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THE ROLE OF THE FORMATION OF THE ENVIRONMENTAL MANAGEMENT SYSTEM IN THE IMPROVEMENT OF INTERNATIONAL ECONOMIC RELATIONS

Purpose. To assess the environmental and economic consequences of the activities of oil producing enterprises in Azerbaijan and identify new mechanisms for their regulation.

Methodology. The results of the presented scientific research are obtained using general and special methods of cognition: abstract-logical analysis, systematization and combination, the method of theoretical generalization, the method of dialectical cognition, deduction and induction, statistical analysis.

Findings. The work examines the international experience of Environmental Management and substantiates its role in improving international economic relations between countries. The macroeconomic advantages of rational use of natural resources are substantiated. By minimizing the impact of the Azerbaijani oil and gas production companies on the environment, it is possible to ensure environmental protection in Azerbaijani, solve environmental problems and improve the standard of living of people and living things in order to achieve an ecological and economic balance.

Originality. The work offers the basic principles of creating an environmental management system. It is proved that the environmental management system is one of the main priorities for solving environmental protection problems.

Practical value. The results of the study can be used by practitioners, scientists and government officials of local governments in the field of environmental management to develop further prospects for improving the state of the environment.

Keywords: oil production, environmental management, environment, marketing, foreign economic communications

Introduction. Studies show that there have been profound qualitative changes in approaches to solving environmental problems in the world practice. This problem is primarily related to the production of goods and services. The past decade of the last century has witnessed an increase in the volume of production in leading industrial companies of foreign countries, a decrease in the specific costs of raw materials and materials, saving energy resources. In conditions of improving product quality, the negative impact of enterprises on the environment has been significantly reduced. Environmental activity, being one of the organizers of Sustainable Development, provides enterprises with direct and indirect advantages. allows them to make a profit and, as a result, justify themselves economically [1, 2]. On the other hand, qualitative changes in the management system of enterprises and organizations in the transitional conditions, gradual rejection of administrative control methods in management make it relevant to approach the solution of environmental problems from the point of view of new perspectives, that is, the development of environmental regulation [3, 4].

Literature review. Environmental management is used for analysis, evaluation and management of environmental protection, reducing risks from environmental factors in financial markets, increasing competitiveness in the world market, attracting special capital to environmentally hazardous industries and energy systems, determining the nature and scale of environmental problems in the field of Health Protection [5, 6].

Today, environmental management is developing primarily with the practical solution of environmental problems related to the production and consumption of goods and servic-

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es. The "agenda of the $2I^{st}$ century", adopted in Rio de Janeiro in 1992, indicates that it is necessary to attribute "environmental management" to the dominant rock of sustainable development and, at the same time, to the high priority of industrial activity and entrepreneurship [7].

At present, activities in the field of Environmental Management are industrially developed and have gained wide practical development in developing countries [8, 9]. The achievement in solving environmental problems of industrial production in recent years is associated with environmental management. Technical Committee of the International Organization for Standardization "environmental management" (ISO/TC -207) on the basis of British Standards and ISO 9000 series standards, international standards on "Environmental Management" 14000 series have been developed. These international standards provide for the following areas: environmental management systems; Environmental audit, environmental marking; assessment of environmental characteristics; assessment of life cycle; reforms and definitions. Environmental management is a set and type of principles, means (including organizational and legal ones) of nature protection activity of the enterprise (management of ensuring technogenic safety of the environment), aimed at improving the investment attractiveness, ecology of the enterprise and the efficiency of its production and economic activities [10]. The Environmental Management System of the enterprise is an integral part of the general management system of the enterprise which combines the organizational structure, activity planning, responsibility distribution, as well as practical work, procedures, processes and resources for the development, implementation of the environmental policy of the enterprise, assessment and improvement of the achieved results [11, 12]. It should be noted that environmental management does not cancel or change the existing

state and production — administrative environmental management, but complements it as an independent entrepreneurial activity of the enterprise. Environmental management as a whole is viewed not only as a market instrument that allows the development of production and the receipt of additional profits, and also as a more characteristic and significant manifestation of modern industrial ecological culture, entrepreneurship and market culture [13, 14].

Purpose of the article. The study is to evaluate the ecoeconomic effects of Azerbaijan's oil extraction enterprises and to discover new mechanisms of their regulation. The article examines the place and role of the formation of the environmental management system in the development of the national economy of countries based on the world experience. To this end, the article examines the international experience in environmental management and substantiates its role in improving international economic relations of countries. proceeding from this necessity, the article examines the macroeconomic advantages of environmental management.

Results. The purpose of Environmental Management is to improve management in the field of Environmental Protection, assess and reduce risks associated with the use of raw materials and materials, optimize the use of Natural Resources, assess the compliance of the enterprise's activities with current legislation, develop priority measures and long-term policies in solving environmental problems (Fig. 1) [7, 8].

In order to create the basis of environmental management, the enterprise must independently determine its advantage, plan, evaluate and demonstrate the results achieved, develop and improve its activities year by year to eliminate negative effects on the environment in all directions that are practically possible. Elimination of the impact on the environment should start with simpler and more specific measures individually, gradually expanding year by year and passing to complex measures. The main criterion of the necessary level of development of such activity can be the "increase in economic efficiency" of the implemented measures [15, 16].

The formation of the environmental management policy begins with the preparation, approval and public display of the enterprise's environmental policy and goals. The gradual improvement of the environment and elimination of negative effects should be accepted as the main principles of environmental policy [17]. The subsequent sequence of interaction in the management system refers to the internal monitoring and control of the planning, organization and practical implementation of the activities corresponding to the environmental policy and goals. It should be noted that the absence or insufficient development of one of the specified elements can make the entire management system ineffective. The functional goal of environmental management is not the fulfillment of certain formal requirements, but the fulfillment of various forms of active practical activity that is understandable and accessible to all specialists and staff of the enterprise. Today, enterprises do not carry out the above proactive environmental activities [18]. At the same time, with the exception of some, such activities can be fully implemented for Azerbaijani enterprises



Fig. 1. Environmental management system perspectives

regardless of their economic situation and the nature of environmental problems facing them. The implementation of these types of activities does not require a lot of additional costs, but requires qualitative changes in the motivation, planning, organization and use of the obtained results [19, 20]. Each enterprise must include in it character traits and a new element. Different and at the same time efficient environmental management system can operate in two similar enterprises. The main principles of creating an environmental management system at the enterprise are as follows (Fig. 2) [9, 10].

It is known that environmental legislation, inspection and legal enforcement alone cannot protect nature. In order to protect the environment, it is necessary to change the mentality of enterprise managers, employees and the entire population. In the presence of an environmental management system, enterprises report more easily to state organizations. So, they work according to environmental legislation and regulations. The existence of such a system confirms the fact that the enterprise has good control over its activities. The role of the state inspectorate involves supervising enterprises. This makes the enterprise more flexible in fulfilling the requirements of state authorities [21, 22]. Thus, the role of nature protection agencies is limited to setting goals, norms and standards, and time gives freedom to the enterprise in choosing the means and technologies to achieve these goals and norms. When the environmental management system plan is implemented by the enterprise itself, it is implemented in stages. Activities in the field of environmental management, saving and protecting raw materials and energy resources already in its development stage; loss reduction; improvement of product quality; reducing environmental fees and fines, increasing labor productivity; it is possible to achieve a significant economic effect due to the reduction of the costs of canceling accidents and their consequences. Elimination or reduction of negative impacts on the environment and the main economic gain in applying environmental management are determined by various potential benefits and additional opportunities. They are as follows (Fig. 3) [11, 12].

Activities in the field of environmental management can play a special role in the development of investment processes. Today, Western investors demand from the enterprises of the CIS countries a document confirming not only economic, but also environmental reliability. In the field of Environmental Management, the effective functioning of the enterprise is considered as the main guarantee of environmental safety and environmental risk management capabilities in the process of designing, building and operating industrial facilities. The advantages and opportunities of environmental management can be used at Azerbaijani enterprises [23].

Thus, the development of activities in the field of Environmental Management will allow solving specific economic and

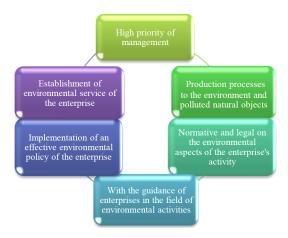


Fig. 2. Basic principles of creating an ecological management system



Fig. 3. Elimination or mitigation of adverse environmental impacts and implementation of Environmental Management

nature protection issues in the brow of the country as a whole and individual enterprises. The comprehensive action plan for ensuring environmental management can be described as the formation of the country's economic development, including the international economic relations of Azerbaijan, hence environmental management, as well as the historical-economic and policy of the country's international economic relations [24].

It is obvious that Azerbaijan is a democratic republic located in the South Caucasus region of Eurasia. As the country's main industrial output is oil and gas, the state has taken significant steps in recent years to promote sustainable economic growth and reduce its carbon footprint. The government's efforts in this area have been recognized internationally and the country has been a participant in a number of global initiatives, including the Paris Agreement and the UN Sustainable Development Goals.

If we look at Azerbaijan's alternative energy sources, the country has significant potential for renewable energy, especially solar and wind energy. The government plans to increase the share of renewable energy in the country's energy complex to 30 % by 2030. In order to quickly reach this goal, the government has implemented various policies and incentives to attract investments in the renewable energy sector. On the other hand, the government has developed a National Energy Efficiency Action Plan to improve energy efficiency in buildings, industry and transport, and created an Energy Efficiency Fund to support energy saving initiatives. Regarding sustainable tourism, a branch of the green economy, Azerbaijan promotes sustainable tourism that includes ecotourism, agrotourism and cultural tourism, and the country has several protected areas and national parks that offer opportunities for sustainable tourism development. Regarding waste management as a major problem, the government has implemented measures to improve waste management practices in the country. These measures include the preparation of a waste management strategy and the construction of modern waste treatment facilities, etc. Agriculture is an important sector in Azerbaijan and the government has implemented policies to promote sustainable agricultural practices. Agriculture mainly includes the development of ecological agriculture, the use of modern irrigation systems and the promotion of sustainable land use practices. In recent times, the development of the green economy has had a positive effect on Azerbaijan's marketing, especially its international economic relations.

In general, Azerbaijan actively develops international economic relations and implements an appropriate policy, pays special attention to trade, investment, energy, transport and partnership with international organizations. If we look at the world map, the strategic location of this country, its natural resources and business-friendly reforms make it an attractive place for foreign investment and a key player in the world economy. The Republic of Azerbaijan has developed trade relations with many countries of the world, and its main trading partners are Turkey, Italy, Germany and China (Figs. 4–8). The main export goods of the country are oil and gas, and the main imported goods are machinery, food and consumer goods. In recent years, Azerbaijan has been cooperating with foreign investors to attract foreign investments to various sectors of its economy. For this, special economic zones and industrial parks were created to attract investment. Azerbaijan has significant oil and gas reserves and is a member of the Organization of Petroleum Exporting Countries (OPEC). The

country has established energy partnerships with a number of countries, including Turkey, Georgia and Italy.

Azerbaijan's location at the crossroads of Europe and Asia makes it an important transit hub for International Trade [13, 14].

As can be seen from the export potential of Azerbaijan with neighboring countries (Figs. 4 and 5), exports to Turkey are increasing from year to year, with Georgia and Iran it is practically stable, and there is growth. As for the import schedule, imports from Turkey are growing from year to year, although imports from Georgia and Iran are weak.

As it can be seen (Figs. 6 and 7), exports to other countries, except Italy, have undergone minor changes over the years. Product exports to Italy increased sharply in 2020–2021. Regarding imports, there have been ups and downs over the years, especially from Great Britain and the United States.

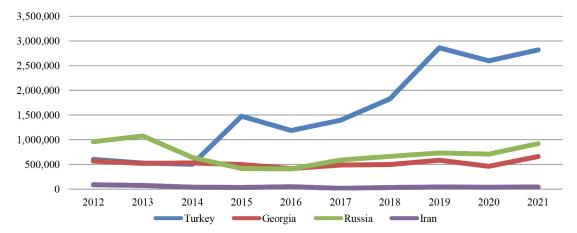


Fig. 4. Azerbaijan's export with neighboring countries (thousand US dollars)

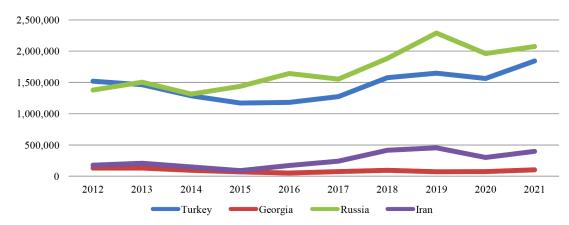


Fig. 5. Azerbaijan's import with neighboring countries (thousand US dollars)

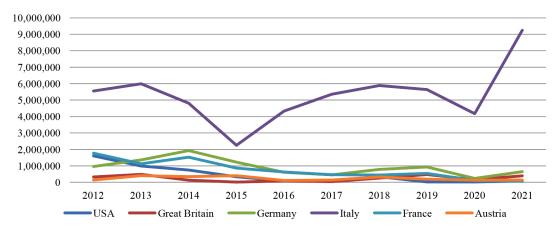


Fig. 6. Import of Azerbaijan with the USA and a number of European countries (thousand US dollars)

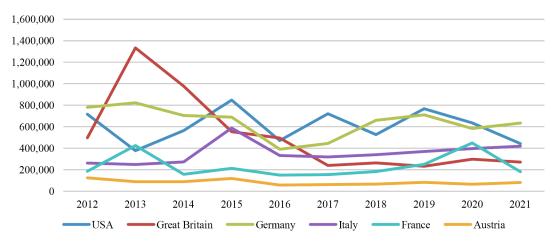


Fig. 7. Export of Azerbaijan with the USA and a number of European countries (thousand US dollars)

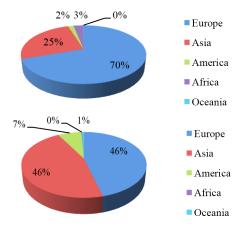


Fig. 8. Specific weight of Azerbaijan in exports and imports % (2021)

As can be seen from the diagram above, Europe occupies the main place in both imports and exports of Azerbaijan (Fig. 8). Then, the main directions are Asia and America [15, 16], the smallest volumes of exports and imports are Africa and Oceania [17]. Based on all this, the main directions of effective activity in the field of environmental management can be defined as follows.

Conclusions. Based on all this, the main directions of effective activity in the field of environmental management can be defined as follows:

- saving and protection of raw materials, materials, energy resources;
- reduced demand for extremely hazardous and ultra-high hazardous substances and materials;
 - use of recycled resources;
- improvement of basic and auxiliary technological processes in order to reduce sources of pollution, waste and other factors affecting the environment;
 - organization of pollutants and waste streams;
- reuse of raw materials, materials, reagents, water and energy;
 - reduction of expenses, improvement of product quality;
- reprocessing and use of production and consumption waste;
- production of additional products based on complex use of raw materials and materials;
- improvement of technological and production discipline, reduction of "night" impact on the environment;
- reduction of situations with high environmental risks, emergency situations, accidents;
- preparation and operation in environmental conditions, elimination of environmental consequences of accidents;

- maintenance of environmental regulations in production buildings, industrial sites, and production impact zones on the environment:
- to inform the enterprise staff in the field of elimination of environmental impacts;
 - reduce environmental risks for staff;
- to develop and improve the efficiency of production-environmental monitoring and control.

Environmental management system is a part of environmental audit.

Environmental management is an integral part of the system of improving international economic relations.

Environmental management plays a positive role in establishing international economic relations.

Countries with a strong development of the green economy act as more attractive trading partners. The main reason for this is that they should be seen as responsible and reliable countries that take their obligations seriously. As a result, they attract foreign investment and expand their export markets.

Environmental management also plays an important role in improving diplomatic relations between countries. Thus, mutual relations are established between countries and joint activities are carried out to manage shared resources such as water or forests.

Environmental management can also manage and reduce the potential for conflict between countries. For example, disputes over shared water resources between two countries may cause tension, but cooperation will help prevent this.

It is known that in order to become a member of many international trade agreements and organizations, it is, first, necessary to comply with certain environmental standards. For this reason, countries with effective environmental management practices are more successful in establishing trade and investment relations

From a financial perspective, many international financial institutions such as the World Bank and the International Monetary Fund require borrowers to have effective environmental management practices. In this regard, environmental management can also facilitate countries' access to financing, which is important for economic development.

References.

1. Suleymanov, G. S., & Turkan, S. A. (2020). Enhancing the efficiency of environmental and economic risks management for oil and gas producing enterprises in Azerbaijan. *Scientific Bulletin of Ivano-Frankivsk National Technical University of Oil and Gas. Series: Economics and Management in the Oil and Gas Industry*, 2(22), 7-17. https://doi.org/10.31471/2409-0948-2020-2(22)-7-17.

2. Greene, C., Hitaj, C., Bowman, M., Cooke, B., Ferreira, G., Carlson, A., & McBride, W. (2019). The Outlook for Organic Agriculture. *94th Annual USDA Agricultural Outlook Forum*, Crystal City, Virginia, February 22, 2019. https://doi.org/10.22004/ag.econ.272373.

- **3.** Bayramli, G. (2020). The Environmental Problems of Azerbaijan and the Search for Solutions. *WSEAS Transactions on Environment and Development*, 16,423-433.https://doi.org/10.37394/232015.2020.16.42.
- **4.** Azerbaijan 2030: National Priorities for socio-economic development (2021). *Order of the President of the Republic of Azerbaijan dated 02 February 2021*. Retrieved from https://president.az/en/articles/view/50474.
- **5.** BizimYol.info (2018). *The problem of soil erosion in Azerbaijan*. Retrieved from https://www.bizimyol.info/az/news/51897.html.
- **6.** Brammer, S., Hoejmose, S., & Marchant, K. (2012). Environmental Management in SMEs in the UK: Practices, Pressures and Perceived Benefits. *Business Strategy and the Environment*, *21*(7), 423-434. https://doi.org/10.1002/bse.717.
- 7. Asif, Z., Chen, Z., Haghighat, F., Nasiri, F., & Dong, J. (2023). Estimation of Anthropogenic VOCs Emission Based on Volatile Chemical Products: A Canadian Perspective. *Environmental Management*, 71, 685-703. https://doi.org/10.1007/s00267-022-01732-6.
- **8.** Hyde, P., & Reeve, P. (2011). *Essentials of Environmental Management* (3rd ed.). London: Routledge. https://doi.org/10.4324/9781315656441. **9.** Hens, L. (2015). John Blewitt: Understanding sustainable develop-
- 9. Hens, L. (2015). John Blewitt: Understanding sustainable development. *Environment, Development and Sustainability*, 17(3), 677-679. https://doi.org/10.1007/s10668-015-9646-x.
- **10.** Rahman, M., Chowdhury, S., Mohammad Zayed, N., Ali Imran, M., Hanzhurenko, I., & Nitsenko, V. (2022). Does Globalization Trigger an Ecological Footprint? *Rocznik Ochrona Środowiska*, *24*, 141-162. https://doi.org/10.54740/ros.2022.011.
- 11. Koval, V., Mikhno, I., Udovychenko, I., Gordiichuk, Y., & Kalina, I. (2021). Sustainable natural resource management to ensure strategic environmental development. *TEM Journal*, *10*(3), 1022-1030. https://doi.org/10.18421/TEM103-03.
- 12. Kryshtanovych, M., Akimova, L., Akimov, O., Kubiniy, N., & Marhitich, V. (2021). Modeling the process of forming the safety potential of engineering enterprises. *International Journal of Safety and Security Engineering*, 11(3), 223-230. https://doi.org/10.18280/ijsse.110302.
- 13. Varey, R.J. (2013). Consumer Society: Critical Issues and Environmental Consequences. *European Journal of Marketing*, 47(3/4), 686-688. https://doi.org/10.1108/03090561311297544.
- **14.** Nuhçıxan (2020). *Sustainability and sustainable economic development*. Retrieved from https://nuhcixan.az/news/iqtisadiyyat/28952-davamli-ve-dayanigli-iqtisadi-inkisaf.
- **15.** Kayzen (2011). *Management Science*. Retrieved from https://kayzen.az/blog/menecment/5097/menecement-idar%C9%99etm%C9%99-elmi.html
- **16.** The State Statistical Committee of the Republic of Azerbaijan (2022). *Environment in Azerbaijan: Statistical yearbook. Baku.* Retrieved from https://www.stat.gov.az/menu/6/statistical_yearbooks/source/environment_2022.zip.
- 17. State Statistical Committee of the Republic of Azerbaijan (2022). *The Agriculture of Azerbaijan: Statistical Publication. Baku.* Retrieved from https://www.stat.gov.az/menu/6/statistical_yearbooks/source/agriculture 2022.zip.
- **18.** Svyrydenko, D., & Revin, F. (2022). The Ecological Dimension of Sustainable Development: Bringing Forth Pedagogics to Safeguard the Global Future. *Future Human Image*, *18*, 74-81. https://doi.org/10.29202/fhi/18/7.
- **19.** Perevozova, I., Horal, L., Daliak, N., Chekmasova, I., & Shyiko, V. (2021). Experimental management of ecological security of territorial facilities for forecasting the developing economy dynamics. *IOP Conference Series: Earth and Environmental Science*, 628(1). https://doi.org/10.1088/1755-1315/628/1/012022.
- **20.** Balanovska, T., Havrysh, O., & Gogulya, O. (2019). Developing enterprise competitive advantage as a component of anti-crisis management. *Entrepreneurship and Sustainability Issues*, 7(1), 303-323. https://doi.org/10.9770/jesi.2019.7.1(23).
- **21.** Latysheva, O., Rovenska, V., Smyrnova, I., Nitsenko, V., Balezentis, T., & Streimikiene, D. (2020). Management of the sustainable development of machine-building enterprises: A sustainable development space approach. *Journal of Enterprise Information Management, 34*(1), 328-342. https://doi.org/10.1108/JEIM-12-2019-0419.

- **22.** Oksin, V., & Zubko, A. (2021). Space Activities and Sustainable Local Development. *Advanced Space Law*, 8, 86-95. https://doi.org/10.29202/asl/8/8.
- 23. Ndonde, N. G., & Bei, M. (2021). Environmental Public Interest Litigation: a Legal Perspective to Environmental Litigation in China. *Ukrainian Policymaker*, 9, 51-68. https://doi.org/10.29202/un/9/5
- **24.** Kotenko, S., Nitsenko, V., Hanzhurenko, I., & Havrysh, V. (2020). The mathematical modeling stages of combining the carriage of goods for indefinite, fuzzy and stochastic parameters. *International Journal of Integrated Engineering*, *12*(7), 173-180. https://doi.org/10.30880/ijie.2020.12.07.019.

Роль формування системи екологічного менеджменту у вдосконаленні міжнародних економічних відносин

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Мета. Оцінка екологічних і економічних наслідків діяльності нафтодобувних підприємств в Азербайджані та виявлення нових механізмів їх регулювання.

Методика. Результати представленого наукового дослідження отримані з використанням загальних і спеціальних методів пізнання: абстрактно-логічного аналізу, систематизації й комбінування, методу теоретичного узагальнення, методу діалектичного пізнання, дедукції та індукції, статистичного аналізу.

Результати. У роботі розглядається міжнародний досвід управління навколишнім середовищем і обґрунтовується його роль у покращенні міжнародних економічних відносин між країнами. Обґрунтовані макроекономічні переваги раціонального природокористування. Звівши до мінімуму вплив азербайджанських підприємств із видобутку нафти й газу на навколишнє середовище, можна забезпечити його охорону в Азербайджані, вирішити екологічні проблеми й підвищити рівень життя людей і живих істот для досягнення екологічного та економічного балансу.

Наукова новизна. У роботі пропонуються основні принципи створення системи екологічного менеджменту. Обгрунтовується, що система екологічного менеджменту є одним з основних пріоритетів для вирішення завдань охорони навколишнього середовища.

Практична значимість. Результати дослідження можуть бути використані практиками, науковцями й державними службовцями органів місцевого самоврядування в галузі природокористування для розробки подальших перспектив поліпшення стану навколишнього середовища.

Ключові слова: нафтовидобування, екологічний менеджмент, довкілля, маркетинг, зовнішньоекономічні комунікації

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