

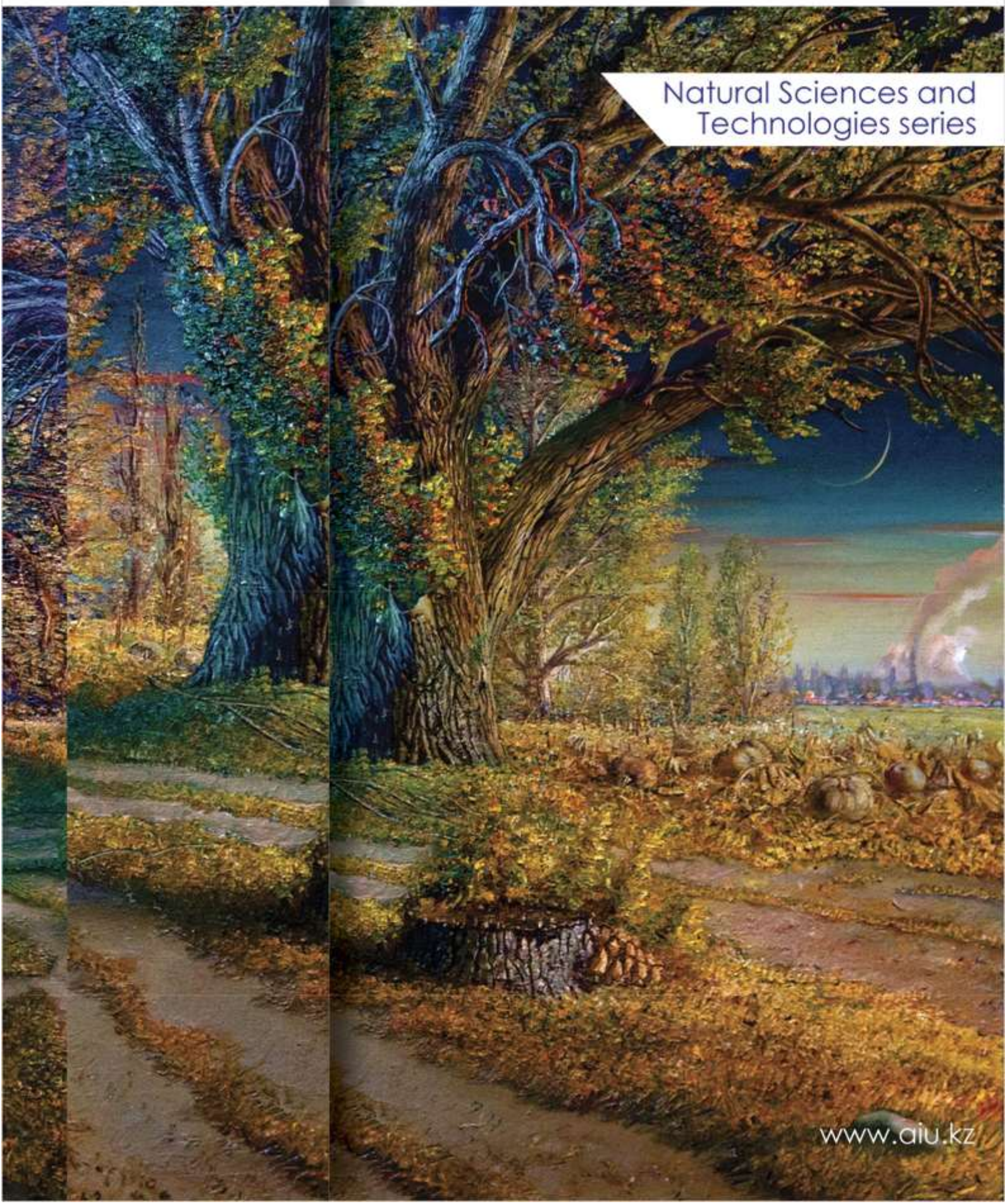


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EVALUATION OF THE ENVIRONMENTAL POLICY EFFECTIVENESS OF THE OIL AND GAS SECTOR OF ATYRAU REGION

Gimranova G.K., Nikanorova A.D.

Annotation. Modern trends in the management of industrial enterprises is the introduction of approaches aimed at preserving the environment and reducing the negative impact. Atyrau region is a large oil and gas region, where there are more than 48 oil and gas enterprises, whose activities cause geo-environmental problems. The aim of the work is to develop mechanisms to improve the environmental policy of enterprises in the oil and gas sector of the Atyrau region to reduce their negative impact on the environment. In the framework of the study, a methodology was developed for assessing the environmental responsibility of enterprises, based on publicly available data on their activities, an analysis of the effectiveness of their environmental policy was carried out, and mechanisms were proposed to stimulate enterprises to introduce environmentally oriented approaches to production management.

Keywords: environmental policy of enterprises; environmental responsibility rating; corporate transparency; environmental management.

INTRODUCTION

Modern trends in the management of large industrial enterprises is the introduction of approaches aimed at preserving the environment and reducing the negative impact on it. International standards require enterprises to develop and implement “green” principles and approaches into management processes, and to commit themselves to fulfill environmental requirements.

In accordance with the Concept of the transition to a green economy of the Republic of Kazakhstan, activities aimed at greening the economy are carried out in the following areas: saving energy and increasing the efficiency of energy costs, improving the system waste management, development of renewable energy sources, sustainable consumption of water resources, conservation and effective management of ecosystems [1].

The essence of the environmental policy of industrial enterprises is to develop a system of economic, legal, environmental, educational measures aimed at managing the anthropogenic impact of enterprises and ensuring rational environmental management. Its main purpose is to protect ecosystems, respect the same social, economic and environmental interests, as well as to control and monitor the environmental impact of the enterprise[2].

Atyrau region is a large oil and gas region, where there are more than 48 oil and gas enterprises that belong to the enterprises of the highest first category of danger [Department of Ecology of Atyrau region]. The region both has a high economic growth in the country. The development of the oil and gas sector allows opening up new jobs and attracting foreign investors. At the same time, serious geo-environmental problems

are associated with the functioning of oil and gas enterprises. [3]. Improvement of the environment depends on the decisions made by their management in the field of ecology and nature management. The aim of this work is to develop mechanisms to improve the environmental policy of enterprises in the oil and gas sector of the Atyrau region to reduce their negative impact on the environment. For this, a methodology for assessing the environmental responsibility of major enterprises was developed and an analysis of the effectiveness of their environmental policy implementation was conducted.

MATERIALS AND METHODS

The developed methodology for assessing the environmental responsibility of enterprises in the oil and gas sector is based on point-rating approaches for assessing the environmental responsibility of enterprises [4]. Despite the large number of different ratings and indices, there is still no single and universally accepted method for assessing the environmental responsibility of companies, which would serve as the basis for a comparative analysis of the activities of companies in different regions and countries of the world[5].

In the framework of this study, the task was to develop a universal assessment system, which is based on open and accessible data. To calculate the rating, 3 main groups of parameters were used: 1) indicators reflecting the environmental impact of the enterprise; 2) indicators characterizing the level of environmental management; 3) indicators of corporate transparency (Fig. 1).

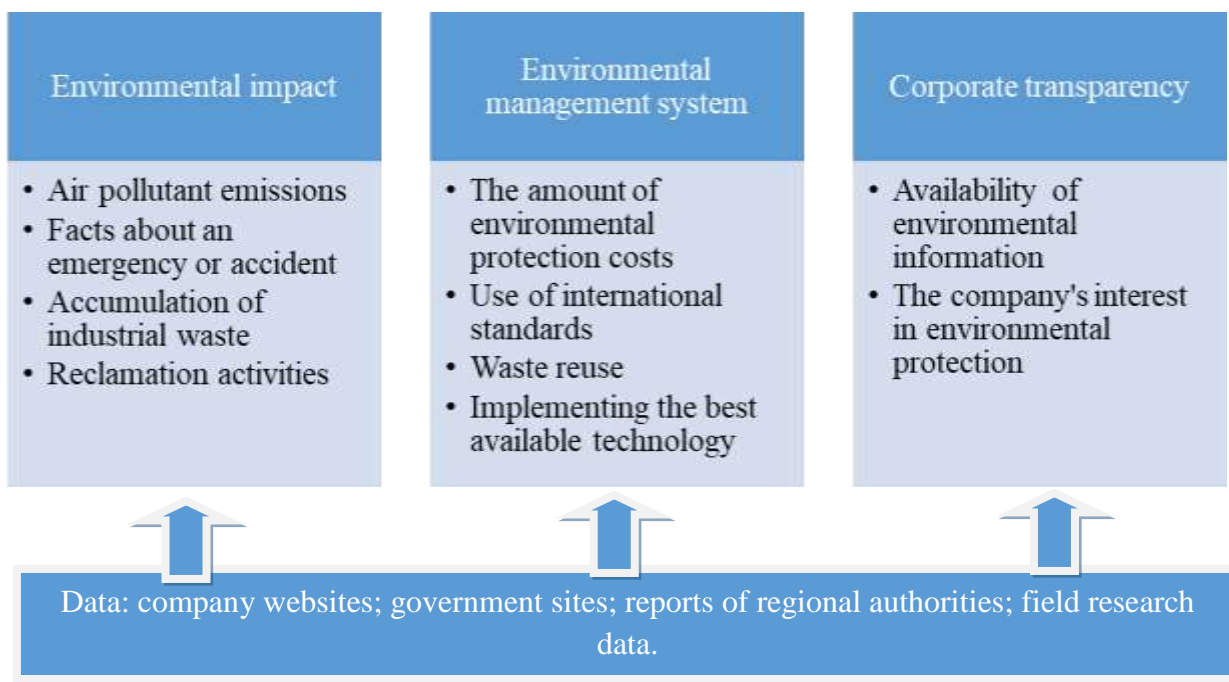


Figure 1. The structure of calculating the environmental responsibility rating of enterprises in Atyrau region.

The environmental impact of the enterprise. The specific emissions of pollutants into the atmosphere, the volume of accumulation of industrial waste and the dynamics of changes in these indicators characterize the efforts of enterprises to reduce the impact on environmental components through the use of new technologies, air filter installations that capture air pollutants, the introduction of new waste processing chains, etc. The facts about the occurrence of emergencies or accidents indicate the lack of effective measures to prevent environmental threats, and the lack of remediation activities indicates disinterest and the inability of enterprises to minimize the anthropogenic load.

Environmental management system. Access to the environmental management system is provided through national (ST RK / ISO 14001-2006) and international environmental standards of the ISO 14000 family. These standards include several aspects for the environmental planning of production: management system; assessment of environmental monitoring; production life cycle management system. The introduction of planning procedures increases the efficiency of enterprises in accordance with applicable environmental requirements at the national and international levels. The level of environmental costs in relation to the income of the enterprise also indicates the degree of involvement of the enterprise in environmental protection, on average, oil companies spend from 1 to 5% of their profits[6].

Corporate transparency. An important principle in building an environmental policy is the principle of transparency, which implies the company's willingness to substantially, reliably and fully disclose information about its environmental activities to society. Enterprises must adhere to the principle of transparency, which consists in their willingness to disclose environmental information on their environmental impact through a public reporting system.

Each parameter was rated on a scale of 0 to 10 points. Enterprises that score from 0 to 40 points are characterized by low environmental responsibility, in the range 41-73 - medium, in the range 74-100 - high.

RESULTS AND DISCUSSION

The rating was calculated for 10 major oil and gas enterprises in the region (Fig. 2) based on information from 2016-2018 published on the official websites of companies, state executive bodies, as well as data from the Department of Ecology of Atyrau Oblast. To verify the data, the authors of the study asked the enterprise administrations to provide the missing information.



Figure 2. Environmental responsibility rating of oil and gas enterprises in Atyrau region

The group of enterprises with high environmental responsibility includes the enterprises of «Tengizchevroil» LLP, and «Embamunaigas» JSC. Each year, these companies publish non-financial reports in the public domain in accordance with the international standards, together with which they hide the ecologically important data on the environmental impact. Through mass media and on the official websites of companies, they are improving environmental policies, and they are incorporating the best available technologies and environmental standards. The total cost of environmental protection measures is 5.62% of profit for «Tengizchevroil» LLP and 1.9% for «Embamunaigas» JSC.

The group with medium environmental responsibility «North Caspian Operating Company», «Caspiy Neft» JSC, «Atyrau Refinery» LLP, «Sazankurak» LLP, «Sveltland-Oil» LLP. At some of these enterprises, environmental management standards have not been implemented («Caspiy Neft» JSC, «Sazankurak» LLP, «Sveltland-Oil» LLP), there is an increase in pollutant emissions and an increase in waste accumulation («North Caspian Operating Company», «Caspiy Neft» JSC, «Atyrau Refinery» LLP, «Sazankurak» LLP, «Sveltland-Oil» LLP). The disclosure of the environmental data of these enterprises on the websites is not fully displayed, a significant part of the information is missing. The group with average environmental responsibility includes («North Caspian Operating Company», «Caspiy Neft» JSC, «Atyrau Refinery» LLP, «Sazankurak» LLP, «Sveltland-Oil» LLP. At some of these enterprises, environmental management standards have not been implemented («Caspiy Neft» JSC, «Sazankurak» LLP, «Sveltland-Oil» LLP), there is an increase in pollutant emissions and an increase in waste accumulation («North Caspian Operating Co

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«Potential Oil» LLP, «Maten petroleum» JSC, «Kozhan» JSC enterprises received the least points and were assigned to the group of enterprises with low environmental

responsibility. This is primarily due to the low level of corporate transparency: on official websites of enterprises or there are no sections devoted to environmental issues, or the information presented on them has general environmental content.

The World Wildlife Fund (WWF), an international non-governmental organization, is also developing its rating of transparency of environmental responsibility of oil and gas enterprises in Kazakhstan [4]. The WWF rating is calculated on the basis of universal criteria proposed as generally accepted requirements for oil and gas companies. Criteria are evaluated in the field of environmental management, the scale of anthropogenic damage to the natural environment, transparency of information on environmental impact. In 2018, 4 companies in Atyrau region were included in this rating. The group with a high WWF rating «Embamunaigas» JSC, «North Caspian Operating Company». The low-rated group includes «Tengizchevroil» LLP, « Caspiy Neft » JSC, due to the low points scored in terms of environmental impact and environmental management [4].

The differences in the results of the two ratings are due to the difference in the indicators used and the methods of obtaining data. The methodology proposed by the authors for calculating the environmental responsibility rating of enterprises does not require serious administrative resources to obtain reliable information, while the WWF indicators used require close contact with company management to disclose it.

CONCLUSIONS

The Republic of Kazakhstan is actively involved in improving policies in the field of environmental protection and nature management. The state is gradually encouraging private enterprises to switch to environmental standards and approaches in organizing their activities by encouraging investments in green technologies, increasing the efficiency of water use, decarbonizing production and reducing their waste [1]. However, the initiative remains primarily with private companies.

The analysis of the environmental responsibility of enterprises in the oil and gas sector of the Atyrau region showed that the production system and the current environmental principles for organizing the work of enterprises are heterogeneous. Enterprises with different approaches and the level of perception of environmental responsibility operate in the region. An analysis of the environmental responsibility of enterprises in the oil and gas sector of the Atyrau region showed that the production system and the current environmental principles for organizing the work of enterprises are heterogeneous. There are enterprises in the region with different approaches and a level of perception of environmental responsibility.

The enterprises «Tengizchevroil» LLP, «North Caspian Operating Company», whose shareholders are leading world companies, as well as state-owned national enterprises «Embamunaigas» LSC, «Atyrau Refinery» LLP are more inclined to introduce green technologies and environmental disclosure. Small private companies are less interested in introducing environmental management systems and increasing

transparency. This is largely determined by the lack of direct legislative requirements and economic motivation.

To increase the environmental responsibility of enterprises, it is necessary, firstly, to involve the public in monitoring the activities of oil and gas sector companies in informing in the field of environmental policy. Secondly, the development of government incentive and binding measures to transfer enterprises to the best available technologies. Thirdly, an increase in the liability of enterprises for the emission of pollutants and a review of administrative fines towards an increase in the field of environmental offenses. Integrated implementation of measures in the field of public and state control, economic and administrative incentives will increase the number of enterprises implementing environmental policy principles, which will help reduce the negative impact of the oil and gas sector on the nature of the Atyrau region.

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ОЦЕНКА ЭФФЕКТИВНОСТИ ЭКОЛОГИЧЕСКОЙ ПОЛИТИКИ НЕФТЕГАЗОВОГО СЕКТОРА АТЫРАУСКОЙ ОБЛАСТИ

Гимранова Г.К., Никанорова А.Д.

Аннотация. Современными тенденциями в управлении промышленными предприятиями является внедрение подходов, направленных на сохранение окружающей среды и снижение негативного воздействия. Атырауская область - крупный нефтегазовый регион, в котором действуют более 48 нефтегазовых предприятий, деятельность которых связана с геоэкологическими проблемами. Целью работы является разработка механизмов совершенствования экологической политики предприятий нефтегазового сектора Атырауской области с целью снижения их негативного воздействия на окружающую среду. В рамках исследования была разработана методология оценки экологической ответственности

предприятий на основе общедоступных данных об их деятельности, проведен анализ эффективности их экологической политики и предложены механизмы стимулирования предприятий к внедрению. экологически ориентированные подходы к управлению производством.

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