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ANALYSIS OF ENVIRONMENTAL TAXATION OF OIL AND GAS PRODUCTION ENTERPRISES**АНАЛІЗ ЕКОЛОГІЧНОГО ОПОДАТКУВАННЯ НАФТОГАЗОВИДОБУВНИХ ПІДПРИЄМСТВ**

Urgency of the research. Implementation of efficient environmental policy is a modern development priority in the countries corresponding to the sustainable development doctrine common in the UN.

Target setting. Consideration of the issues related to environmental taxation system of economic entities in Ukraine is reasonable for the purpose of determining taxation efficiency and effectiveness.

Actual scientific researches and issues analysis. Scientific papers of O. M. Harkushenko, V. R. Didukh, A. M. Yanshyna and other scientists hold a prominent place among researches aimed at studying the issues related to environmental taxation.

Uninvestigated parts of general matters defining. Applied researches of environmental regulation issues through environmental taxation mechanism in individual branches of economy are still relevant and required in order to determine taxation effectiveness and efficiency.

The research objective. This article is aimed at determining main trends of environmental tax impact on financial activities of oil and gas enterprises in Ivano-Frankivsk region.

The statement of basic materials. We analysed pollutant and greenhouse gas emissions from stationary sources in 2013-2016 by oil and gas enterprises in Ivano-Frankivsk region. In order to assess fiscal efficiency of environmental taxation we compared dynamics of rental payments and environmental tax payments for atmospheric air pollution.

Conclusions. The main trends were determined through data analysis by volumes of mineral resources extraction, level of emission of pollutants, environmental tax rates. These trends indicate the absence of financial incentives for oil and gas enterprises in Ivano-Frankivsk region to reduce pollutant emissions and introduce innovations in improving environmental friendliness of production.

Keywords: environmental taxation; pollutant emissions; oil and gas enterprises; rental payments; ecological modernization.

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Urgency of the research. Implementation of efficient environmental policy is a modern development priority of any and all countries in the world. In this regard the relevant issues arise related to the search of theoretical and practical solutions in the field of interaction between economic and natural systems of the country, selection of optimal sustainable development path, development and implementation of environmental policy based on ecological modernization concept.

Target setting. Environmental taxation system is one of the main tools of efficient environmental policy in many countries. Unfortunately, use of this tool is extremely inefficient and ineffective in

Актуальність теми дослідження. Сучасним пріоритетом розвитку країн, що відповідає загальноприйнятій в ООН доктрині сталого розвитку, є реалізація ефективної політики в природоохоронній сфері.

Постановка проблеми. Доцільним видається вивчення питань пов'язаних з системою екологічного оподаткування суб'єктів господарювання в Україні з метою визначення його ефективності та дієвості.

Аналіз останніх досліджень і публікацій. Серед досліджень, які спрямовані на вивчення питань пов'язаних з екологічним оподаткуванням, вагоме місце займають наукові праці таких вчених як: О. М. Гаркушенко, В. Р. Дідуха, А. М. Яншиної та ін.

Виділення недосліджених частин загальної проблеми. Залишаються актуальними прикладні дослідження проблем екологічного регулювання через механізм екологічного оподаткування в окремих галузях економіки, для виявлення його результативності та дієвості.

Постановка завдання. Стаття покликана визначити основні тенденції впливу екологічного податку на фінансову діяльність нафтогазовидобувних підприємств Івано-Франківській області.

Виклад основного матеріалу. Проаналізовано викиди забруднюючих речовин та парникових газів у атмосферу від стаціонарних джерел у 2013-2016 роках нафтогазовидобувними підприємствами Івано-Франківської області. Для оцінки фіскальної ефективності екологічного оподаткування здійснено порівняння динаміки рентних платежів та платежів з екологічного податку за забруднення атмосферного повітря.

Висновки. За допомогою аналізу обсягів видобутку корисних копалин, рівня викиду забруднюючих речовин, ставок екологічного податку, виявлено відсутність фінансових стимулів для нафтогазовидобувних підприємств Івано-Франківської області щодо скорочення викидів забруднюючих речовин та впровадження інновацій у сфері підвищення екологічності виробництва.

Ключові слова: Екологічне оподаткування; викиди забруднюючих речовин; нафтогазовидобувні підприємства; рентні платежі; екологічна модернізація.

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Ukraine despite its legislative regulation in the Tax Code. Therefore, researching the issues related to environmental taxation system of economic entities requires further studying.

The purpose of the article is to determine features and assess the effectiveness and efficiency of environmental taxation mechanisms basing on examples of domestic oil and gas enterprises.

Actual scientific researches and issues analysis. Environmental taxation issues were studied in scientific papers of Ukrainian scientists. The paper of O. M. Harkushenko contains analysis of international principles of environmental taxation and their implementation in Ukraine [1]. V. R. Didukh highlighted value and place of economic mechanisms in environmental policy implementation [2]. A. M. Yanshyna outlined international experience of environmental taxation and problems of its application in Ukraine [3]. Significant role of taxation in solving environmental policy tasks is highlighted in almost all researches. Environmental taxes are determined as one of the main economic levers. These taxes have both stimulating and fiscal function in regulating the economy and solving natural resource management problems.

Uninvestigated parts of general matters defining. Applied researches of environmental regulation issues through environmental taxation mechanism in individual branches of economy are still relevant and required in order to determine taxation effectiveness and efficiency. This is particularly so with branches and fields of activities characterised by significant environmental risks, such as oil and gas industry.

The research objective is to determine features and assess the effectiveness and efficiency of environmental taxation mechanisms on examples of domestic oil and gas enterprises.

The statement of basic materials. Currently, environmental issues, especially those related to climatic changes, are the priority problems in the world threatening human development. Ukraine as a party to the United Nations Framework Convention on Climate Change (1992) undertook international commitments determined in the Kyoto Protocol (1997) and the Paris Agreement (2015) concerning greenhouse gas emission reduction. Due to this the state shall establish and implement the efficient environmental policy based on ecological modernization concept.

Eurostat defines the environmental tax as a tax, taxable base of which is a physical characteristic of object with negative impact on the environment or other object connected with it. For example, such taxable base can be pollutant emission volumes.

The environmental taxes can be divided into four main categories: Energy taxes (including CO₂-taxes): transport taxes, pollution taxes, resource taxes (excluding taxes on oil and gas). Taxes on oil and gas extraction are excluded from the definition of environmental taxes. In addition to the argument mentioned above about the taxes being designed to capture the resource rent [4, p. 9-13].

According to the Tax Code of Ukraine, environmental tax is a national mandatory payment that is paid for: actual volumes of emission into the atmospheric air, discharge of pollutants into water sources, waste disposal as a secondary raw material, radioactive waste production and temporary storage by manufacturers in excess of the term established by special conditions of the license [5, p. 304].

The data of the Main Department of the State Fiscal Service in Ivano-Frankivsk region were used to analyse the pollution sources. We analysed pollutant and greenhouse gas emissions into atmosphere from stationary sources in 2013-2016 by oil and gas enterprises.

Oil and gas production industry is featured by significant environmental pollution potential at all stages of production process. Due to technological characteristics oil and gas production takes one of the first places in the industry by the level of negative impact on the environment.

The most common atmospheric air pollutants at oil and gas extraction and combustion are hydrocarbons, hydrogen sulphide, nitrogen and sulphur oxides and coarse dispersions.

It should be noted that the current state of gas extraction in Ukraine is characterized by depletion of gas and gas condensate fields' reserves and their transition to the final stage of development. However, these fields still contain significant remaining hydrocarbon reserves and ensure the main gas extraction [6, p. 295].

Our research shows, that when considering dynamics of oil and gas extraction and pollutants emission by according to the reporting data of the oil and gas industry enterprises Ivano-Frankivsk region it is worth noting that oil and gas extraction decreased from 2013 to 2016 (Fig. 1).

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Oil extraction in this period decreased from 114.6 thousand tons in the I quarter of 2013 to 44.86 thousand tons in the IV quarter of 2016 (decrease by 61%), and natural gas extraction decreased from 135.4 million m³ in the I quarter of 2013 to 65.065 million m³ in the IV quarter of 2016 (decrease by 52%). Oil and gas extraction dynamics features a high degree of interrelation, namely correlation ratio between two extraction time series is 0.94.

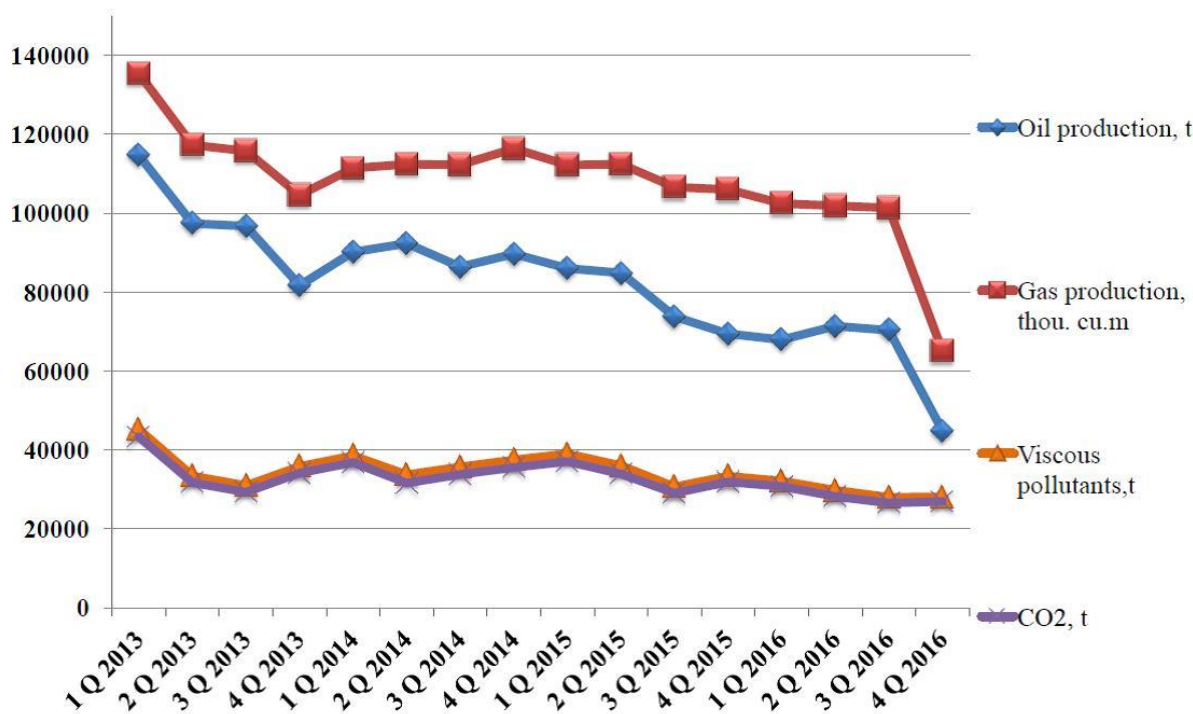


Fig. 1. Dynamics of hydrocarbons extraction and pollutants emission into the atmosphere in Ivano-Frankivsk region for the period of 2013-2016

Source: authors' research findings

According to the researches, 93% of all pollutant emissions account for carbon dioxide emissions. Volume of pollutant emission decreased by 38% in 2013-2016. Correlation ratio between oil extraction and pollutants emission is 0.73 indicating a close relation.

Based on hydrocarbons extraction and pollutants emission indicators we determined average emission indicator for extraction of 1 ton of oil equivalent. Its dynamics for 2013-2016 is shown in Fig. 2.

Oil and gas enterprises emitted 0.193 tons of pollutants into the atmosphere in average for extraction of 1 ton of oil equivalent. The largest part of emission was carbon dioxide. According to the results of visual graphical analysis it should be noted that there were no significant deviations from this trend within the analysed period. This indicates the stability of technological processes of hydrocarbons extraction and pollutants emission, as well as the absence of significant innovations aimed at emission reduction.

In order to assess fiscal efficiency of environmental taxation we compared dynamics of rental payments and environmental tax payments for atmospheric air pollution (Fig. 3). Rental payments for oil and gas extraction are one of the largest income items in the regional budget.

Dynamics of tax liabilities indicators shows reliable trends and fiscal inefficiency of environmental taxation in Ukraine. Particularly, rental payments and environmental tax payment ratio by oil and gas industry enterprises is almost 1:1000. Namely, tax liabilities for environmental tax per 1 UAH of rental payments are only around 0.001 UAH. There is a positive dynamics of this disproportion reduction, however, it does not create significant financial incentives for oil and gas industry enterprises in terms of reducing pollutant emissions and introducing innovations for ecological modernization of production.

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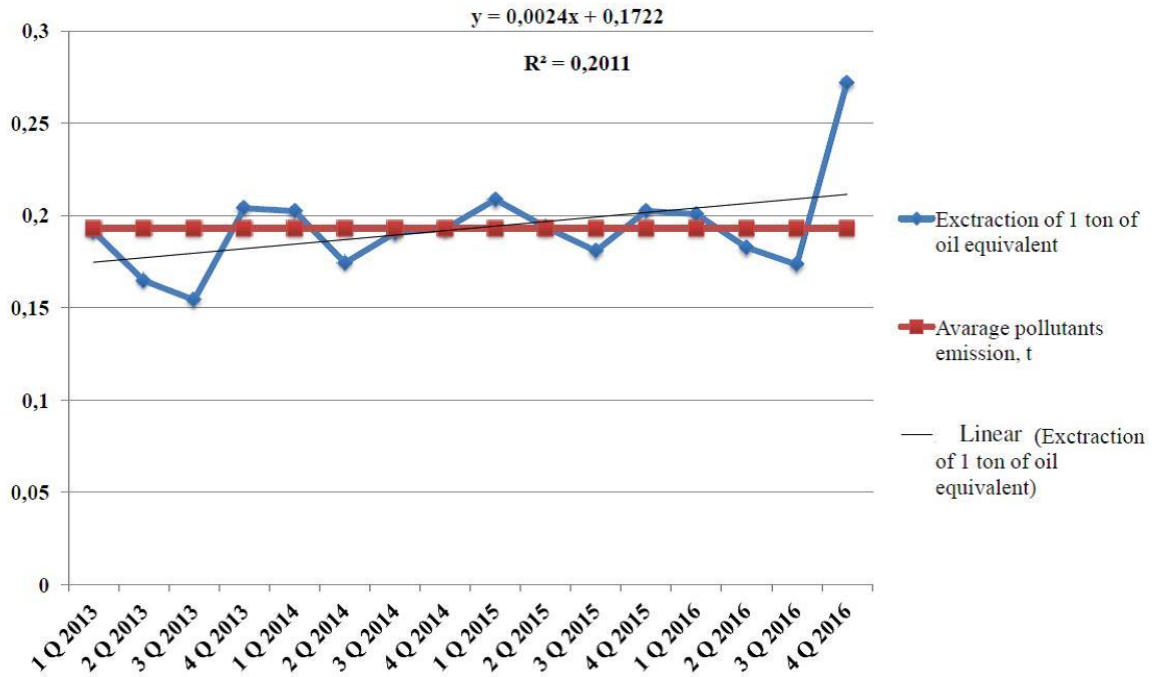


Fig. 2. Dynamics of average pollutants emission per extraction of 1 ton of oil equivalent¹
 Source: authors' research findings

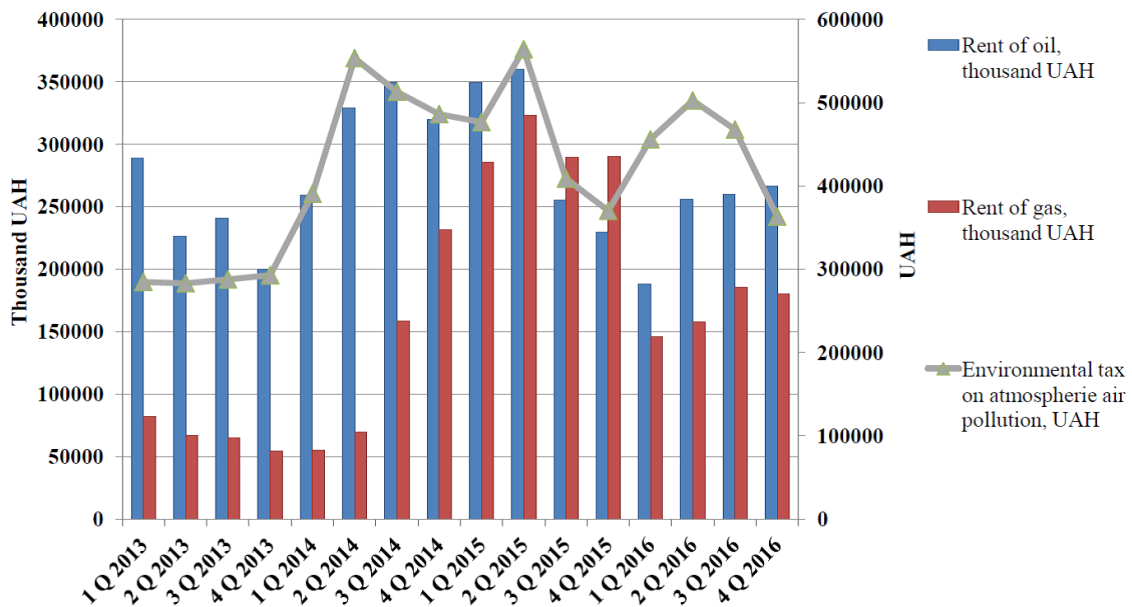


Fig. 3. Dynamics of tax liabilities on rental payment and environmental tax of oil and gas industry enterprises Ivano-Frankivsk region in 2013-2016
 Source: authors' research findings

¹ Oil equivalent was used to take into account and compare gas and oil extraction.

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Conclusions. Based on the conducted research we can note that according to the analysis of oil and gas enterprises activities in Ivano-Frankivsk region the main factor influencing the volume of pollutant emissions into the atmosphere is the level of hydrocarbons extraction. Herewith, we recorded a relatively stable technological ratio of pollutant emissions into the atmosphere per 1 ton of hydrocarbons extraction (0.193) in 2013-2016. This ratio stability indicates the absence of innovations in the area of emission reduction and ecological modernization of production within the analysed period. Dynamics of environmental taxation actual rates change and their low level has no influence on financial flows of enterprises and is fiscally insignificant both for the enterprises and the budget. This dynamics also does not determine enterprises' behaviour in short-term and long-term period and does not provide incentives for innovation introduction into the ecological modernization of production.

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