічної нестабільності, регуляторних обмежень, зростаючих екологічних вимог, а також необхідності впровадження сучасних технологій та цифрових рішень для підвищення ефективності управління.

Окрім цього, стаття розглядає функції формування організаційно-економічного механізму, які включають координацію діяльності всіх учасників галузі, фінансово-інвестиційне забезпечення, регулювання операційних процесів, адаптацію до змін зовнішнього середовища та контроль ефективності виробничих і управлінських рішень. Визначено, що кожна з цих функцій відіграє важливу роль у підвищенні конкурентоспроможності нафтогазової галузі та забезпеченні її стабільного розвитку.

Запропоновано практичні рекомендації щодо побудови організаційно-економічного механізму, що сприятиме підвищенню продуктивності, зниженню витрат, зменшенню ризиків та забезпеченню стійкого розвитку нафтогазовидобувного сектору. Доведено, що адаптивність та стратегічне планування у поєднанні з інноваційними методами управління є критично важливими для подолання сучасних викликів та забезпечення сталого економічного зростання в енергетичному секторі.

Keywords: *organizational and economic mechanism, oil and gas field management, general principles, economic principles, organizational principles, specific principles.*

Ключові слова: *організаційно-економічний механізм, управління нафтогазовими родовищами, загальні принципи, економічні принципи, організаційні принципи, специфічні принципи.*

Problem statement. The management of oil and gas fields is a complex and multifaceted challenge, requiring the integration of technical, economic, and organizational processes to ensure efficient resource extraction, sustainable operations, and long-term profitability. However, the absence of a well-defined organizational and economic mechanism tailored to the unique demands of the industry often leads to inefficiencies, increased risks, and suboptimal resource utilization. Key issues include inadequate strategic planning, poor resource allocation, insufficient risk management frameworks, and non-compliance with evolving regulatory standards. These challenges are further exacerbated by fluctuating market conditions, technological advancements, and growing environmental concerns.

This article addresses the critical need for a structured and principles-based approach to building an organizational and economic mechanism for managing oil and gas fields. By identifying and analyzing the general, organizational, economic, and specific principles that should underpin such a mechanism, the study aims to provide a comprehensive framework for overcoming these challenges. The proposed mechanism seeks to enhance operational efficiency, ensure financial viability, mitigate risks, and promote sustainable practices in the oil and gas industry, ultimately contributing to the sector's long-term stability and growth.

Analysis of recent research and publications. Recent research and publications on the principles of building an organizational and economic mechanism for managing oil and gas fields highlight a growing emphasis on integrating sustainability, technological innovation, and risk management into traditional management practices. Scholars and industry experts have increasingly focused on the need for adaptive strategies that address the dynamic challenges of the oil and gas sector, including fluctuating market conditions, environmental concerns, and regulatory pressures.

It should be noted that both world and Ukrainian scientists are engaged in the study of the principles of building an effective organizational and economic mechanism for oil and gas fields. Among them, it is worth highlighting the works of prominent researchers who have contributed significantly to this field.

For instance, international scholars such as Chukwurah, E. G., Okeke, C. D., Ekechi, C. C. [1] have explored the integration of environmental, social, and governance (ESG) principles into oil and gas management, demonstrating how sustainable practices can enhance operational efficiency and stakeholder trust. Similarly, Digitemie, W. N., Ekemezie, I. O. [2] have emphasized the importance of adaptive strategic planning in mitigating geopolitical risks and market volatility, providing a framework for resilient management systems.

In the Ukrainian context, researchers have also made notable contributions, particularly in addressing the unique challenges faced by the country's oil and gas industry. Works by Ukrainian scholars such as Zakharchenko, N., Gorbachenko, S., Grinchenko, R., Topalova, I., Fialkovska, A., Dem'yanenko, T. [3,4] have focused on optimizing resource allocation and improving operational efficiency in the face of limited infrastructure and economic constraints. Their research highlights the importance of leveraging local expertise and innovative technologies to overcome these challenges. Additionally, studies by Cherep, A.V., Cherep, O. H., Andriukaitienė, R., Korinnyi, S. O., Korytko, T., Bogutska, O., Piletska S.[5,6] have examined the role of regulatory frameworks in promoting sustainable development in Ukraine's oil and gas sector, offering recommendations for aligning national policies with international standards.

Furthermore, recent publications by Ukrainian researchers, such as Dzwigol, H., Trushkina, N., Kwilinski, A., [7] have explored the integration of digital technologies, such as artificial intelligence and big data analytics, into the management of oil and gas fields. These studies emphasize the potential of digital transformation to enhance decision-making processes, reduce costs, and minimize environmental impact, particularly in the context of Ukraine's evolving energy landscape.

In summary, the contributions of both international and Ukrainian scientists have enriched the understanding of the principles underlying the organizational and economic mechanism for managing oil and gas fields. Their research underscores the importance of sustainability, innovation, and adaptability in addressing the complex challenges of the industry, providing a solid foundation for further exploration and practical application. This article builds on these insights, offering a comprehensive framework for building an effective management mechanism tailored to the needs of the oil and gas sector.

Formulation of the objectives of the article. The research topic is highly relevant in the context of the modern energy landscape. Oil and gas remain critical components of the global energy mix, driving economic growth and supporting industrial development. However, the industry faces unprecedented challenges, including fluctuating market prices, increasing environmental regulations, technological disruptions, and the need for sustainable resource management. These factors underscore the importance of developing a robust organizational and economic mechanism to ensure the efficient and responsible management of oil and gas fields.

The relevance of this research is further amplified by the growing complexity of hydrocarbon extraction and production processes. As oil and gas reserves become harder to access, companies must adopt advanced technologies and innovative management practices to maintain profitability while minimizing environmental impact. Additionally, the transition toward a low-carbon economy and the increasing emphasis on environmental, social, and governance (ESG) principles require oil and gas operators to rethink their management strategies and align them with global sustainability goals.

This article addresses these pressing issues by exploring the fundamental principles that should guide the development of an organizational and economic mechanism for managing oil and gas fields. By focusing on strategic planning, efficient resource allocation, risk management, and regulatory compliance, the research provides a framework for optimizing operations, reducing costs, and mitigating risks. Furthermore, the study highlights the importance of integrating general, organizational, economic, and specific principles to create a holistic management system that adapts to the dynamic nature of the industry.

In a world where energy security and sustainability are paramount, this research offers valuable insights for industry stakeholders, policymakers, and academics. It not only contributes to the theoretical understanding of oil and gas field management but also provides practical recommendations for enhancing operational efficiency and ensuring long-term viability in an increasingly competitive and regulated environment. By addressing these critical issues, the study underscores its relevance to the ongoing evolution of the global energy sector.

The purpose of this research is to develop a comprehensive framework of principles for building an organizational and economic mechanism that enhances the efficiency, sustainability, and profitability of oil and gas field management in the face of evolving industry challenges**.**

Presentation of the main material. The development and management of oil and gas fields require a well-structured organizational and economic mechanism that ensures efficient resource utilization, sustainable operations, and long-term profitability. Such a mechanism serves as the backbone of the industry, integrating technical, financial, and managerial processes to address the complex challenges of hydrocarbon extraction and production. To be effective, this mechanism must be built on a foundation of general, organizational, economic, and specific principles, each contributing to the overall stability and success of oil and gas operations.

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It should be noted that the principles are guiding ideas, rules, starting points aimed at achieving the goal:

1) instability of the development of market relations;

2) free pricing;

3) ccompetition of manufacturers [8].

The general principles of building the organizational and economic mechanism of oil and gas fields include the principle of unity, continuity and reliability, responsibility and motivation.

The principle of unity. All elements of the organizational and economic mechanism of oil and gas fields should be integrated into a single system that is aimed at achieving the common goal of the oil and gas field. This principle assumes that each subdivision, each function and each process in the structure of an oil and gas field must work in a coordinated and interconnected manner. Coordination and harmonization of actions at all levels of management ensure integrity and consistency in achieving the strategic goals of the oil and gas field. Deviation from unity in any element can negatively affect overall efficiency.

The principle of continuity and reliability. Management processes are not one-time or one-time actions – they are constant and cyclical. The principle of continuity means that the process of management of an oil and gas field requires constant monitoring, analysis and adjustment in accordance with changes in the internal and external environment of the enterprise. This allows us to respond to problems in a timely manner, prevent risks and adjust development strategies to ensure the stability and adaptability of the oil and gas field to new conditions.

The principle of responsibility. This principle is that each employee and each manager of an oil and gas field must clearly understand their duties and be responsible for the fulfilment of the tasks assigned to them. This promotes discipline, improves coordination of actions and increases responsibility for the final result of work. Managers are responsible for achieving the strategic goals of an oil and gas field, while employees are responsible for performing their specific tasks within their own competencies. Responsibility is a key element in ensuring the proper performance of all functions of an oil and gas field.

The principle of motivation. Effective management involves creating conditions under which employees will be motivated to work productively and achieve high results. The principle of motivation is that managers should stimulate their employees using various tools such as financial incentives, career advancement, opportunities for professional development and other means of non-financial motivation. Motivated employees who feel their value within the oil and gas field tend to work more productively, demonstrate a higher level of responsibility and strive for development, which has a positive impact on the overall performance of the oil and gas field.

The following are the principles of management – these are the basic rules that management entities must adhere to when making management decisions.

Principles are the main form of purposeful use of objective laws in the practice of management. That is why the development of an organizational and economic mechanism for managing the economic efficiency of an oil and gas field should be started considering the principles of this process. Grouping these principles by organizational and economic direction demonstrates fig. 1.

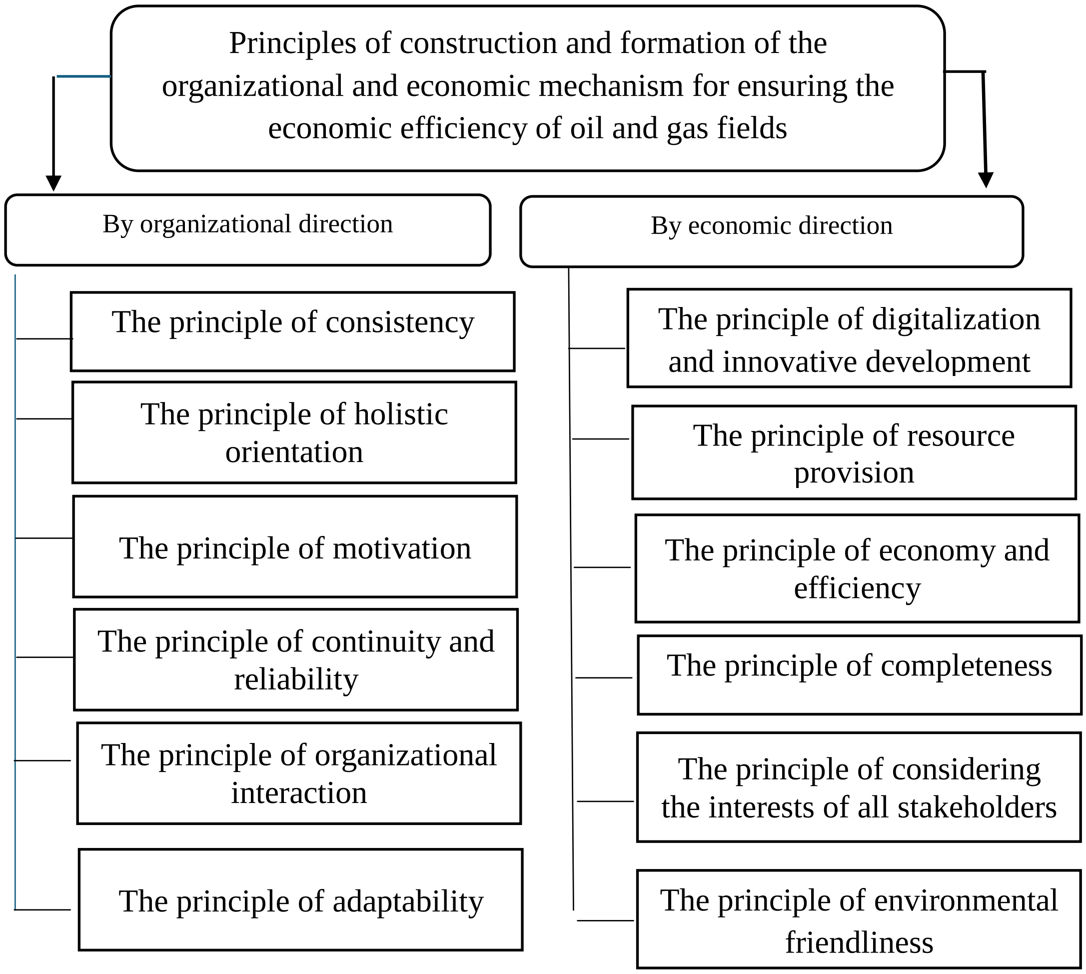

Fig.1. Grouping of the principles of formation of the organizational and economic mechanism for ensuring the economic efficiency of oil and gas fields

The principles that belong to the group of organizational direction should include:

1) the principle of systematization provides for the consideration of an oil and gas field as a complex, single system, where all its elements and processes are in close interaction and interdependence.

This means that each structural component of an oil and gas field affects other elements, and therefore any changes in one of them can cause changes in the entire system. Management based on this principle means that each managerial decision must consider not only the impact on a specific department or process, but also on the entire organization. This requires evaluating the long-term effects of each step on overall performance. The application of a systematic approach allows you to ensure the consistency of all actions and processes in the organization, to maintain harmonious interaction between people, resources, technologies and methods of work. Thus, the oil and gas field is able to avoid local contradictions and inefficient actions, ensuring a balance between individual divisions and processes. The principle of consistency also helps the organization to adapt to external changes, maintaining stability and integrity, as well as to increase the efficiency of decision-making and management in a dynamic market environment;

2) the principle of target orientation means that all actions, processes and resources of the organization must be coordinated and integrated to achieve specific, well-defined goals. These goals are formed on the basis of the strategic vision of the oil and gas field and serve as a guide for all participants in the organizational process. Accordingly, managerial decisions, organization of the work of departments and individual employees should directly contribute to the implementation of these goals. Each department and each employee must not only be clearly aware of their tasks but also understand how their work affects the overall goal of the organization. This helps to increase motivation, since employees see the significance of their activities in the big picture. The principle of target orientation also requires management to constantly evaluate the results achieved and compare them with the intended goals. If necessary, strategies and processes need to be adjusted in a timely manner to ensure that current actions are aligned with long-term goals. This allows you to focus resources on solving the most important tasks, preventing their inefficient use. As a result, adherence to the principle of target orientation helps to increase the efficiency of the organization and ensures its stable development, focused on achieving the strategic priorities of the oil and gas field;

3) the principle of motivation assumes that the successful management and development of an oil and gas field depend on how effectively the motivational aspect is taken into account in the interaction between employees and management. This means that to achieve the strategic goals of the oil and gas field,

it is necessary to create conditions under which employees will be interested in performing their duties and achieving high results. Motivation plays a key role in creating a productive work atmosphere and increasing employee engagement. In the process of substantiating and implementing the concept of oil and gas field development, the motivational aspect should be one of the key elements. This includes the development of a system of material and non-material incentives that will help encourage employees to work effectively, be creative and proactive. Such a system may include financial incentives (bonuses, salary increases) and intangible ones (recognition, career growth, professional development opportunities). The principle of motivation also requires considering the individual characteristics of each employee and creating a flexible incentive system that takes into account the different needs and values of employees. According to this principle, effective management must constantly maintain a balance between organizational goals and employee motivation, which allows to ensure the stable development of the company and high productivity;

4) the principle of continuity and reliability provides for the creation of such organizational and economic conditions that ensure the constant process of implementing the goals of the development of the oil and gas field, as well as guarantee the stability and sustainability of its functioning. This means that all business processes must be organized in such a way as to avoid interruptions or interruptions in activities, regardless of internal or external factors. To achieve this, it is important to ensure the sustainability of management decisions, to establish a clear system of control and coordination of the activities of all departments. The principle of continuity requires that all elements of the organizational structure constantly interact, maintaining a stable pace of development of the company, and at the same time implies the ability of the organization to quickly respond to changes in the external environment, minimizing risks. The principle of reliability also focuses on ensuring a high level of stability of the management system and all operational processes. This includes the creation of risk management mechanisms, the introduction of innovative technologies that increase work efficiency, and the

formation of a culture of responsibility among employees. Reliability means that even in crisis conditions, oil and gas fields can adapt and continue to move towards the defined goals, while maintaining their competitiveness and efficiency. Thus, the principle of continuity and reliability helps oil and gas fields not only to maintain uninterrupted operation, but also to ensure long-term success and sustainability in dynamic market conditions;

5) the principle of organizational interaction provides for the provision of coordinated and effective interaction of all constituent elements of the organization as a whole. This means that all departments, departments, resources and processes must function in a coordinated manner, with a focus on achieving the overall goals of the oil and gas field. Each element of the system has its own purpose, but its work must be integrated with other components to provide a synergistic effect, where the result of the interaction exceeds the sum of individual efforts. To achieve integrity in management, it is important to establish effective communication between different levels of the organizational structure, which allows for quick and clear communication of information, decision-making and adjustment of actions. The principle also provides for the coordination of the activities of each component, which includes the coordination of the interests and tasks of individual departments to achieve common strategic goals. Ensuring the integrity of organizational interaction also helps to avoid conflicts and inconsistencies in the actions of different departments, which can lead to a decrease in productivity or additional costs. This allows you to build a system where each element supports and complements the other, creating a flexible and sustainable organizational structure. Thus, the principle of organizational interaction ensures the integration of all functions and processes into a single system, contributes to increasing efficiency and productivity, and also allows the oil and gas field to remain competitive and adaptive to changes in the external environment;

6) the principle of adaptability implies the ability of an oil and gas field to quickly and effectively respond to changes in both the internal and external environment. This means that all elements of the organizational structure must

have sufficient flexibility to restructure their activities in a timely manner in accordance with the new conditions that may arise due to changes in market trends, the economic situation, technological development or internal processes of the enterprise. Adaptability allows the organization to not only remain competitive, but also to use change as opportunities for growth and innovation. It involves constant monitoring and analysis of factors affecting the activities of an oil and gas field in order to make corrective decisions in a timely manner and implement the necessary changes in the strategy, structure or management processes. In addition, the principle of adaptability applies to organizational culture, which should promote openness to change, innovation and readiness for continuous improvement. This is important to maintain a high level of efficiency in the face of dynamic markets or unpredictable situations such as economic crises, changes in legislation or the impact of global factors. The application of the principle of adaptability provides the enterprise with stability in the long term, because it is able not only to respond to external changes, but also to proactively prepare for them, increasing its competitive advantage.

The following principles should be attributed to the group of economic direction:

1) the principle of digitalization and innovative development implies that oil and gas fields should be focused on the introduction of advanced technologies and digital solutions to improve the efficiency of their activities. This includes the desire to use innovation in all aspects of the organization's functioning – from production processes and management to customer communications and service delivery. This orientation ensures compliance with modern market requirements and allows the oil and gas field to remain competitive in the digital age. Digitalization contributes to the optimization of internal processes through automation and the use of information technologies, which allows you to reduce costs, increase the speed and quality of information processing, as well as ensure a prompt response to changes in market conditions. In addition, it opens up new opportunities for data analysis, forecasting and decision-making, which increases

management flexibility and the accuracy of strategic actions. Innovative development, in turn, contributes to the constant updating of products, services and business models, which allows oil and gas fields to meet customer needs at a higher level and quickly adapt to new market trends. The introduction of innovations also means that oil and gas fields are constantly improving the quality of their products and services, which increases the level of customer satisfaction and strengthens its market position. In general, adherence to the principle of digitalization and innovative development allows oil and gas fields not only to maintain high standards of activity, but also to be a leader in their field, thanks to the constant desire to introduce new solutions and technologies, improve the quality and efficiency of products and services;

2) the principle of resource provision provides for the attraction and effective use of various types of resources – material, financial, human, informational – to ensure the stable and successful development of the enterprise. This principle is since no organization can achieve its goals without the availability and optimal management of resources, which are key elements to achieve high productivity and competitiveness. Material resources include the means of production, raw materials, tools, and other physical elements necessary to ensure the smooth operation of the enterprise. Financial resources include investments, cash, loans and other assets that allow the enterprise to carry out its activities and develop. Human resources are key, since it is the employees who determine the effectiveness of the organization with their knowledge, skills and experience. The personnel management system should provide for proper training, motivation and development of employees, which will allow them to realize their potential to the maximum. Information resources are an important factor in the modern development of the oil and gas field, as they provide an opportunity to quickly respond to market changes, carry out analytics and make informed decisions. Information on new technologies, changes in legislation and market trends allows oil and gas fields to remain relevant and competitive. The attraction and effective management of these resources is the key to the successful operation of the oil and

gas field. The principle of resource provision also provides for the optimization of the processes of distribution and use of resources, which allows oil and gas fields to reduce costs, increase the efficiency of production processes and maximize their opportunities for further growth and development;

3) the principle of economy and efficiency implies that the costs of stimulating and intensifying the development of an oil and gas field should be less than the effects and benefits obtained from these actions. This means that the resources of the oil and gas field – material, financial, human – must be used with maximum efficiency, providing a result that exceeds the efforts and costs invested. Compliance with this principle allows the oil and gas field not only to achieve its strategic goals, but also to do so with minimal costs and optimal use of resources. Efficiency ensures minimization of unproductive costs and increase in the efficiency of all processes taking place at the oil and gas field. The principle of efficiency, in turn, implies the maximization of performance results through the correct management of resources, time and organizational processes. It is aimed at obtaining both short-term and long-term results that will contribute to the sustainable development of the oil and gas field. This principle also emphasizes the importance of cost-benefit analysis at each stage of managerial decision-making. The use of modern methods of control and accounting helps to determine whether certain measures are justified from an economic point of view, and whether they will bring the expected result. Compliance with the principle of economy and efficiency allows oil and gas fields to operate on the basis of rational use of resources, reducing costs, increasing profits and ensuring a high level of competitiveness in the market. It also contributes to maintaining the resilience of oil and gas fields in changing environmental conditions and helps to achieve long-term growth;

4) the principle of comprehensiveness implies that the development of an oil and gas field should be carried out through the comprehensive use of both promising and existing market opportunities. This means that the oil and gas field must simultaneously pay attention to innovations and new opportunities that open

up in the market but not forget about the resources and advantages that it already has. The implementation of this principle requires a balanced approach to the use of internal and external resources. Internal resources are human resources, production capabilities, financial resources and technologies of the oil and gas field, which already exist and are used. External opportunities include new markets, partnerships, innovative technologies, changes in legislation and macroeconomic conditions. Complexity also means the integration of various aspects of the oil and gas field's activities into a single system, where all elements work in concert to achieve common strategic goals. For example, production, marketing, financial management, personnel policy – all these areas should be interconnected and harmonized, taking into account both internal and external factors;

5) the principle of taking into account the interests and needs of all stakeholders implies that an oil and gas field should focus on meeting the needs and harmonizing the interests of not only its shareholders or owners, but also all participants with whom it interacts. These stakeholders include employees, the state, local governments, consumers and economic counterparties with whom the oil and gas field cooperate. For employees, this means creating favourable working conditions, ensuring a decent level of wages, opportunities for professional development and social guarantees. It is important to consider their interests, since it is the motivation and productivity of employees that determine the efficiency of the oil and gas field. In the case of the state and local governments, the oil and gas field must comply with legal requirements, pay taxes, and fulfil socially responsible obligations that contribute to the development of the local community. Considering the interest of the state allows strengthening the legal framework, ensuring stability in the market and maintaining a positive image of the oil and gas field in society. For consumers, the principle implies a focus on the quality of products or services, compliance with their expectations and requirements. It is important to consider the needs of customers while providing them with the best possible experience with products or services, which contributes to loyalty and the

development of a company's reputation in the market. As for economic counterparties, which may be suppliers, partners or customers of the oil and gas field, it is important to build mutually beneficial relationships based on trust, transparency and mutual responsibility. This allows not only to maintain stable business ties, but also to provide flexibility in interaction with partners in the face of changes in the market. Thus, the principle of considering the interests and needs of all stakeholders creates the basis for the social responsibility of the oil and gas field and ensuring its sustainable development. Focusing on the balance of interests contributes to maintaining long-term stability and increasing the competitiveness of the company, allowing it to function more efficiently in the face of constant changes in the external and internal environment;

6) the principle of environmental friendliness provides that an oil and gas field should actively implement environmental imperatives in its activities, in particular in order to minimize the negative impact on the environment and promote its protection. This includes the use of environmentally friendly technologies, the reduction of harmful emissions, the efficient use of natural resources, and the reduction of waste. The implementation of this principle also applies to the production of high-quality and environmentally friendly products that meet environmental protection standards. Oil and gas fields should strive to reduce their environmental footprint by developing and implementing innovative solutions that improve energy efficiency and use renewable energy sources. The principle of environmental friendliness implies a responsible attitude to natural resources at all stages of the production process – from the procurement of raw materials to waste disposal. The implementation of this principle not only contributes to the protection of the environment but also has a positive effect on the company's reputation, as more and more consumers and partners prefer environmentally responsible oil and gas fields. In modern conditions, the principle of environmental friendliness is also an important element of the strategy for the sustainable development of an oil and gas field. It allows not only to reduce

environmental risks but also opens new market opportunities related to the production of environmentally friendly products.

This systematization of these principles provides a universal approach to the formation of an organizational and economic mechanism for managing the development of an oil and gas field.

It is also worth noting that in addition to general principles and principles of management, there are specific ones. So, among them, it is worth highlighting the following:

Specific principles of the organizational and economic mechanism:

1. The principle of unity of goals. All divisions of the oil and gas field and its employees must work to achieve a common goal. This goal must be clearly formulated and communicated to each employee.

2. The principle of separation of powers and responsibilities. Each employee of an oil and gas field must clearly understand his duties and have the necessary authority to perform them. Responsibility for the results of work should be personalized.

3. The principle of flexibility. The organizational and economic mechanism of the oil and gas field must be able to adapt to changes in the external environment and internal conditions of the oil and gas field.

4. The principle of control. It is necessary to constantly monitor the implementation of plans, compliance with technological processes and the use of resources of the oil and gas field.

5. The principle of information support. The management of an oil and gas field must be provided with complete, reliable and operational information.

6. The principle of science. Management decisions of an oil and gas field should be made based on scientific knowledge and achievements in the field of management.

7. The principle of democracy. The management of an oil and gas field should be based on the principles of democracy, involving employees in decision-making.

8. The principle of social responsibility. An oil and gas field must bear social responsibility to society, comply with environmental norms and standards.

These principles determine the need to formulate the following functions for the formation of an organizational and economic mechanism for ensuring the economic efficiency of oil and gas fields, which are shown in fig. 2 [9, p. 228-229]:

– the function of setting goals, which ensures the continuity of the process of forming goals of the effectiveness of the mechanism for managing the development of an oil and gas field, taking into account the dependence on already existing external and internal factors, as well as on the concept of field development;

– planning function, which provides for the functioning of a mechanism for the development of a system of methods and means that are chosen to achieve the set goal of its functioning;

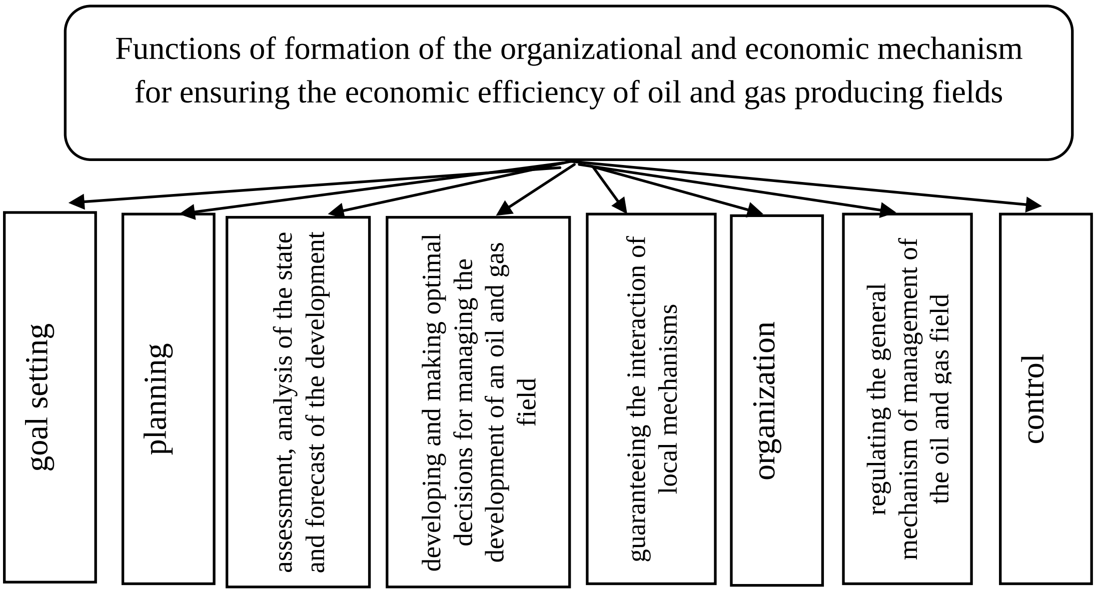

Fig.2. Functions of the formation of an organizational and economic mechanism for ensuring the economic efficiency of oil and gas fields

– the function of assessment, analysis of the state and forecast of the development of the oil and gas field;

– the function of developing and making optimal decisions for managing the development of an oil and gas field, which take into account internal constraints and external competitive conditions and correspond to the stage of the life cycle of its development;

– the function of guaranteeing the interaction of local mechanisms, which provides conditions for the continuous operation of the general mechanism of the oil and gas field;

– the function of the organization, which provides for the effective functioning of the mechanism for managing the development of an oil and gas field as an algorithm that formalizes the decision-making process for managing the development of the field to the distribution of functional responsibilities of employees of structural units and their competencies, as well as to the relations of their subordination;

– the function of regulating the general mechanism of management of the oil and gas field and its structural elements, which provides for the timely change and improvement of development management methods and means to support the chosen direction of development of the oil and gas field, as well as sustainable modes of its operation;

– control function, which provides for timely detection of various deviations from the planned parameters, specified target guidelines and criteria for the development of an oil and gas field, which are detected through the development and implementation of a system for monitoring the internal and external environment of the oil and gas field.

Thus, having studied the main aspects of the essence and principles of building an organizational and economic mechanism for managing the development of oil and gas fields, we can conclude that today there are a certain number of aspects that remain insufficiently studied and require further scientific research. This opens opportunities for further development and improvement of approaches to the formation and implementation of the organizational and economic mechanism in the management of the development of oil and gas fields.

The study of these aspects will contribute to a more effective adaptation of the oil and gas field to changes in the market environment, increasing their competitiveness and stability in the market. In addition, it will improve management processes related to resource provision, innovative development, productivity improvement and environmental responsibility. Further study of the integration of digital technologies and innovations remains relevant, which will contribute to the optimization of management decisions and ensure stable development of oil and gas fields in the global economy.

Conclusions. The article conducts a comprehensive study of the fundamental concepts and strategies necessary for effective management of hydrocarbon resources. By considering the integration of general, organizational, economic, and specific principles, the study offers a structured framework for solving the multifaceted problems of the oil and gas industry. These challenges include fluctuating market conditions, environmental concerns, regulatory pressures, and the need for sustainability.

The research underscores the importance of strategic planning as a cornerstone of effective management, emphasizing the alignment of operational goals with long-term sustainability objectives. It highlights the critical role of efficient resource allocation, particularly through the adoption of advanced technologies such as artificial intelligence and big data analytics, to optimize decision-making processes and reduce costs. Additionally, the article emphasizes the necessity of robust risk management frameworks to mitigate financial, operational, and environmental risks, ensuring the resilience of oil and gas operations in an unpredictable global landscape.

The article also acknowledges the valuable contributions of both international and Ukrainian researchers, whose work has enriched the understanding of oil and gas field management. Ukrainian scholars have provided insights into optimizing resource allocation, leveraging digital technologies, and aligning national policies with global sustainability goals, offering practical solutions tailored to the unique challenges of the region.

In conclusion, the principles outlined in this article provide a holistic framework for building an organizational and economic mechanism that enhances the efficiency, sustainability, and profitability of oil and gas field management. By integrating strategic planning, technological innovation, risk management, and regulatory compliance, companies can navigate the complexities of the industry and ensure long-term viability. This research not only contributes to the theoretical understanding of oil and gas management but also offers practical recommendations for industry stakeholders, policymakers, and academics. As the global energy landscape continues to evolve, the principles discussed in this article will remain essential for fostering sustainable development and economic growth in the oil and gas sector.

Література

1. Chukwurah, E. G., Okeke, C. D., Ekechi, C. C. (2024). Innovation green technology in the age of cybersecurity: Balancing sustainability goals with security concerns. *Computer Science & IT Research Journal*, 5(5), 1048-1075.

2. Digitemie, W. N., Ekemezie, I. O. (2024). Enhancing Carbon Capture and Storage Efficiency in The Oil and Gas Sector: An Integrated Data Science and Geological Approach. *Engineering Science & Technology Journal*, 5(3), 924-934.

3. Захарченко, Н., Горбаченко, С.., Грінченко, Р., Топалова, І., & Фіалковська, А.. (2021). Принципи формування організаційно-економічного механізму управління креативним потенціалом підприємства регіону. *Financial and Credit Activity Problems of Theory and Practice*, *4*(39), 405–414. https://doi.org/10.18371/fcaptp.v4i39.241404/

4. ДЕМ'ЯНЕНКО, Т. (2024). Формування організаційно-економічного механізму управління розвитком промислового підприємства. *Development Service Industry Management*, (3), 19–25. https://doi.org/10.31891/dsim-2024-7(3)

5. Cherep, A. V., Cherep, O. H., Andriukaitienė, R., & Korinnyi, S. O. (2019). Розвиток спеціальних принципів економічного механізму інноваційної

діяльності підприємств. *Financial and Credit Activity Problems of Theory and Practice*, *3*(30), 206–214. https://doi.org/10.18371/fcaptp.v3i30.179534

6. Korytko, T., Bogutska, O., & PiletskaS. (2018). Formation of an organizational and economic mechanism for encouraging investment activity of enterprises. *Baltic Journal of Economic Studies*, *4*(5), 10-17. https://doi.org/10.30525/2256-0742/2018-4-5-10-17.

7. Dzwigol, H., Trushkina, N., & Kwilinski, A. (2021). The Organizational and Economic Mechanism of Implementing the Concept of Green Logistics. *Virtual Economics*, *4*(2), 41–75. https://doi.org/10.34021/ve.2021.04.02(3).

8. Колісник Р.М. Сутність та основні принципи формування організаційно-економічного механізму управління підприємством. Вісник Національного університету цивільного захисту України. Серія: Державне управління. 2021. Випуск 1. С. 66-72.

9. Кушнірук В.С., Єрмаков О.Ю., Шебаніна О.В. Організаційно-економічний механізм ефективного ведення садівництва в аграрних підприємствах регіону: монографія. Миколаїв: МДАУ, 2009. 232 с.

References

1. Chukwurah, E. G., Okeke, C. D. and Ekechi, C. C. (2024), “Innovation green technology in the age of cybersecurity: Balancing sustainability goals with security concerns”, *Computer Science & IT Research Journal*, vol. 5(5), pp.1048-1075.

2. Digitemie, W. N. and Ekemezie, I. O. (2024), “Enhancing Carbon Capture and Storage Efficiency in The Oil and Gas Sector: An Integrated Data Science and Geological Approach”, *Engineering Science & Technology Journal*, vol. 5(3), pp.924-934.

3. Zakharchenko, N., Gorbachenko, S., Grinchenko, R., Topalova, I. and Fialkovska, A. (2021), “Principles of formation of the organizational and economic mechanism of management of the creative potential of the enterprise of the

region”, *Financial and Credit Activity Problems of Theory and Practice*, vol. *4*(39), pp.405-414. https://doi.org/10.18371/fcaptp.v4i39.241404/

4. Dem'yanenko, T. (2024), “Formation of an organizational and economic mechanism for managing the development of an industrial enterprise”, *Development Service Industry Management*, vol. 3, pp.19-25. https://doi.org/10.31891/dsim-2024-7(3)

5. Cherep, A. V., Cherep, O. H., Andriukaitienė, R. and Korinnyi, S. O. (2019), “Development of special principles of the economic mechanism of innovation activity of enterprises”, *Financial and Credit Activity Problems of Theory and Practice*, vol. *3*(30), pp. 206-214. https://doi.org/10.18371/fcaptp.v3i30.179534

6. Korytko, T., Bogutska, O. and Piletska S. (2018), “Formation of an organizational and economic mechanism for encouraging investment activity of enterprises”, *Baltic Journal of Economic Studies*, vol. *4*(5), pp,10-17. https://doi.org/10.30525/2256-0742/2018-4-5-10-17.

7. Dzwigol, H., Trushkina, N. and Kwilinski, A. (2021), “The Organizational and Economic Mechanism of Implementing the Concept of Green Logistics”, *Virtual Economics*, *4*(2), pp.41–75. https://doi.org/10.34021/ve.2021.04.02(3).

8. Kolisnyk, R.M. (2021), “The essence and basic principles of the formation of the organizational and economic mechanism of enterprise management”, *Visnyk Natsional'noho universytetu tsyvil'noho zakhystu Ukrainy. Seriia: Derzhavne upravlinnia*. Vol.1, pp.66-72.

9. Kushniruk, V.S., Yermakov, O.Yu. and Shebanina, O.V. (2009), Orhanizatsijno-ekonomichnyj mekhanizm efektyvnoho vedennia sadivnytstva v ahrarnykh pidpryiemstvakh rehionu [Organizational and economic mechanism of effective gardening in agricultural enterprises of the region], MSAU, Mykolaiv, Ukraine.

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