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Економічна сутність екологічних аспектів діяльності вуглевидобувного підприємства та напрями її дослідження

У статті наведено критичний аналіз наявних у фаховій літературі підходів до визначення економічної сутності екологічних аспектів діяльності вуглевидобувного підприємства, а також її місця в загальній фінансово-економічній діяльності суб'єкта господарювання.

Наукова новизна цього дослідження полягає в розробленні понятійного апарату для подальшої інтеграції екологічних аспектів діяльності в систему бухгалтерського обліку вуглевидобувних підприємств.

Ключові слова: екологічна складова, бухгалтерський облік, фінансові результати, сталий розвиток, вуглевидобувне підприємство, екологічна діяльність.

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Экономическая сущность экологических аспектов деятельности угледобывающего предприятия и направления её исследования

В статье приведен критический анализ изложенных в специализированной литературе подходов к определению экономической сущности экологических аспектов деятельности угледобывающего предприятия, а также ее места в общей финансово-экономической деятельности субъекта хозяйствования.

Научная новизна данного исследования состоит в разработке понятийного аппарата для дальнейшей интеграции экологических аспектов деятельности в систему бухгалтерского учета угледобывающих предприятий.

Ключевые слова: экологическая составляющая, бухгалтерский учет, финансовые результаты, устойчивое развитие, угледобывающее предприятие, экологическая деятельность.

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Economic essence of ecological aspects of coal producer's activity and ways of its research

In this paper the existing approaches to the determination of economic essence of ecological aspects of coal producer activity and its place in general financially-economic activity of enterprise activity are analyzed.

Scientific novelty of this research consists in development of a conceptual framework for further integration of ecological aspects of activity into the system of coal producers accounting.

Keywords: ecological component, accounting, financial results, sustainable development, coal producer, ecological activity.

Problem of the research

The effect of modern economic activity on the environment is so great that it has very bright global scales which are revealed in appearing of ecological disaster's zones, crash situations which are the reasons of large losses of enterprises and society in the whole and emergence of the new negative factors. The experience of developed countries proves that it is impossible to get highly social level of development without environmental impact of economic decisions. Compensation of economic development and saving environment according to concept of "sustainable development" are impossible without effective enterprise management in the field of environmental management. Emergence of these categories in scientific terminology is objective because of experience of long-term practice. Ecological aspects are an integral part of general economic activity of an enterprise. The latter requires the transformation of accounting for improving adequacy of accounting information and optimization of managing decisions.

Problem exploration level. The research of importance of ecological component in accounting activity of an enterprises is presented in the works of specialists such as: Owen D.L., R.H. Gray и K.J. Bebbington [27; 23], Massimo Contrafatto та Gianfranco Rusconi [18], Richard J. [25], Stefan Schaltegger, Kaspar Muller and Henriette Hindrichsen [32], Morosova Y. [21], Borodin A. [5], Murueva Y. [22] etc. Their works offer some approaches to accounting socially-responsible activity of an enterprises, instruments of optimization of economic ecological results of economic activity. The great contribution into the development of the theory and practice of accounting organization, analysis and audit of ecological aspects of enterprises' activity was made by well-known Ukrainian economic scientists: Butynets F. [6], Zamula I. [33], Zhygley I. [34], Kirsanova T. [13], Melnik L. [20], Balatskiy O. [3] etc. However, despite great experience in the field of economic and accounting essence of ecological aspects of an enterprise's activity there is no one position among economic scientists. Also there is no law regulation of ecological activity of enterprise for accounting and making accounting report. It determines the importance of the given research.

Unresolved part of a problem

Prior literature and hypothesis development. Any enterprise is affected by ecological risk, if: it depends on ecological law; has polluted places; makes economic activity which may pollute the ground and water, rivers or air; deals with using dangerous ma-

materials, recycling or producing dangerous wastes; can have negative effect on the people who work or live in the area of enterprise's effect.

During the period of independence of Ukraine special attention was given to the matters of coordination of socially-economic and ecological development of the country [8], but the integration process of Ukraine to civilized society requires great structural changes, general reforming managing systems of an enterprise. Such reforming is possible with getting full and true information about enterprise's activity. Ecological activity is an integral part of general financially-economic activity which takes sometimes great deal in general structure of incomes and costs of an enterprise. It makes preconditions for the necessity of separating this kind of enterprise's activity to organize conscious and qualitative managing an enterprise within actual law in accounting and control in terms of sustainable economic development.

Ecological enterprise's activity is unreasonably restricted to the needs of calculating ecological taxes and saving, and giving statistical information to authorities which does not correspond to the important moments of forming the results of general enterprise's activity.

Uncovering information about natural resources and their affection by economic activity of an enterprise in the terms of actual system of accounting and financial report does not satisfy foreign and domestic consumers. This system deals with the functions which are not registered in the state standards and not developed methodologically and methodically.

The place and structure of ecological component in general financially-economic activity [15] which is not defined lead to impossibility to organize clear structure of document circulation of accounting objects for the needs of both accounting and tax accounting enterprise.

The aim of the research

The purpose of this paper is to analyze the existing approaches to the determination of economic essence of ecological aspects of coal producer's activity and its place in general financially-economic activity of enterprise's activity. Judging from the given goal we can state the main problems of the given research: determining the economic essence of ecological aspects of coal producer's activity; determining the structure of ecological enterprise's activity taking into account branch peculiarities of mines; separating the categories of "enterprise's ecological activity" and "ecological accounting"; stressing "ecological aspects" of coal producer's activity for accounting and making accounting report.

Research design

In I. Zamula's research it is stressed that the category of ecological activity of enterprise "...does not have scientific definition although many scientists investigate interconnections of environment with enterprises" [33]. In this connection the necessity of making universal system of economy with corresponding to the requirements of the conception of steady development is proved. It is stressed that this very system is ecological enterprise's activity. To this activity we can refer: "...mastering natural resources, their extraction, using, recreation and protection; negative effect on the environment (pollution of air, water, ground, placing wastes); i.e. environmental activity of an enterprise as complex of environmental measures" [33]. In this connection the author offers "to use the terms of accounting ecological enterprise's activity for defining the system of detection, measuring, registration, accumulation, generalization and giving information to consumers about the influence of enterprise's activity on the environment".

Sustainable development on the state level supposes opportunities of enlarging

volumes of industrial production, increasing standard of living and at the same time saving and improving the environment. It is the process of changes with which using the restricted natural resources, ways of investment and scientifically-technical development, development of personality and institutionalizing changes are coordinated between each other and directed to strengthening present and future potential. The traditional conception of sustainable development joins economic, social and ecological components. Ecological component provides integrity of biological and physical natural systems, their capability to self-recovery.

As investigators prove [31] world economy has used for many years those resources which are on the surface. It reveals itself in ruling extensive methods of economy i.e. in accumulating resources extraction, energy using, mastering new lands etc. that made disbalance in ecological, economic and social interests in the system nature-society which aims at critical edge.

In modern society ecological component of enterprise’s activity is innovative way of research, which hasn’t yet got its place as for objects, subjects, principles, directions of accounting organization, control and audit in general financially-economic activity.

Approaches to detailing and more solid accounting of ecological costs of an enterprise to perform full and true accounting of ecological costs and their management are developed at the national level.

Internet analysis of the terms connected with accounting socio-responsible activity [34] allows distinguishing the next treating categories for accounting ecological component of enterprise’s activity (Fig.).

Despite authors’ activity in systematization of this direction it should be noticed, it is impossible to depict ecological information in traditional accounting system at the present time. First of all it is connected with the absence of standard regulation of accounting this index, imperfection of development and uncertainty of the ecological component place in the national accounting and audit, absence of regulated primary, analytical and synthetic accounting, non-coordination of accounting and tax accounting at this direction.

Research working out

The necessity of ecological component is required at both state and international levels. I. Zamula states that preconditions of accounting depiction of ecological activity of enterprise are: Any processes of purposeful influence on natural environ-

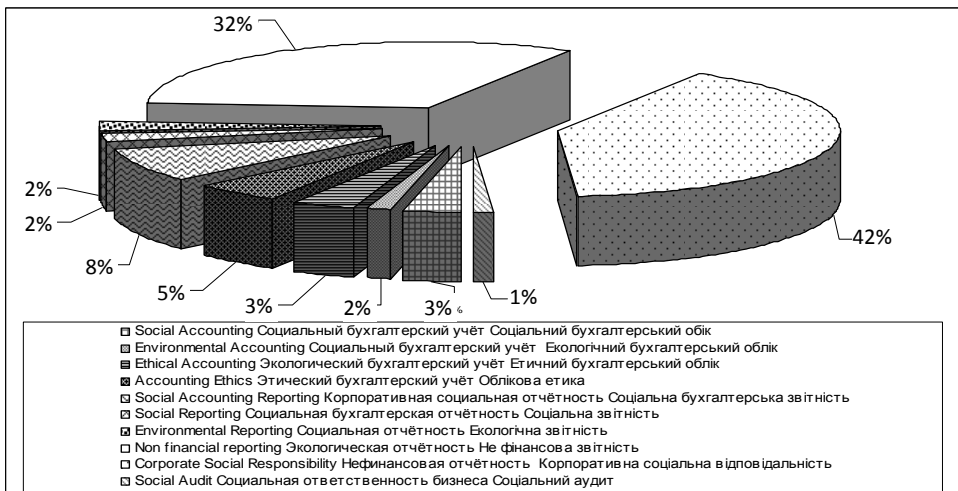


Figure. Terms for depicting ecological aspects of enterprise’s activity (according to [34])

ment are connected with resources wastes which must be reflected in accounting; Modern production is closely connected with natural environment which has different economic functions; each of them feels changes of environment characteristics. Any error is immediately reflected on the economic activity of enterprise [33].

T. Davydyuk says that "...Reasons and catalyst of forming accounting ecological activity are: Forming the mechanism of environmental management and its law regulation; Forming strict requirements for ecological quality of products; Strengthening the requirements for providing information about real ecological processes. He stresses that "...Accounting as measuring system of economic phenomena and processes can make their numerical characteristics and be the source of information thus stimulating nature saving methods. Using of accounting as informational controlling system in the field of environmental protection can be the result of awakening of ecological awareness of the population when they see environment degradation that threatens people's life" [9].

In joint Russian-French works [24] it is stated that accounting economically-ecological consequences of economic activity will allow minimizing negative effect on the environment and preventing world crisis. For this reason it is necessary to distinguish in accounting two approaches of representation of ecological aspect of activity:

"Outside-in" that means influence of environment on an enterprise;

"Inside-out" that means influence of organization on the environment [32]. The result can be the technique of effectiveness of enterprise's activity added with the indexes characterizing using total capital and its different parts.

Research's proved that the object of study of economic scientists is not usually ecological direction of enterprise's activity but ecological accounting and audit. As scientists say accounting interaction of enterprise with the environment is the matter of time, which must be done in within the policy of ecological effectiveness. The latter allows lessening influence of an enterprise on environment and at the same time increasing its profit. The specialists underline that ecological effectiveness can be measured only via specially developed system of accounting – environmental accounting [2; 5].

Questions of ecological audit and analysis concerning indexes which characterize ecological efficiency of an enterprise should be studied [1; 2; 11]. To make this program in 2003 UNO, European Commission, International Monetary Fund, Organization of economic cooperation and development, and International Bank according to Statistical Commission's recommendations issued the final version of the reference book "Integrated Environmental and Economic Accounting", where it is said that the system of complex ecologically-economic accounting (SEEA-2003) is the companion of the System of National Accounting (SNA) which is the standard system for generalizing economic information. The latter provides integrated set of joint ecological and economic information from which indicators of wok can be got [12].

Abroad researches of questions of accounting in the context of conception of sustainable development have the name "Environmental Accounting, Social Accounting or Green Accounting", [27; 23] In the works [18; 19; 4; 28] more often the term "social accounting" is used. In this connection R.H. Gray underlines that "Social accounting" is used by him to determine sociality, ecological questions, and stability during making reports [10]. On the first stage social accounting was considered as subset of different kinds of financial accounting, but later authors conclude that usual accounting takes not very important place in accounting subset while social accounting can be considered as accounting set where artificial limits of accounting are put away [28].

R.H. Gray can be considered the founder of "social accounting", and work in this direction goes ahead. The author states that the purpose of doing social account-

ing is perspective stability of society development that is why not clearly defined methodology of accounting needs further developments in spite of costs and blur of economic effect. He stresses macro effect from ecological measures for future generations.

I. Zhigley [34] comes to the conclusion that ecological aspects of activity are urgent for any model of accounting and foreign experience can be taken into account in Ukrainian science despite the national differences.

A. Borodin says "...Ecological accounting is the process of depicting in its system ecological costs and duties, and also socioecologoeconomic results of enterprises to run business and get ecoefficiency and ecojustice". Later he distinguishes the next types of ecological accounting: accounting of national income where the object of accounting is nation; financial accounting where accounting object is company; and managerial accounting with different objects either company and department or channel of service or system). In his researches the author identifies ecological accounting and accounting of nature protecting activity. He thinks ecological accounting to be the part of managerial accounting [5].

The scientists of Summy accounting school have traditional views in their works. They say: "Judging from the use of the results of ecological accounting and audit in management ecological accounting on the enterprise is defined as the system of discovering, measuring, registration, saving, generalizing and processing information about enterprise's activity in the field of environmental management to transfer it to internal and external users for taking optimal decisions" [13].

The term accounting of ecological costs should be distinguished judging from the fact that they are basis of doing ecological account. However, in later works [14] it is concluded that "...aggregative indexes of system of national accounts don't give adequate estimation to interactions in the system "economics-environment" due to the following reasons: They don't take into consideration exhaustion of natural resources; Not fully enough they take into account nature protecting costs; Don't take into account degradation of environmental quality and consequences for people's health.

A. Sakhno has the same opinion as the previous author. He admits that "ecological accounting at the enterprise is the system of discovering, measuring, registration, saving, generalizing and processing information about enterprise's activity in the field of environmental management to transfer it to internal and external users for taking optimal decisions" [29]. He thinks that system of ecological accounting is formed by such components as accounting of ecological costs, accounting of ecological duties and report about nature protecting activity of an enterprise.

E. Muruyeva underlines the necessity of introducing ecological managerial accounting which means the approach that provides depiction of ecological aspects in accounting for optimization of nature protecting costs, increasing incomes, efficiency of using materials, lowering wastes, reducing risk and negative effect on the environment, making responsible decisions as for its protection" [22].

K. Saenko [30] prefers innovative, ecological accounting defining it as "purposeful, well-managed systems of collection registration and generalization of information in natural and monetary way correspondingly – about innovative, ecological activity (environmental management) with the help of whole, continuous and documentary accounting of innovative and ecological processes.

During ecological accounting organization the author recommends to open subaccounts to synthetic accounts of productive costs leading to working plans of an enterprise which is made in the form of appendixes to accounting policy of an enterprise, element of which must be ecological policy.

L. Maksymiv on the basis of foreign sources points out three components of ecological accounting: collection and preparation of information through rebuilding and expanding traditional accounting; construction of eco-controlling system in tough connection of current and strategic planning and ecological audit as inside and outside revision in following ecological law. In general the author sees the tendencies of ecologically-oriented accounting development in taking into account ecological aspects of modern enterprise's activity which can not be measured with money, with the help of specific instruments of ecologically-oriented accounting such as "...eco-balances, analysis of living cycle, ecological indexes" [16].

Y. Morozova also gives the major role to the accounting in forming economic information about the facts of economic activity which refers to environmental protection. She says that only systematization of the information allows estimating nature protecting activity of the organization and making managerial decisions [21]. In this connection objects of accounting are environmental management and its protection.

Among Ukrainian authors great attention should be given to I. Zamula who thinks that accounting of ecological activity is the integral part of the system of accounting of enterprises and "...must provide information about: presence (in quality and quantity), stages of development and ecological condition (quality) of natural resources; existing of influences (positive and negative) of enterprise on the environment; methods and their efficiency in nature protection" [33].

She notes that "...object of learning is that where learning activity is directed, process or phenomenon which is the reason of the problem for learning. It is complex of relations, properties which really exist and is the source of necessary information. In the quality of object of learning it can be seen those relations and properties of real object which are included to the process of learning. Any subject of research is the definite set of properties and relations which exists independently of investigator but are shown by him" [17]. Referring to accounting depiction "...the subject of accounting is property relations which depend on the facts of economic life (FEL), as a result of which there is the change of property state, duties, capital and financial results of an enterprise (as the object of property) at the same time FEL must have money estimation and be documented. So the subject of accounting is learning things which must be reflected in accounting" [6]. According to the law [7] reflected in the accounting must be information about financial situation, activity results and movement of enterprise's capital.

To make the notions of subject and object of accounting ecological component of enterprise economic activity it is necessary to single out ecological aspect from enterprise general economic activity. The aspect of activity in the structure of general financially-economic activity should be stressed because economic activity of an enterprise generally is the subject of accounting. Judging from it we can offer the next definition of ecological activity for the needs of accounting: "Ecological activity is the activity which leads to unfavorable or favorable changes in the environment that partly or fully are caused by ecological aspects of organization". "Ecological aspect of enterprise's activity is the element of organization activity or its product, works or services which can interact with the environment".

In general ecological component is determined through the degree of influence on the environment, namely atmosphere, water and land resources.

However, there are definite peculiarities in forming ecological component depending on the directions of managing enterprise. So for the coal mining enterprises generalized ecological component will be presented by directions that make sources of pollution, namely, air, state of water and environmental management of the surface.

1) Atmospheric air (air emissions): Air emissions made by technological equipment; Air emissions made by technological equipment; Emissions made by not organized sources of polluting atmospheric air.

2) Water (faults into the water): Drainage; Using water; Returning water.

3) Land resources and entrails (mining and wastes): Mining; Wastes collection; Wastes transporting; Wastes keeping; Wastes processing and using; Wastes utilization

In modern world social, economic, technological and biological processes are very closely connected. So it becomes necessary to consider production activity as complex ecologically-economic system. Not to destroy this system it should be provided the integrity of subsystems which make it. Integrity of production subsystem is at the end economic stability which depends on many factors the most important of which are technological perfection, space-material resource as production placement, labor and natural resources, complex approach to production.

Conclusion. This research deals with the current approaches to defining economic essence of ecological directions of enterprise's activity and also their places in general financially-economic activity of an enterprise. It was shown the structure of ecological activity of an enterprise taking into account branch peculiarities of coal mines. It was distinguished the accounting directions of forming informational streams in ecological activity of coal producer. Further scientific works foresee integration of ecological aspects of activity into the system of accounting coal producers.

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