



DOI : [http://dx.doi.org/10.14505/jemt.v8.1\(17\).16](http://dx.doi.org/10.14505/jemt.v8.1(17).16)

State and Challenges of Environmental Accounting in the Republic of Kazakhstan

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Suggested Citation:

Amanova, G. D., Abdrakhmanova, A. U., Belgibayeva, A. S., Zhumabekova, G.Zh., Saduakassova, K. Z., Sartov, U. K., Serikbaeva, S. G. 2017. State and challenges of environmental accounting in the Republic of Kazakhstan. *Journal of Environmental Management and Tourism*, Volume VIII, Spring, 1(17): 155 - 167. DOI:10.14505/jemt.v8.1(17).16

Article's History:

Received November, 2016; Revised December, 2016; Accepted February, 2017.
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Abstract:

The present paper is devoted to the organization and improvement of the maintenance of environmental accounting in Kazakh companies in market conditions. It deals with environmental costs, which present a more traditional area of environmental reporting and are usually given by accountants and ecologists. Environmental prepaid expenses (as well as any potential costs) are a consequence of the events of the previous periods and the anticipated events, the consequences of which should lead to a decrease in the financial performance of the company. As a result of studying the problem of environmental cost accounting, the authors determined the need for a competent and professional approach to cost accounting in the field of environmental protection.

The authors examined the costs by the places of their origin, studied the structure of environmental costs, considered the requirements of International Accounting Standard 37 "Provisions, Contingent Liabilities and Contingent Assets" on the establishment of valuation provisions. This article describes the process of allocation of environmental costs by certain types of products, manufacturing lines and facilities. The given classification of costs reflects the environmental measures related to human activities for the protection of the environment, enshrined to some extent in regulatory documents and methodical positions. The authors emphasize the role of public authorities in the establishment of payments by the types of waste. In this connection, it refers to the recovery of environmental costs and the reduction of discharges, which, consequently, results in the reduction of payments.

Keywords: environmental costs; payments; cost accounting; environmental protection measures; valuation provision

JEL Classifications: Q5; K32

Introduction

The consideration of the issue of environmental pollution is an urgent research topic today. The environment is polluted due to the development of production, as far as various by-products are generated during the production process: toxic gases, poisonous elements. Manufacturing companies dispose of waste by dumping it into the environment, which causes harm to the wildlife. Companies are required to eliminate the environmental damage through a variety of environmental measures, which require considerable costs.

In this regard, one of the problems of environmental accounting is an insufficiently developed technique of environmental cost accounting, which leads to a loss in the expenditure structure. This is the main reason for studying the problem of accounting and analyzing environmental costs in the company.

In Kazakhstan, "relations in the scope of environment protection, reclamation and conservation of the environment, the natural resources utilization and restoration of natural resources in the implementation of business and other activities, related to the natural resources utilization and the environmental modification, within the territory of the Republic of Kazakhstan" is regulated by the Environmental Code of the Republic of Kazakhstan (Environmental Code of the Republic of Kazakhstan 2007). For example, the issues of environmental remediation, and the main types of payments for environmental protection are considered in the Environmental Code of the Republic of Kazakhstan, which states that certain mandatory payments to the budget are established by the tax legislation of the Republic of Kazakhstan (Environmental Code of the Republic of Kazakhstan 2007, Tax Code of the Republic of Kazakhstan 2008).

At the present stage of development, the elaboration and application of such farming methods, which would take into account the natural balance in the direction of minimal harmful effects or would lead to the improvement of the natural potential, requires business entities to assess the impact on the environment and to take environmental protection measures. The main instrument to solve this problem at the organizational level is environmental accounting or accounting in environmental management (Rubanova 2005).

Research and practical experience show that the costs and liabilities arising from environmental activities are becoming so important that the lack of attention to them significantly increases the risk of an erroneous assessment of the financial situation of companies and organizations, formed in accounting and reporting. This affects the objectivity and effectiveness of management decisions that form the ecological viability of business entities, which can significantly change the level of risk, investment attractiveness, competitiveness and the image of the company, in general.

Currently, the issues of environmental cost accounting virtually remain unaddressed or are debatable. They can include the fact that there is no uniform classification of the costs of environmental protection, there is no perfect technique for taking them into account, there is no systematic approach to the disclosure of information in the financial and management statements of the organization. Therefore, it is necessary to pay more attention to the accounting of environmental activities, new environmental and economic requirements of production in market conditions.

The purpose of this research is to study the issues of environmental cost accounting, as well as to form a new approach to environmental accounting. To achieve this purpose, the following tasks were set:

- the study of environmental measures;

- the identification of possible costs to eliminate the environmental damage;
- the study of the classification of costs to eliminate the environmental damage;
- the analysis of the peculiarities of environmental cost accounting.

The subject of the research is a set of theoretical, methodological, organizational, and practical issues of environmental cost accounting. The paper gives the definition of the research object - environmental costs, considers the issues of environmental accounting under International Financial Reporting Standards (IFRS), and determines the basis of their classification in the domestic and international accounting.

The research presents the classification of environmental costs, taking into account the environmental safety of organizations and the results of environmental planning. The findings can be used in practice by managers, bookkeepers, accountants-analysts.

The study concluded that environmental accounting is part of the traditional accounting system of business entities, which includes operational, accounting and statistical records. Its results can be presented both separately and in the non-financial reporting system. The practical use of the research findings can contribute significantly to a more reliable determination of the effectiveness and efficiency of environmental activities of companies. The paper used the data of primary and analytical accounting, and the statistics authority data.

The relevance of the research is to develop a scientific approach to environmental cost accounting, to analyze environmental measures and their impact on the results of business processes.

1. Literature review

Domestic scholars and practitioners at different times have made a great contribution to the study and establishment of legal, organizational-methodological and economic bases of the formation and development of environmental accounting and environmental reporting. For the organization of a complex environmental accounting in the company, there is a need for an integrated system of environmental assessments that helps to identify the "bottlenecks" of the company and is aimed at reducing the environmental risks. At the same time, the economic, organizational-methodological and regulatory-analytical aspects of environmental accounting and reporting in the environmental management system are an insufficiently developed area of the environmental security of all the levels of financial-economic and management activities with regard to the industry characteristics.

The steps in the field of environmental accounting and reporting abroad were made a decade ago, and today it is the most rapidly developing area of international accounting.

In today's world, environmental accounting is a rapidly growing area. The issues of environmental accounting are given quite a serious consideration both at the national level (attempts to get the "purified" GDP and other macroeconomic indicators, taking into account the external effects), and at the level of corporations and individual companies. Studies in this direction have been carried out abroad since the 1970s and today, there are quite significant achievements, various models of environmental accounting, and effective approaches to the detailed elaboration and a fuller accounting of the environmental costs of companies at the national level.

In recent years, not only the "weight" of environmental accounting in the company's general system of accounting and reporting has increased, but also the circle of its members.

Environmental accounting in Kazakhstan is insufficiently regulated by the domestic legislation. Despite this, many researchers of the neighboring countries (Getman 2010, Ivatanova 2011, Ilicheva 2009, Muruyeva 2007, Sayenko 2005, Sotnikova 2009, Shapiguzov 2015 and others) have paid and pay attention to the study of environmental accounting and environmental reporting.

However, many of the economic, organizational-methodological and regulatory-analytical aspects of environmental accounting and reporting in the controlling system are an insufficiently developed area of the information support of all the levels of financial-economic and management activities and take a special relevance.

The study and analysis of the existing views on environmental accounting, and the consideration of its development in Kazakhstan and abroad make it possible to establish that there is a lack of common terminology in the definition of this concept.

In the foreign literature, the notion of environmental accounting, in terms of the national income, includes an inventory of the stock of natural resources and financial costs resulting from the decrease in the environmental quality, and the calculation of the true ("green") gross domestic product. In terms of corporations, environmental accounting is understood as a set of methods of internal management accounting, financial accounting for external reporting purposes, as well as for an analysis of the costs and results of actual performance. To date, there have been developed such models of accounting as national income accounting (accounting at the state level, mainly for the external user of information), financial environmental accounting (accounting at the company level, mainly for the external user of information), management environmental accounting (at the level of the company, department, service channel, production line or system for the internal user of information) (Bartolomeo 1997).

The Russian researchers have not formed a unique point of view on the concept of environmental accounting as well. *For example*, Shapiguzov (2015) and Schneidman define environmental accounting as an accounting system of environmental planning. They believe that "in general, the accounting system of environmental planning should include four basic components: accounting of environmental costs, accounting of environmental commitments, reporting on environmental planning and auditing of the relevant information" (Environmental accounting for companies 1997). A number of authors (Terekhova *et al.* 1997, Skidzh and Zabolotnaya 1997, Nasakina 1999) associate environmental accounting with the accounting of environmental planning, and different authors impart a various meaning to this notion.

At the level of national accounting, this notion was interpreted as an accounting related to the physical stocks of natural resources, the valuation of environmental degradation and the corresponding costs of environmental protection measures, as well as to the calculation of the real gross domestic product (Malysheva 2014). At the company level, the accounting of environmental management may be used in the context of techniques of internal (management) accounting, financial accounting for the purposes of the presentation of external reporting and the analysis of the physical flows of raw materials by the method of "input - output" (Chkhutiashvili 2005). A distinctive feature of the development of environmental accounting is its true adjustability, in which the priority is given to the company's internal needs (Belousov 2005).

In a broad sense, environmental accounting can be defined as one of the information methods and at the same time the function of environmental management that is usually associated with taking into account the natural resources. The latter, in turn, is defined as the collection and analytical summation of the information about the quantity and quality of available natural resources in order to organize their rational use, plan the economic and environmental activity, forecast the development trends in environmental management and environmental changes in the current period and in the future.

If we take a company as a set of controlling and controlled subsystems, we can track the following chain of the information (Ilicheva 2009). Economic and environmental indicators, derived from primary documents and messages, transmitted orally and through communication channels, are grouped and summarized in the subsystem of financial and management environmental accounting, and then used for business activity analysis, planning, forecasting and control (internal and external audit). This information is the basis for taking managerial decisions, which affect the controlled subsystem, lead it to a new quality and generate a new flow of the information that needs to be grouped and generalized.

The purpose of environmental accounting is to create and continuously update the information model, which on the basis of a system of corresponding indicators helps to fully and objectively evaluate the nature and content of the environmental performance of the company during the reporting period and to identify in dynamics the impact of the economic and ecological processes on the financial and economic prospects of the companies' operation (Abazova and Dugulubgov 2014).

2. Methodological framework

The methodological basis of this study is formed by such general scientific methods of cognition as observation, comparison, description, logical and historical analysis, classification, generalization and detailed elaboration, the methods of economic, financial, and statistical analysis. The application of these methods helped to make theoretical generalizations and formulate specific recommendations on environmental cost accounting.

Using the method of observation, one can see a certain phenomenon in reality, in the process of which a particular factual material for the research is chosen. At the same time, there are records (protocols) of observations. Observation is usually carried out according to the prearranged plan with the allocation of specific objects of observation. The experiment as a method involves the study of a phenomenon in its pure form, and makes it possible to explore the properties of the research objects both in the natural and extreme conditions. The experiment can be repeated with the purpose of testing its results.

The empirical and theoretical research methods include the methods of analogy, abstraction, deduction, and others. The method of analogy involves the presence of a particular trait in one of the research subjects on the basis of the establishment of recognizing similarities between them.

3. Results and discussion

In the modern society, which established the absolute priority of market relations, environmental protection is related to the rational management of natural resources. The Declaration on Environment and Development, adopted in Rio de Janeiro in 1992, stipulates that states should cooperate in order to create an open international economic system that would lead to the economic growth and sustainable development in all countries, which has an impact on the environment (The Conference in Rio de Janeiro: hopes and disappointments 2002). On the one hand, this development is not possible without the use of natural resources, and on the other hand, the impact of industrial and other processes on the environment is inevitable. The achievement of optimum development results with a minimum damage to the environment is the main task of the concept of sustainable development.

One of the problems of environmental economics in the light of the concept of sustainable development is the elaboration and improvement of the directions and principles of environmental accounting and control, which include financial and management accounting, reporting on environmental indicators and environmental audit (Chkhutiashvili 2012). At the same time, the link between environmental management and environmental accounting is understandable. In the practice of organizations, the realization of environmental significance manifests itself in a constant need of spending on the conservation and restoration of the environment, and this entails the need for an organization's environmental accounting. Moreover, these interrelated decisions should take into account not only the interests of their organization, but also the general social and economic problems of the protection of the atmosphere, water and land resources, public health.

In Kazakhstan, the process of establishing environmental accounting is currently in the spotlight. In some countries, such as UK, USA, Germany, the Netherlands and others, there are already examples of the application of environmental accounting systems. The rule of environmental management states that 20% of industrial enterprises are responsible for 80% of environmental costs (IFA board issues ED, 2004).

Therefore, some companies are now already using environmental accounting systems. Most of them are large enterprises, processing and producing natural resources and meeting the requirements of numerous laws and regulations in the field of environmental protection.

The functions of accounting in the field of ecology are the following: strengthening of the role of economic regulation, strengthening of cost control, emergence of new economic, market in particular, opportunities, implementation of the management and control of environmental measures, emergence of the risk problems, obligatory preparation of the appropriate reporting, possibility of adopting protective measures, need to fulfill professional duties and safeguarding of the public interest, moral responsibility (Sokolova 2000).

Domestic companies, which want to increase the amount of funding from western capital markets, clearly understand that if the accounting documents do not provide the information on environmental obligations, it will reduce the investors' confidence in financial statements. As a result, the investors, suspecting the existence of such obligations, but having no complete and reliable information on them, will increase the cost of capital for Kazakh enterprises on a mandatory basis because of the increased risk.

Consequently, the environmental information should be an integral part of the preparation of reliable accounting (financial) statements. However, there are currently no regulatory documents in Kazakhstan, regulating the accounting activity in the field of ecology and requiring the detailed reflection of obligations and costs associated with environmental management in the financial reporting. At the same time, economic, organizational-

methodological and regulatory-analytical aspects of environmental accounting and reporting in the environmental management system are an insufficiently developed area of the environmental security of all the levels of financial-economic and management activities with regard to the industry characteristics. Moreover, there is a disorder and lack of consistency of environmental cost accounting in many companies. However, these costs are unreasonably related to labor protection and safety, or just general business or other expenses. Thus, they are “dissolving” in the prime cost.

Therefore, the elaboration of a framework for the development of environmental accounting is of the socio-economic importance to the crisis prevention. All this makes it difficult to determine the real situation on the environmental performance of companies, does not contribute to the organization of control over the effectiveness of environmental costs, does not allow companies to make the best managerial decisions on the responsibility centers, which affects the final results of financial and economic activities.

In the context of Kazakhstan's integration into the world market and the transition to international accounting and reporting standards, many large companies are practicing the development of the environmental policy, a comprehensive program for its realization, planning of the measures on environmental protection and safety, analysis of the financial aspects and carrying out environmental audits.

However, until now, such standards and rules that would cover all the components of accounting of environmental management and environmental performance (environmental accounting) of companies have not yet been developed: accounting of environmental assets; accounting of environmental liabilities; accounting of environmental benefits; their reflection in the environmental reporting.

According to Mongush (2014), environmental accounting is a system of collecting, recording and summarizing the information that will contribute to the identification, assessment, planning and forecasting, monitoring and analysis of environmental costs and environmental liabilities.

The main supplier of the information for the system of environmental controlling is environmental accounting, which includes environmental financial accounting and environmental management accounting, as well as reporting on environmental indicators and environmental audits. Environmental management accounting is an internal function of the company, as opposed to financial accounting, representing the standardized accounting information, including environmental aspects, in the form of financial statements for external users. Unlike financial environmental accounting, management environmental accounting cannot be subjected to the institutionalized regulation to the same extent (Muruyeva 2007).

Thus, we can conclude that environmental accounting is an individual area of accounting and its widespread implementation will help to promote practical environmental activities and to implement the information support of environmental controlling at the company level (Steinle *et al.* 1997).

The urgent environmental crisis causes pressure on businesses on the part of the public, investors and supervisory authorities, demanding the policy, which would reflect clear environmental issues in accounting. It is the subject of intense debate within the financial community, and in this regard, some progress has already been achieved. The need to meet the requirements for environmental protection makes companies bear the costs of environmental protection measures that are growing around the world.

According to R. Adams, these costs have four areas: manufacture of environmentally friendly products and green production; productivity enhancement; recycling of waste products; cleaning of the contaminated land (Bamereyev 1997). Bartolomeo (1997) believes that environmental costs depend on the structure of production; pressure of the authorities and the public; available technologies, as well as the applicable environmental reporting systems.

Present systems generally reflect only a small part of the cost of environmental protection. More thorough studies (for example, in the Amoco Company) can make it possible to identify other costs as part of environmental costs. Cost estimates are a more traditional area of environmental reporting and are usually given by accountants and ecologists. These estimates are of great value, since they help to draw the attention of senior management in order to outline the essential actions. They are also necessary as a data bank for the analysis of financial flows in the traditional estimate process.

The process of environmental cost allocation by certain types of products, production lines and facilities is very important. The experience of different companies shows that they pay little attention to the allocation of these costs, which are still considered overhead. The most thoughtful allocating systems based on the "ABC technique" may be useful in developing the effective measures from the economic point of view: product pricing can even show the real cost-effectiveness of environmental measures (Environmental accounting for companies 1997).

In the analysis of the overall environmental situation, the most important information is provided through the analysis of current payments of the company. It takes into account the total volume of payments, the distribution of different types of payments (payment for emissions/discharges within the time correlation of emissions/discharges, above-limit payments/penalties). Then, the analysis of cost allocation by the types of waste is carried out.

Here is an example of the allocation of environmental payments.

Table 1. Environmental payments

Allocation of environmental payments by types	%
Emissions	67
Discharges	5
Waste	28
Allocation of air emission fee	%
Arsenic	3
Copper oxide	7
Lead and its compounds, except tetraethylene lead	28
Sulfur dioxide	2
Others	0
Allocation of discharge fee	%
Zinc	14
Ferrum	26
Copper	56
Others	4
Allocation of fee for solid waste disposal	%
Arsenites	5
Washery refuse	60
Phosphogypsum	35
Others	-

In the development of action plans, preference is given to the projects aimed at reducing the larger payments. The state establishment of payments, differentiated by waste type, makes the owner choose a clear direction for the implementation of environmental protection measures. An important role should also be played by a long duration of the established rates and regulations. Only then, it is possible to develop the long-term programs for environmental planning, which will assess the effectiveness of environmental costs. In the context of market relations, the measures on pollution prevention need to be paid off, and the reduction of discharges should be commensurate with the reduction of payments.

A plan of the measures aimed at addressing the identified discrepancies can reduce both environmental and industrial risks. In addition, the creation of these systems, or at least, the introduction of their elements will lead to a greater accountability of companies' staff and will provide the necessary level of openness and "transparency" of the information about the company.

Environmental activities of the active character include two large groups of environmental performance: cleaning of companies' emissions; elimination of pollution causes. Prevention environmental measures should include the compensation for the use of natural resources and for environmental pollution.

This division of environmental costs should be linked to the following features of the classification:

- by the nature of costs;
- by the sources of cost repayment;
- by serviceability.

The first feature of the classification integrates: costs of the capital construction of facilities of environmental protection purposes, current costs of environmental protection purposes. By the sources of cost repayment, it is necessary to highlight the following types:

- costs included in the prime cost of goods (works, services);
- costs covered by the profits remaining at the disposal of the company;
- costs covered by the trust fund;
- costs attributable to the financial results;
- costs covered by extra-budgetary environmental funds.

By the direction of payments, we can distinguish the following costs: costs in the form of payment for subsoil and natural resources license; costs of the reproduction and protection of natural resources and payments for environmental pollution. By the magnitude of payments, costs can be divided into: payment for the pollution within the norm, payment for the pollution in excess of the norm, which in turn is divided into payment for the pollution within the limit; payment for the pollution over the limit. This group of costs reflects the environmental measures related to human activities for the protection of the environment, enshrined to some extent in regulatory documents and methodical positions.

The study of the works of contemporary Russian researchers, considering the classification of environmental costs, leads to the conclusion that there is no single approach not only to the accounting technique but also to the definition of the concept of "environmental costs" itself.

According to Morozova (2007), environmental costs arise from the interaction between the company and the environment and, as a rule, are allocated in the form of the costs of environmental protection, the reproduction of renewable resources and the payment for the negative impact on the environment. Sayenko (2005) suggests coming from the fact that the environmental processes of the economic entity should be considered by the direction of environmental management: development, production, use of natural resources; negative impact on the environment; environmental planning.

Some authors believe that it is sufficient to take the costs associated with the restriction of all kinds of the adverse environmental effect in the conventional production process as the costs of environmental management to the acceptable extent (Terekhova *et al.* 1997). In our opinion, it is wrong. Any adverse effect on the environment entails environmental problems of today or tomorrow. And this means that the costs of environmental restoration, environmental costs, are the costs associated with the protection of the health and safety of employees, the prevention of accidents and the provision of the safety of production processes, disaster recovery and remediation.

Expenses for environmental measures should be formed in the following areas:

- the cost of production of environmentally friendly products;
- funding for the restoration and neutralization of the damage to the environment;
- expenses for environmental monitoring;
- expenses for environmental management, improving the efficiency of production;
- mandatory deductions and taxes to the central authorities, and the relevant funds to carry out the state measures on the restoration of the environment and a comprehensive monitoring;
- environmental prepaid expenses.

In addition to the expenses associated with mandatory deductions and taxes, environmental protection costs can be relevant in all these areas. They can be implemented for the following needs: treatment plants, recycling, decontamination, isolation, disposal (warehousing), capital investments in the natural objects, introduction of the low-waste technology, calibration check, transportation, delivery of waste for disposal, organization of works to protect the environment from the industrial waste pollution.

A large part of environmental costs is occupied by prepaid expenses. They represent the environmental liabilities of the company and can be combined into four main groups:

- related to the time, which is dictated by the terms of the contracts or agreements on loans and investments;
- dependent on the stage of the production development process (its volume);

- dependent on the introduction of production processes;
- subject to the influence of legal acts in the field of environmental protection and the corresponding tax.

Environmental prepaid expenses (as well as any potential costs) are a consequence of the events of the previous periods and the anticipated events, the consequences of which should lead to a decrease in the financial performance of the company. These costs are determined with regard to the requirements of environmental legislation, taking into account the degree of the company's readiness to meet these requirements or pay fines, as well as the current and planned costs for the implementation of environmental protection measures of the compensatory and preventive nature.

All the components of the structure of environmental prepaid expenses have a partially recurrent character, due to ensuring the profitability and partial self-repayment of environmental management, receiving benefits and privileges, offsetting mandatory payments, etc. (Tazhibayeva 2008). Some experts put forward a proposal on the allocation of a separate synthetic account "Expenses for environmental protection". The following sub-accounts can be included in the development of this account: "Water conservation"; "Air pollution control"; "Protection and remediation of land resources"; "Waste utilization"; "Protection of labor and human life" (Bartels 1997).

Given the dynamic development of IFRS and its relentless spread on a global scale, in the Republic of Kazakhstan, it was decided to switch to the use of IFRS in the preparation of financial statements by national companies. This process began in 1995. The transition process has gone through several stages, from the development of Kazakh accounting standards based on IFRS, to a gradual transition to the full and unconditional acceptance of IFRS by financial institutions from January 1, 2003, by joint-stock companies - from January 1, 2005, and by other organizations - from January 1, 2006 (Law of the Republic of Kazakhstan "On Accounting and Financial Statements" 2007, The concept of development of the system of accounting and auditing in the Republic of Kazakhstan 2007-2009).

Consider the basic conditions of the standard, in which the requirements for the creation of estimated liabilities are disclosed; in this case, these are the future costs of eliminating the industrial damage caused to the environment. Thus, the IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" deals with the recognition of estimated liabilities in the financial statements, the so-called "provisions" (IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" 2015). The main purpose of the standard is to ensure the relevant recognition criteria and assessment bases that are applied to provisions, contingent liabilities and contingent assets, and to disclose the information to users so that they could understand their nature, timing and amount (IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" 2015). A provision is recognized only when: the company has real liabilities (legal or actual) as a result of the past event, there is likely to be a need for an outflow of resources embodying economic benefits to settle liabilities, a reliable estimated total of liabilities can be made. If these conditions are not met, no provision should be recognized (IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" 2015).

Upon the initial recognition of the provision, the debit part of the transaction depending on the situation can present both an expense and an asset. An asset appears when it is expected to receive economic benefits from the operation. Provisions are reviewed at the end of each reporting period and adjusted with regard to the current best estimate. If discounting is used, the carrying value of the provision increases in each period to reflect the flow of time. This increase is recognized as a borrowing cost (IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" 2015). Provisions should be used only to cover the costs in respect of which this provision was originally recognized.

In some industries (mining, nuclear energy) there is a need to incur additional expenses in connection with the cessation of production and the recovery of the industrial zone. Such expenses are called decommissioning costs or restoration costs (IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" 2015).

The provision for these costs should be recognized immediately after the occurrence of binding events, for example, at the beginning of the contract. It can be formed with regard to the deferred expenses, which need to be incurred in order to gain access to future economic benefits. In this case, the costs must be capitalized as an asset.

In the recognition of the provision, the following expenses shall be debited:

- Prime cost (profit and loss statement): provision for warranty repairs, provisions for lawsuits of the industrial character; provision for onerous contracts; liabilities for damages under economic contracts; provision for taxes, except the income tax;
- The cost of fixed assets (statement of financial position): provision for asset decommissioning (IAS 16)
- Provision crediting (statement of financial position).

In case where the company carries out the production of reserves from the earth, it is obliged to accept a legal obligation in the financial statement in order to eliminate the damage caused by the preparatory work and mining. This obligation is recognized as a provision for decommissioning. At the end of the manufacturing process associated with production, the company should bring the land parcel to its original state, as if the manufacturing process was not carried out at all.

For example, if according to management estimates, the cost to eliminate such damage is 10,000 thousand tenge, with the duration of the mining process of 10 years and the discount rate of 12%, the estimated value of the provision presents the discounted value of expected future payments and amounts to 3,220 thousand tenge (10,000 thousand tenge * 0.322).

The amount received is put in the debit of the "Fixed assets" account and the credit of the "Provisions" account; both amounts are shown in the statement of financial position. Since we have a new primary means, it needs to be amortized (IAS 16 OS) by 322 thousand tenge per year (3,220 thousand tenge x 1/10). The resulting amount is debited as "the costs of depreciation" through profits or losses, and the accrued asset depreciation is credited (statement of financial position). Approaching the date of the settlement of liabilities and taking into account the significant impact of the time value of money, one should apply the discounting technique. Therefore, there is a discount amortization in the amount of 386,4 tenge (3,220 tenge x 12%). At the same time, the "Financial expenses" account is debited (profit and loss statement), and the provision is credited (statement of financial position) in the amount of 386,4 tenge.

Thus, the main means will be amortized over the remaining useful life, the provision for the decommissioning of facilities, involved in the production process, will increase to the amount of a percentage of the discounted value of the liability, *i.e.* with the reduction of the discount period, and the value of the liability will increase until the satisfaction of the liability.

For each class of provisions, the company should disclose the carrying value at the beginning and at the end of the period, indicating the movement for the following types:

- additional provisions, made in the period, including increases in the existing provisions;
- used amounts (*i.e.* incurred and charged against the provision) during the period;
- unused amounts, reversed during the period;
- increase in the discounted amounts during the period resulting from the passage of time, and the effect of changes in discount rates (IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets" 2015).

It is important to give a brief description of the nature of the liability and the estimated time of disposal of the economic benefits. There is also a need to consider the uncertainty regarding the amount or time of such disposal. Where it is necessary to provide adequate information, the company should disclose the major assumptions made in relation to future events, the amount of any expected payments, indicating the amount of any asset recognized for this compensation.

Conclusions

The techniques considered above for determining the liabilities for the environmental damage have currently a practical significance. However, every accountant, when recognizing assets or liabilities in connection with the production process, must apply his experience and knowledge of relevant financial reporting standards, legal requirements of the country, in which the company operates, and the professional judgment.

The modern economy cannot do without the ecological mechanism. The conceptual essence of ecological economics is the nature itself, the efficient use of natural resources and the recovery of the so-called environmental

quality. Environmental management is objectively an initial condition for the deployment of a particular type of economic activity and the most important criterion for its ultimate effectiveness.

Environmental accounting is a system that can be used to identify, organize, and control data and information on the state of the environment in natural and value terms. Based on the same principles as all accounting systems, the environmental accounting system provides an objective picture of the state and dynamics of the natural heritage, the interaction between the economy and the environment and the costs of preventive measures, the protection of the environment and compensation for the environmental damage. Thus, environmental accounting is an essential tool for implementing the concept of sustainable development, *i.e.* such development that does not destroy the resources necessary for the life and development of future generations on Earth. Environmental accounting at the micro level is considered a segmental area of accounting, representing a science-based system of complete and continuous monitoring, evaluation, organization and compilation of the information on the economic and ecological processes that occur as a result of activity of the economic entity.

Accounting indicators of the environmental factor act as an important and useful tool to assess the impact on the environment as a result of human economic activities. However, we are not talking about the introduction of a new system of statistical accounting of the social and economic development. From the point of view of sustainable development in this system, there is a lack of consideration of the environmental factor. In the direction of strengthening the accounting of the environmental factor, this system should be modified. All the indicators of the social and economic development should be oriented to ensure the ecological balance.

Environmental accounting is a sufficiently capacious direction of accounting. The core of the accounting information on the environmental costs are accounting records. The information of ecology-based accounting should meet the following requirements:

- operational efficiency, *i.e.* to be formed on the principle of "the sooner, the better", because for environmental financial statements the period of one month is acceptable;
- adequacy, *i.e.* the environmental accounting information should not be excessive, and the volume of data content should be sufficient for taking managerial decisions in the field of environmental management and protection;
- goal orientation, *i.e.* the information used should be oriented towards the solution of specific problems of the company;
- cost effectiveness, which will save the costs on the formation and transfer of information consumption.

In view of the fact that environmental costs are dissolved in the prime cost of production in reporting, there is no information on the environmental activities of economic entities. With regard to reporting, the reporting of Kazakhstani enterprises and organizations on environmental indicators is currently limited mainly by statistical forms. Environmental reporting will help:

- to separate the costs of environmental protection measures from the overall composition of the company's costs;
- to estimate the total value of the environmental damage, caused by the company and composed of pollution charges and the total value of environmental liabilities;
- to carry out a full operational control over the environmental management of the company, including all the information about the financial side of environmental measures.

This research formulates the need to adequately address the issues of environmental accounting, and considers the peculiarities of cost accounting related to the environmental objective. The paper presents the structure and types of environmental costs, sums up the experience of cost accounting arising in the field of environmental protection in the companies of neighboring countries and beyond, and generalizes the experience of studying the issues in the area of environmental accounting.

References

- [1] Abazova, M.V., Dugulubgov, A.L. 2014. *Coordination of environmental, financial and management accounting in the accounting system*. Paper presented at the international scientific conference: Modern management technologies. Moscow, International Center of Research Projects.
- [2] Bamereyev, M. 1997. On payments to the Environmental Protection Fund. *Bulletin of the Accountant*, 41 (2).
- [3] Bartels, J. 1997. *The practice of environmental auditing. Environmental accounting and auditing: Collection of articles*. Moscow: FBK - PRESS, 109-124.
- [4] Bartolomeo, M. 1997. *Management reporting on ecology in the oil recovery and energetics: a positive experience. Environmental accounting and auditing: Collection of Articles*. Ed. by Schneidman, L.Z. Moscow: FBK-PRESS, 39-60.
- [5] Belousov, A.I. 2005. Peculiarities of the accounting of costs and assets in environmental management accounting. *Management Accounting 2*.
- [6] Chkhutiashvili, L.V. 2005. Formation and ways to improve environmental accounting in Russian companies under market conditions. *Actual Problems of the Russian Law 2*.
- [7] Chkhutiashvili, L.V. 2012. Development and improvement of the directions and principles of environmental accounting. *Herald of the Accountant of Moscow region 3*. Available at: http://www.ipbmr.ru/?page=vestnik_2012_3_chhutiashvili
- [8] Getman, V.G., Neselovskaya, T.M., Babaeva, Z.D. 2010. *Buhgalterskiy uchet: Uchebnik*. Keri (Russe) Relié. ISBN-10: 516003756X, ISBN-13: 978-5160037561
- [9] Ilicheva, E.V. 2009. The theoretical model of the environmentally oriented accounting system, helping to investigate the relationship of financial, management and environmental accounting in the accounting system. *Fundamental Studies*,1: 69-70.
- [10] Ivatanova, N.P., Basova, I.A. 2011. Government land monitoring as factor of providing rational nature management, News of the Tula State University. *Earth Sciences*, 2.
- [11] Malysheva, M.S. 2014. *Role and importance of the accounting of environmental protection measures in modern conditions*. Paper presented at the IIIrd international scientific conference: Economic science and practice. Chita: Molodoy uchenyy, 76-80.
- [12] Mongush, A.D. 2014. Environmental Accounting at the Micro Level. *Science Time*, 7(7).
- [13] Morozova, E.V. 2007. Costs of environmental protection measures in the financial accounting system. *Accounting*, 1: 74-76.
- [14] Muruyeva, E.K. 2007. *Environmental Aspects of Accounting (by the example of the forestry sector)*. PhD thesis. St. Petersburg, 282 p.
- [15] Nasakina, L.A. 1999. *Peculiarities of cost Accounting for Environmental Protection in the Chemical Industry: Abstract of PhD thesis*. Moscow, 22 p.
- [16] Rubanova, N.N. 2005. *Environmental Accounting in the Companies of the Construction Materials Industry*. PhD thesis: Stavropol.
- [17] Sayenko, K.S. 2005. *Environmental Cost Accounting*. Moscow, Finance and Statistics, 206 p.
- [18] Shapiguzov, S.M., Sinyagin, A.K. 2015. Crowdsourcing in the public sector: innovation with the expectation of civil society, Available at: <http://xn----7sbbaj7auwnffhk.xn--p1ai/article/13195> (accessed 30.10.2015)

- [19] Skidzh, O.V., Zabolotnaya, S.I. 1982. Accounting and reporting on environmental costs. Protection of the environment (Economic aspect). *Donetsk* 10-15.
- [20] Sokolova, M.P. 2000. Accounting of environmental measures. *Accounting*, 15:26-32.
- [21] Sotnikova, L.V. 2009. *Bukhgalterskaya otchetnost' organizatsii [Accounting of an organization]*. St.-Petersburg, Piter Publ., 703 p.
- [22] Steinle, C., Baumast, A., Burschel, S. 1997. (Hrsg.) *Umwelt management und Oko-Audit. Erfahrungen fur eineerfolgreiche Praxis*. Zeller Verlag, Osnabruck., 95-109.
- [23] Tazhibayeva, A.S. 2008. *Regional economic mechanism of environmental management of the industry pollution*. Paper presented at the International Scientific and Practical Conference: Scientific and Educational Potential of the Nation and the Country's Competitiveness. Taraz: M.H. Dulati TarSU, 244-247.
- [24] Terekhova, V.A., Vasilchuk, O.I., Petrova, A.Y. 1997. *Cost accounting for environmental protection. Proceedings of the Scientific and Practical Seminar: Ecological Problems of Modern Times*. Tolyatti, 43-49.
- *** *Environmental accounting for companies*. 1997. Paper presented at the UN Conference on Trade and Development: Trans. from English. Moscow: Finance and Statistics, 200: 7-10.
- *** *Environmental Code of the Republic of Kazakhstan* dated January 9, 2007, 212.
- *** IFA board issues ED. 2004. *Chartered Accountants Journal* 68 (12).
- *** *IFRS (IAS) 37 "Provisions, Contingent Liabilities and Contingent Assets"* 2015. IASB.
- *** *Law of the Republic of Kazakhstan "On Accounting and Financial Statements"* dated February 28, 2007.
- *** *Tax Code of the Republic of Kazakhstan* dated December 10, 2008 №99-IV "On Taxes and other Obligatory Payments to the Budget" (as amended on April 28, 2016).
- *** *The concept of development of the system of accounting and auditing in the Republic of Kazakhstan* for 2007-2009.
- *** *The Conference in Rio de Janeiro: hopes and disappointments*. 2002. Issue 2, Environmental protection and sustainable development issues. The international legal framework (Part I). Informational and analytical materials of the State Duma.

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