ENVIRONMENTAL ACCOUNTING AS A FACTOR OF LOCAL BUSINESS COMPETITIVENESS STIMULATION (THE CASE OF THAILAND)

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Today's system of accounting does not contain sufficient volumes of information about environmental incomes and losses of organizations, therefore, it is nearly impossible to evaluate precisely the efficiency of environmental actions taken and environmental protection systems being implemented in order to maintain and/or increase the environmental balance. One of the key elements in the mechanism increasing the quality of economic performance is the system of environmental accounting.

This study explains both theory and methodology of environmental accounting and also determines its role and place within the system of existing types of accounting and reporting in accordance with the IFRS requirements and also Kyoto Protocol. The presented here organizational economic mechanism of environmental accounting allows implementing the latter at concrete enterprises so that to promote and support more efficient managerial decision-making.

Keywords: environmental accounting, Kyoto protocol, economic performance, global environmental accounting, environmental profit and loss account, environmental pricing reform, emissions trading

Introduction

Human activity has rather significant impact on the processes of global warming all over the planet. Researchers today are not questioning climate change anymore – they are discussing already what can be and must be done so that to stop these processes or at least hinder them. The most acute problem at the contemporary stage of the environmental policies' development worldwide is the determination of key principles and mechanisms in

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overcoming the greenhouse effects so that to guarantee safety for both today's and future generations on this planet, in full accordance with the Kyoto Protocol implementation.

Thailand today is ranked 21st in the world by the volume of atmosphere pollution (Environmental Performance Index, 2016), the country is also 91st in the world ranking of environmental efficiency (also 2016 data). One of the causes for such a situation is Thailand's loss of economic potential in the course of environmental reforms' implementation in the country as well as changes in the strategic vision of the kingdom – from the priority of dynamic industrial growth to the formation of a sustainable economic system which would not only guarantee Thailand a favourable rank in the overall global structure of labor distribution but would also provide more comfortable life conditions for local population (inter alia, including environmental conditions and nature protection).

Despite the global nature of nearly all environmental problems and the volume of the negative impacts on the whole humankind, up to truly catastrophic consequences, as of today neither Thailand separately, nor the ASEAN region overall, do not have available the well thought-out strategies for further development of economies and societies which would have taken into account the factors of so needed environmental balance and minimization of pollution.

This is why today pressing become the issues related to taking action on environmentalization of carbon dioxide emissions and certification for lower emissions etc. The key instrument to solve this task at the level of a separate enterprise is actually environmental accounting, in its development and further implementation.

As of today environmental aspects in accounting and reporting regulation are present, however, they are displayed sporadically, moreover, there is no precise explanation concerning the all related accounting terminology, neither there is any methodology for further environmentalization of accounting, nor specific requirements on how to present environmental information in accounting documents. Thus, there arises the necessity to consider the environmental elements of the financial/accounting system as a component of accounting process overall, on the level of enterprises and organizations.

In today's conditions of Thai economy national enterprises simply must develop own environmental policies and also their own comprehensive programs and plans for these policies' further actual implementation. And if they would also have a forecast component in their policies and programs, this would only increase the overall level of environmental safety in the country. Moreover, ideally enterprise-level environmental policy and program must have not only forecast and actual implementation parts – but also certain space must be dedicated to the analysis of the results, their control and audit.

The purpose of the research is to develop, after analyzing the results of the survey of both professionals and researchers in the accounting field, a methodology covering all vital theoretical, organizational and methodological issues so that to create and implement a system of environmental accounting which would help promote and maintain the environmental balance.

Under this wider objective we would like also to outline the following objectives:

To develop comprehensive methodological grounds for introducing environmental accounting into a larger accounting analytical system.

To explain in detail the theoretical fundamental of environmental balance as a notion and under conditions of world economy globalization specifically.

To develop and provide methodological grounds for “green investment flows” modelling as applied to environmental accounting.

To develop methodological grounds for organization of environmentally oriented accounting.

In the course of our research we plan to verify the following hypotheses:

The system of environmental accounting at any business enterprise today must be, first of all, oriented on external users (the society, local community, public authorities, investors etc.) and least of all – on the interests of own management.

Most of today’s Thai enterprises do not see environmental accounting as a factor of own competitiveness strengthening and stimulation (neither at the internal market, nor at the external ones). This means that the state must take extra actions on shifting the emphasis on the direct correlation between environmental activities and enterprise competitiveness.

Environmental accounting, just as traditional accounting, must be based on the balance (but in this case – environmental balance). And in Thai business balance is understood as a stable chain of production processes which is consuming and restoring natural resources.

Taking into account all specific features of environmental accounting, we see as more probable not an autonomous version of such a system but more like some sort of environmentalization strategy aimed managerial accounting at the national, all-Thai level.

Efficient and sustainable development of the Thai system of environmental accounting assumes that information (primarily environmental one) is presented not as much in its cost, financial form but rather in its quantitative form.

As a potential basis for development and implementation of the national system of environmental accounting can serve the already available standard - (IAS) 27 Separate Financial Statements. However, this idea most probably would not gain much popularity among the expert community, for a range of reasons.

The key factors in environmental monetization in today’s Thai business are payability and marketing priority (that is, the opportunity to use own environmental progress and all related innovations in more intensive commercialization of proposition and its promotion).

Greenhouse emission quotas should take into account the specific role in production and thus, it would be logical to assign them to the accounts “intangible assets” and perform the depreciation of their costs accordingly.

Background

One of the most internationally recognized authors in the field of sustainable relations between economic activities and the environment, accounting for natural resources and ecosystems, valuation of the environment and accounting of environmental costs is Ichiro Kaneda (2001) from Niigata Sangyo University, Japan. He was the first to suggest expanding the system of national accounts (SNA) so that it would become the System of Integrated Environmental and Economic Accounting (SEEA), and this, in turn, would make it possible for the accounting system to take fully into account all the issues related to natural resources and ecosystems.

Nearly in parallel to Ichiro Kaneda’s work, the neighbouring China (in the early 2000s this country has faced numerous serious problems related to unstable development) offered its own concept of the economic progress’ environmentalization. This Chinese concept was based on the famous Input-Output Analysis, and also the System of National Accounts and

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Social Accounting Matrix. It was developed to present a Social and Ecological Accounting Matrix (SEAM) for sustainability planning, and using all the above the research team from Xiaoming PAN Institute of Systems Science, affiliated to the Chinese Academy of Sciences has carried out a truly colossal theoretical and applied research which demonstrated that SEAM can establish a concrete base for sustainability planning and an operable framework for sustainable development indicators (Social and Ecological Accounting Matrix: an Empirical Study for China, 2000). Further, the necessity of having large volumes of information for substantiation of managerial decisions to be included in financial reporting, aggregation of information in order to assess costs and risks from natural disasters and also the problems with financial accounting of the natural resources' consumption have been well described by Carmen-Veronica Zefinescu (2015). This author also suggested her own conceptual framework as well as methods for assessing and accounting the consequences from such activities of companies in relation to changes in the natural environment.

Doina Maria Tilea (2016), in the same vein, has noted that environmental accounting is a relatively novel interdisciplinary approach which aims to integrate environmental and accounting issues. This author has also grounded the need for the formation of an effective model necessary for integration of the environmental aspects into the decision-making processes and financial processes of business entities in order to present the most accurate picture of the entity's impact on the environment in accounting.

Throughout the last decade the issues related to accounting of environmental assets and all related business spending (aimed at maintaining the environmental balance) were always in the center of attention in quite many general economic and financial studies in nearly all countries of the world. We think especially noteworthy is, for example, the study by I.C. Stanciu et al. (2011) dedicated specifically to accounting of environmental costs. These authors have grounded theoretically the concepts of environmental costs and also described in detail how environmental management accounting may be useful in determining environmental costs. M. Tamborra & M. Pavan (2005) discussed the methodology used for estimation of damages caused by air pollution and the cost of defensive expenditures, presenting the results of their detailed analysis and drawing important policy conclusions for environmental accounting practices throughout the EU.

In another research on the same topic, C. Sendroiu & A. G. Roman, (2007) noted that companies and managers usually believe that environmental costs are not that very much significant for their business operations. And too often it does not occur to them that some of the production costs have an environmental component within them. These authors have come to the conclusion that by identifying and controlling environmental costs, environmental accounting systems can help environmental managers justify cleaner production projects, and also identify some new ways of saving money and improving their environmental performance at the same time.

The problems of environmental accounting in the context of sustainable development provision have been also studied by F. Boghean (2007) who interpreted environmental accounting as a tool which, used prudently, can make an important contribution to social decision-making. Inter alia, this author suggested incorporation of natural resource and intangible environmental costs and benefits into green accounting at the firm level as well as at the level of national economy.

In our opinion, a separate direction in all studies related to environmental accounting concerns evaluation of opportunities for introduction of the environmental accounting system

on the case studies of separate countries. For example, A. Deaconu and A. Buiga (2011) have carried out a thorough and rather detailed analysis of the retrospective forms of accounting development in Romania. This analysis was based on the distinction between accounting systems of Continental-European type and those of Anglo-Saxon type, and separately the authors described the development and implementation of national standards related to environmental accounting as a relatively new and still urgent direction in overall modernization of the whole national system of accounting.

Problems related to actual introduction of environmental accounting systems have been also studied separately for various industrial sectors and also branches in agriculture, also in quite many countries worldwide. For example, the research study of A. Tanc and K. Gokoglan (2015) investigated the sensitivity of manufacturing companies operating in the organized industrial zone of Diyarbakır (Turkey) to environmental accounting approaches within the scope of so popular today social responsibility. Or, for example, J. Kouřilová (2003) took quite an interesting approach in treating the environment overall as external assets in relation to farm accounting and showed how specifically this is influencing the results of farm activities. This study was carried out on the data from several EU countries. Our study further will be most surely based on the results and conclusions many honorable and respected researchers worldwide have already reached. However, at the same time we plan to take into account the specificity of Thai accounting system in its compliance with the international standards of financial reporting. We also hope to suggest a new algorithm, applying which it would become possible to implement the system of environmental accounting in the Kingdom, special emphasis would be put on distribution of greenhouse emission quotas and their further use.

Research Results

The starting point in determination of the structure, principles and contents of environmental accounting is the question: Who are/will be the users of this information? Peculiarities of users, level of their competences and other (both subjective and objective) factors predetermine the whole system, structure and level of formalization in the environmental business accounting.

Regarding the potential users in our survey we have obtained the following variants of answers (the questionnaire initially suggested choosing five out of ten options and range them in the order of decreasing interest in the information related to environmental accounting at an enterprise).

As Table 1 demonstrates, representatives of business sector are more prone to treat environmental accounting as an additional element of financial responsibility and financial reporting. This also means that for businessmen social value of environmental accounting is not that important. Internal users of this type of accounting are, noteworthy, hardly mentioned as such, only a few representatives from Group #1 (researchers) placed them into this priority list. Representatives of the public sector view environmental accounting mostly as an additional competence of the state power; this is why they include sectoral regulators into this list (we tend to think, however, that involvement of this groups of potential stakeholders might lead to increased bureaucratic load mostly). Overall, these results are not surprising at all. All three groups of our respondents have provided quite obvious and expected answers, thus revealing their true interests, essence and dominating values (the

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latter would be: fairness and justice – for the first group, efficiency – for the second, and formalism – for the last group).

Table 1 - Survey results: interest in environmental accounting by groups of potential stakeholders, %
(authors calculation and presentation)

Group 1 (researchers)		Group 2 (business representatives)		Group 3 (public sector representatives)	
Tax authorities	39	Tax authorities	49	Society	42
Society	21	Investors	19	Environmental protection authorities	24
Environmental protection authorities	20	Environmental protection authorities	18	Tax authorities	18
Investors	14	Society	9	International organizations	10
Internal users, including stockholders	6	Creditors	5	Regulators of specific sectors (ministries, inspections etc.)	6

Despite the fact that internal users got to the top-5 only in the Group #1 results, taking into account the specificity of our expert evaluation procedure (in which the share of experts' votes is three times larger than of the rest), the internal users still make it to the top-5 overall. But of course, the priority of external users is still obvious (this confirms our first hypothesis). This external priority makes the whole system of environmental accounting more formal and better regulated, more “obedient” to regulations, external requirements and regular audits.

On the basis of top-5 interest groups we then suggested to formulate the fundamental principles of environmental accounting implementation. For this, we got the following answers and recommendations, again divided by groups (Table 4).

Table 2 - Survey results: fundamental principles and values of environmental accounting, in %
(calculated by author)

Group 1 (researchers)		Group 2 (business representatives)		Group 3 (public sector representatives)	
Double entry	34	Separate entity assumption	74	Formalization	64
Separate entity assumption	18	Financial indicators	9	Responsibility	16
Trustworthiness	16	Regularity	7	Double entry	8
Responsibility	11	Double entry	6	Standardization	7
Continuity	9	Trustworthiness	4	Financial indicators	5

As demonstrated in Table 2, Thai business considers least of all the responsibilities related to environmental accounting, while most of all sees it as yet another formality which potentially may limit business operations. It is also obvious that representatives of business still do not see much of significant differences between traditional business accounting and environmental accounting (this is one of the reasons why double entry principles got such a low score in Group #2 votes).

Analyzing the today's state of environmental accounting in Thailand, we also need to mention that today a large share of companies and enterprises in the country are at the stage of capital accumulation. This means they would prioritize getting new competitive advantages, entry to new markets, going global etc., thus, all of them are orienting on rather short-term incomes and least of all are ready to pay attention to the environmental requirements and procedures (and this confirms our second hypothesis).

However, even under such unfavorable business conditions the state could be still able to use some factors which potentially may motivate local businesses environmentalize their productions. These may include legal limitations on the most environmentally damaging productions and also, indirectly, consumer load and consumer changing preferences (since it is already globally acknowledged that consumers would nearly always prefer "clean product").

Therefore, business success of any enterprise depends on its compliance with the environmental rules and regulations, and this, in turn, emphasizes the necessity for using the adequate managerial instruments, to which, inter alia, belongs managerial environmental accounting.

One of the central principles in accounting is the balance of the whole system, starting from the higher level of national accounts and to the level of a particular enterprise accounts. Therefore, before defining the key principles of environmental accounting we need to determine what environmental balance is essentially, for the economy and society, and how it would be possible to track its changes/maintenance/achievements.

In order to form the model of optimal/balanced development for an economic-environmental system we first need to study the structure of this system and its major tangible and intangible flows which are emerging once this system starts its functioning and which are at the same time the result of two subsystems' interaction – economic and environmental ones. At this, the key indicator must be always the quality of the environment. This indicator shows the level of anthropological load on the environment and at the same time it can serve as some sort of feedback channel since it is always used within the system of environmental planning. From the standpoint of accounting, quality of the environment as the indicator of economic-environmental system shows how new type of costs are being formed – additional costs caused by emissions and other pollution factors.

Therefore, thorough and detailed enough analysis of socioeconomic and natural processes' interaction can serve as the basis for further research on what are the optimal preconditions for the formation of well balanced economic-environmental system. This also assumes there must be such an economic model which allows minimizing the overall costs of separate economic subjects and of the society as a whole spent on production and environmental activities.

At this, every nature-exploiting production unit must participate not only in the production of tangible values but at the same time – in reproduction of natural values (restoring disturbed lands, deforested areas, polluted water basins etc.).

On the basis of the suggested here concept we see it as being possible to introduce the ecobalance notion into the system of national accounts.

Throughout the course of our research we preferred to keep open the question regarding what is environmental balance. This allowed us obtain the following results (only the most popular answers are presented in the Tab. 3):

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Taking into account both our survey results and also the latest theoretical achievements, we can introduce into further scientific use and circulation our own definition of environmental balance. We see it as the category which describes the ability to display the system of environmental activities of an enterprise in environmental accounting (thus, our third hypothesis is rejected). Environmental balance, in this case, is the balanced conditions of an environmental system which serve better utilization and restoration of natural resources as recorded in business accounts. At the same time, we need to keep in mind that disrupting the environmental balance could lead to irreversible climatic changes and not only on the local level, but for the whole planet.

Table 3 - Survey results: Definitions of “environmental balance”, in %
(calculated by author)

	Definitions	Group #1	Group #2	Group #3
1	The state of equilibrium between the used natural resources and those being restored	48	39	41
2	Such a state of the system at which it does not need attracting additional resources so that to compensate for the lack of some/any of them	12	28	21
3	The harmony between the spacial and biological structure	10	13	11
4	Ecologically sustainable chain of production processes which is supposed to function in a well-orchestrated manner and be zero damage to the environment at the same time	9	9	6
	Various other replies	21	11	21

One of the key tasks during the transition to better balance economic & social development is to evaluate the correlation between economic activities and the natural environment. At this, we need to keep in mind that the latter is always one of the key factors in economic growth and at the same time it also tends to hinder this economic growth. Therefore, achieving and maintaining the dynamic balance between natural and social environments is of vital importance. In general, formation of the very concept of balanced development should be based on environmental limitations which are related to the limitedness of natural resources, slowing down reproduction of renewable resources, rather limited capacities of the environment assimilation. In this regard, we had a special, rather real-life question in our survey which concerned the major obstacles and problems on the way of environmental accounting implementation in Thailand (this was a closed question, however, with an additional option to provide a comment). We got the following answers (Tab. 4).

From Tab.6 it is rather obvious that the most serious obstacle in the course of environmental accounting development and actual implementation is, first of all, lack of exact monetary/financial equivalent for natural assets. Thus, assets which do not have any money equivalent cannot become an accounting object. For the same reasons, raw materials and other similar items being supplied to an enterprise are recorded in accounting documents, while all other components of the surrounding environment (for example, air, waste heat etc.) are not present in accounting records, first of all, because as of today they can be measured in natural units only. And to the best of our knowledge, as of today there is no feasible enough

methodology or method to “translate” these indicators from natural units into some sort of universal money/financial terms.

Another reason why these indicators are still not included into accounting documents concerns, in our opinion, the commonly popular statement that a resource can be called an asset if it is under enterprise control (normally, this would mean the enterprise has some sort of property rights for this resource).

Table 4. Survey results: Problems and obstacles to environmental accounting implementation in Thailand, in %
(calculated by author)

Group #1 (researchers)	Group #2 (business representatives)	Group #3 (public sector representatives)
Measuring environmental issues in monetary terms	Any natural resource is not a full-scale asset in relation to a particular enterprise (e.g., the latter has no property rights for it)	Gaps in legislation and regulation
Any natural resource is not a full-scale asset in relation to a particular enterprise (e.g., the latter has no property rights for it)	Gaps in legislation and regulation	Lack of methodologies for calculations
Lack of practical skills on double entry in environmental accounting	Lack of practical skills on double entry in environmental accounting	Any natural resource is not a full-scale asset in relation to a particular enterprise (e.g., the latter has no property rights for it)
Lack of methodologies for calculations	Lack of methodologies for calculations	Lack of practical skills on double entry in environmental accounting
Gaps in legislation and regulation	Lack of international experience which, speaking theoretically, could have been borrowed and/or copied	Lack of international experience which, speaking theoretically, could have been borrowed and/or copied

This, however, does not automatically mean that all enterprises need to reject the very idea of trying to calculate and measure the environmental aspects of their performance. Lack of such accounting and control at contemporary enterprises leads to uncontrolled pollution of the environment (including soil, air, nearby waters and also presence of wastes which are impossible or hard to utilize). Personal awareness could have been helpful in this regard, but unfortunately, the level of environmental awareness among both producers and consumers is still at very low level, thus, neither manufacturing, nor consumption patterns in Thailand today can be called truly environmentally friendly. Moreover, even provided the local community has enough awareness to raise questions concerning the impact of local producers on the environment – there is technically no capacity to provide/obtain such information on local enterprises and their practices.

Conclusions and Recommendations

According to the most recent version of the Kyoto Protocol requirements Thailand today needs to establish (and in the shortest time possible) an efficient national system for greenhouse emissions' trade. This system would enable the country to fulfill all its obligations under the Kyoto Protocol, actively participating in internal trade in quotas and spending the minimum on it at the same time.

At the same time, the International Financial Reporting Standards still do not cover such a complex issue as CER – Certified Emission Reduction, even though today the meaning and the potential value of these certificates cannot be overestimated. More and more companies, especially those from the countries with the so-called catching-up economic development, own such certificates and engage in trading them, in full accordance with the CDM (Clean Development Mechanism) under the Kyoto Protocol.

Therefore, we can state that this Protocol as such is forming the new fundamental economic mechanisms for further international cooperation in the field. And these mechanisms are actually based on the idea that all human-related climatic effects and changes do not depend on a place of already happened emission. This, in turn, predetermines the so-called “flexibility mechanisms” of the Kyoto Protocol. Flexibility in this particular context should be understood as follows: for all further global environmental effects it is not that important what was the initial place of emission and what actions specifically have been taken to reduce the volume of these greenhouse emissions into the atmosphere.

CER represent the units of decreased greenhouse emissions, produced and certified by the UN in full accordance with the CDM descriptions under the Kyoto Protocol. Accounting of CER is actually quite possible to perform using the IAS 20 “Government grants and Disclosure of Government Assistance”. However, to use it, the management of an enterprise has to prove that their CER has been indeed provided by the state authorities.

As of today the system of environmental accounting is itself an object of state regulation, and this finds its manifestation, inter alia, in some of special measures taken both at the international scale and also on the level of separate countries, including Thailand. Thus, at the state level there is a pressing need for thorough analysis of opportunities and prospects for state regulation measures' implementation in the field of environmental accounting so that those would be in full compliance with the Kyoto Protocol requirements.

Environmental accounting is only a segment within a more general system of accounting, while the latter is supposed to serve all levels of management and control over the economic and environmental processes at economic objects.

In our opinion, all information about the environment-related activities of a managing subject must be disclosed in accounting and reporting of an enterprise, moreover, it must be disclosed in both cost as well as quantitative/volume measures.

Additionally we need to mention that timely and trustworthy accounting of environmental liabilities of an enterprise concerning its greenhouse emissions is an integral part and a vital precondition for radical changes in managerial priorities and all further managerial decision-making concerning environment-related issues.

Therefore, environmental account must cover information on both money and tangible flows, since both of them, in their tight interrelation, describe how economy and the environment are actually coexisting today.

This, in turn, means that performing the environmental accounting should be always dynamic and flexible to the maximum, so that to comply with also quite dynamic environmental component in the economic activity of enterprises.

In our view, the model of the overall accounting process in environmental accounting must be adequate to the current model of general business accounting for enterprises. But at the same time, it must have its own preferences in methods and instruments for presentation of environment-related accounting information.

Such type of model would help fulfill all necessary environmental requirements and therefore would increase the quality of the overall accounting system, thus also promoting its manageability.

Environmental spending should be singled out from the total expenses of an enterprise. And if disclosure of this type of expenses is standardized – this would allow a wide circle of its potential users compare the information on environmental-economic state of various enterprises (within the same area, for example, or within the same sector, within several linked together branches etc.);

Environmental accounting is able to provide the evaluation of the overall volume of environmental damage caused by a particular enterprise (this damage is comprised of payments for emissions plus the total volume of environmental credit indebtedness);

Environmental accounting is an integral part of operational control over all environment-related activities of enterprises, since it already contains all necessary information on the financial side of environment-related activities;

Environmental accounting promotes better decision-making since it operates the data adjusted to all environmental factors.

As of today there is no truly efficient standard in Thailand that would regulate the accounting of environmental spending and rational nature use and/or their disclosure in accounting. One of the major reasons for such a gap in Thai accounting regulations is the lack of actual demand for such a standard, there is very little understanding and awareness of such issues in the country. Besides, there is hardly any suitable best practice globally which could have been used as a benchmark in this regard. On the top of that, another reason is that reforms in Thai system of accounting are going much slower than it was supposed to be and thus, there is a certain lagging behind all other important economic changes in the country.

In order to boost foreign investments and solve all problems related to the investment processes inside the country, thorough research of the accounting balance structure, of debit and credit debts would be always of primary importance. In parallel to that, special attention is also dedicated to the environmental indicators of enterprises. Therefore, if an enterprise is able to disclose its environmental liabilities etc. in its accounting balance – the potential investor would get the most detailed economic & environmental information concerning enterprise performance. And this, in turn, may contribute to trust and thus promote positive investment decision-making.

Today reporting of all Thai enterprises and organizations covers very limited amount of information concerning the environments – only some statistical reports. In the light of all recent international decisions related to the Kyoto Protocol, it is quite obvious that it is necessary to develop new forms of reporting which would help collect, compile and record all necessary details related to greenhouse emissions in the country.

Actual practical use of the methods and algorithms suggested here in the environmental reporting of enterprises would enable carrying out further environmental analysis or even

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environmental audit so to evaluate and compare the real performance indicators of enterprises and thus manage them better in the future.

The formulated here theoretical conclusions and applied propositions are able to promote better, more efficient and more feasible decision-making in the field of accounting and audit, with a special emphasis on achieving the environmental balance at the level of separate enterprises and at the overall national level as well.

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