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THE FORMATION OF RECOURSE-SAVING MODEL
OF ENTERPRISE DEVELOPMENT

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Некрасова Л.А., Хрістова А.В. Формування ресурсозберігаючої моделі розвитку підприємства.

Стаття присвячена формуванню ефективної ресурсозберігаючої моделі, що дозволяє знизити витрати підприємства. Розглянуто класифікацію показників ресурсозбереження. Аналізуються результати впровадження ресурсозберігаючої моделі та її удосконалення. Розглянуто етапи обгрунтування ефективності використання заходів ресурсозбереження. Перелічено цілі використання ресурсозберігаючої моделі та аналізується ефект від її впровадження. Проаналізовано фактори впливу на ефективність впровадження заходів з ресурсозбереження. Розглянуто компоненти управлінського механізму даної моделі та сформовано процес впровадження моделі ресурсозбереження на підприємстві.

Ключові слова: ресурсозбереження, модель розвитку, підприємство, ефективність, витрати, ресурсомісткість

Некрасова Л.А., Христова А.В. Формирование ресурсосберегающей модели развития предприятия.

Статья посвящена формированию эффективной ресурсосберегающей модели, что позволяет снизить расходы предприятия. Рассмотрена классификация показателей ресурсосбережения. Анализируются результаты внедрения ресурсосберегающей модели и ее совершенствование. Рассмотрены этапы обоснования эффективности использования мер ресурсосбережения. Перечислены цели использования ресурсосберегающей модели и анализируется эффект от ее внедрения. Проанализированы факторы влияния на эффективность внедрения мероприятий по ресурсосбережению. Рассмотрены компоненты управленческого механизма данной модели и сформирован процесс внедрения модели ресурсосбережения на предприятии.

Ключевые слова: ресурсосбережение, модель развития, предприятие, эффективность, затраты, ресурсоемкость

Nekrasova L.A., Khristova A.V. The formation of resource-saving model of enterprise development.

The article is devoted to the formation of an effective resource-saving model, which allows reducing the company's expenses. The classification of resource-saving indicators is considered. The results of the implementation of the resource-saving model and its improvement are analyzed. The stages of justifying the effectiveness of resource saving measures are considered. Listed goals using resource-saving models and analyzes the effect of its implementation. Factors influence the efficiency of resource conservation measures. We consider management mechanism components of the model and the generated implementation process model resource in the enterprise.

Keywords: resource-saving, model of development, enterprise, efficiency, costs, resource intensity

The current stage of economic development is characterized by updating the introduction of new resource assets through complex solutions to technical, economic and social issues by using resource-saving models in all sectors of the national economy. Progressive development of industrial enterprises is a key to the economic growth in the economic sector of the country that needs a new approach that is based on modernization.

Analysis of recent researches and publications

Theoretical and methodological approaches to the formation of resource-saving models at different levels of management are considered foreign and domestic scientists as D. Meadows, K. Boulding, R. Solow, Herbert Taylor, John Forrester, V.A. Zhovtnyanskyy, L.G. Melnyk, O. Mazin, S.M. Illyashenko and others. Listed scientists considered separate issues: economic justification for choosing priorities resource-saving model improvement and perfection of methodological approaches to its management, which allows you to create organizational and economic mechanism of resource-saving model.

Unsolved aspects of the problem

Problems of industry enterprises are in the fact of an irrational use all kinds of enterprise resources, and even to the whole industry. In order to solve the serious issues it is necessary to introduce measures in the form of resource models allow advisable to manage enterprise resources.

The aim of the article is to study the process of formation of resource-saving model and its improvement to ensure resource efficiency of production through economic and moral incentives.

The main part

Modern economic development industry mostly points to the following pattern: intensified trend to higher prices, most of the limited production resources, increasing competition, which entails complications of enterprises [1]. Therefore, to address such issues should implement basic directions to reduce costs enterprise – the implementation of resource-saving model, but this model is quite capital intensive.

Implementation of resource-saving model at an enterprise requires consideration of all possible ways

and means of groups that provide savings of inputs. Referrals measures for resource conservation division of the measures aimed at:

— reducing unit costs of a certain type of resource with simultaneous change in the unit cost of other types of resources;

— reducing the unit cost of a certain type of resource with the same level of specific consumption of other types of resources;

— reducing unit cash cost of acquisition, maintenance and operation of certain types of inputs enterprise of permanent costs for other types of resources;

— reducing unit cash cost of acquisition, maintenance and operation of certain types of companies' production resources with a simultaneous change in the cost of other types of resources [2].

Thus, the resource saving business model is a set of mechanisms and group activities that allow saving of all kinds of productive resources at an enterprise by reducing the costs.

Resource Saving defines the indicators of resource input and resource saving. Resource-intensiveness of products, works and services – a set of properties that characterize the structure and the contents concentrated in products, works or services resources. Resource saving of products, works and services is a combination of performance properties that characterize excellence of products, works and services and excellence in terms of spending and use of resources to the achievement of certain beneficial effects in the given conditions [2].

To determine the effectiveness of introduction of resource saving models in the company, should consider resource indicators for classification features in the table 1.

Table 1. Resource saving indicators

№	Classifications	Indicators
1	Type	– technical; – economical.
2	Stages of display	– projective (during research works); – projective (during development work); – industrial (manufacturing during production); – operating (during application); – recycling (wound product).
3	Form of grating	– absolute; – specific; – relative; – comparative; – structure.
4	Form of expression	– in physical units; – in economical units; – without the use of units.
5	Evaluation system	– planned (for the future); – basic (established in international or national standards of Ukraine); – maximum possible (for each type of substances, materials, products, products).
6	Value	– main; – subsidiary.
7	Amount	– single (individual); – complex (group); – integrated (common).

Source: Compiled by the author according to the material [8]

Due to resource saving indices we can assess the performance in the area of the company. Direct results include those identified internal purposes:

— revenue growth;

— reducing the use of primary natural resources;

— improve enterprise performance.

There are also indirect results that cannot be estimated from the economic point of view:

— improve living conditions;

— general economic conditions;

— landscape preservation [6].

However, performance of the use of production enterprise resources are relative, while the final result of the implementation of resource saving, providing resource-saving switch on a model of economic development should be reflected in the growth of its financial performance and market value.

To assess the financial performance measures implementing enterprise of resource saving to a first approximation, and for the analysis of short-term consequences appropriate to apply specific methodological apparatus reduced costs, unless the market products that the company produces are competitive (Fig. 1). If we consider the long term effects of the program resource, then it is necessary to use the methodology for calculating the net present value.
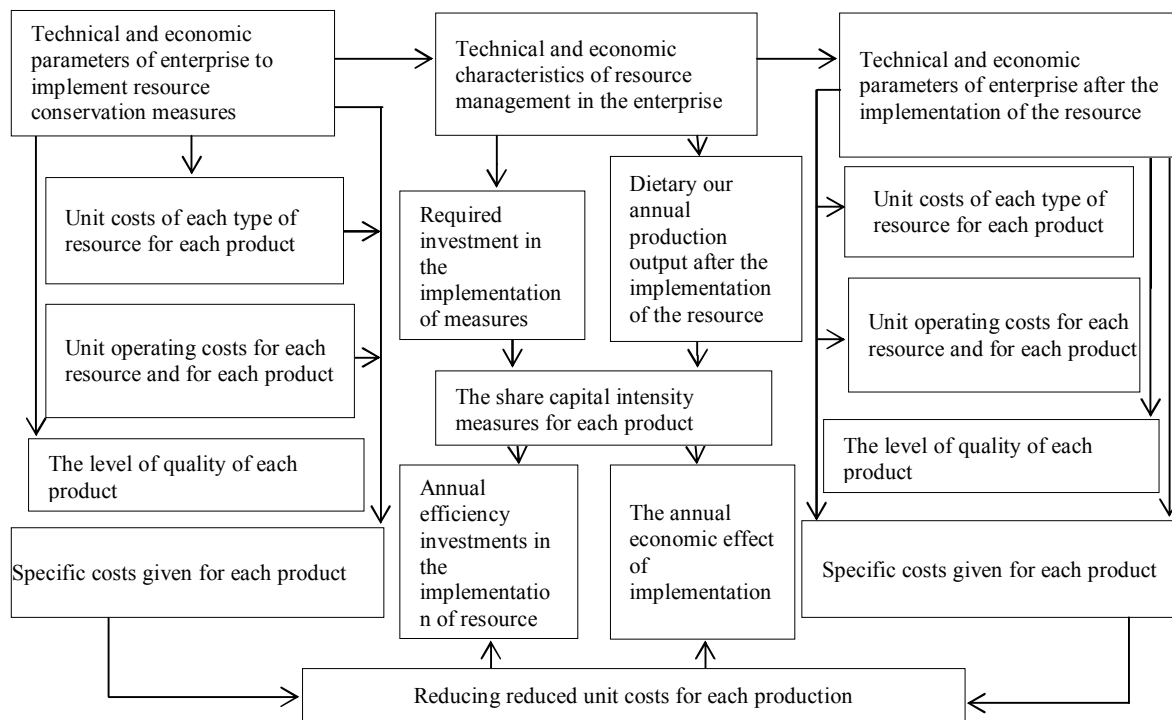
Fig. 1. Integrated model of efficiency and the effect of the introduction of resource models in the company
Source: Compiled by the author according to the material [8]

Resource Saving at the manufacturing plant is early detection and meaningful impact on the factors increasing the speed of consumption of material, labour and financial resources in their operation [10].

In our country, the management of the process of resource conservation, resource study public policy does not cover. In the future, this may exacerbate the destabilization of economic activity, which in turn can have a negative impact on the strategy of reforming the economy. The main reason for this is the lack of a scientific approach to the formation of resource problems at the state level in the long term policy [11].

Resource-saving activity as a category goes beyond saving material resources and linking system performance and other categories of Sciences. According to the authors, it is not resource policy management system, and system management solutions. After analyzing the current concepts of resource, we can say that the business practices resource models there are several:

— model based on the traditional basis, reduce material consumption, reduction of waste, increased use of recycled resources;

— model based on a new basis, reducing consumption resource supply transition from play to industrial materials [8].

The main difference between these models consists of the fact that taken as a general idea. Along with that all resource models have one basis an organization of resource consumption. Currently there is no formal concept of resource conservation,

because its creation is very important issue that needs further development [5].

The economy received time series prediction comes with a few standard models, including:

— auto regression model is extremely useful stochastic model to describe the practice of some series, in which the current value of the process expressed by a linear set of previous values of the process;

— moving average model is used to reduce undesirable effects of random pulse-error model and ensures smooth data by filtering high frequency processes (trends, waves) of low frequency (noise);

— auto regression model and moving average is one of the mathematical models used for analysis and forecasting stationary time series in statistics. Interpreted as multiple regression linear model, which as explanatory variables mentioned last act itself dependent variable, and a regression balance moving averages of the elements of noise [2].

The initial stage rationale transition on resource-type of development is the calculation of current values of efficiency of its production resources. Since all these figures are relative, in this work the possibility of using ratios to justify the choice of the best options for business decisions. It is found that the objective function decision-making mostly can only be given absolute figure, while the ratios should be used as an aid in the efficient sorting possible solutions. Using relative indicators of resource efficiency can also be estimated the reserves to improve absolute performance of the company. In

particular, considering a partial indicator of evaluating of resource efficiency profitability of resources' labour (RVTR) [7].

One approach to the assessment of efficiency of a certain type construction enterprise resource evaluation indicators as the ratio of the actual operating profits of the enterprise to its size such that the company can get if it reaches the maximum possible efficiency of this type of resources [9].

Thus the problem reduces to quantify the magnitude of the effect that can be solved based on the principles of systems, transformation and relativity.

1. Systemness. The object of study is considered as a production system where input parameters – involved in the production of resources are its factors: labour factors, tools, household work. Output parameter (the end result) at enterprise economy – gross income.

2. The transformation (conversion). Economic resources – potential components of future results. In the process of production factors labour, tools and objects of labour transfer their value to the products newly forming human labour with the end result [3].

During the development of industrial applications of transition on resource-development model important to analyze the factors that influence the effectiveness of the implementation of resource conservation. Since these factors very much necessary to group them by dividing by:

— kinds of resources, unit costs of production are reduced;
— causes of occurrence;
— place of occurrence;
— effect on prices for the products of the company;
— impact on the performance of the enterprise;
— effects on fixed assets.

To analyze the effect of factors that determines the speed and scope of implementation of energy saving technologies is necessary in a particular sequence involves the following stages: forming an array of input data; determination of the equilibrium price and the equilibrium volume of production after the introduction of new technologies; evaluating the effects of new technology; an extra amount of natural production, which it is advisable to make the new technology [9].

Implementation of resource-saving model to Ukrainian industrial enterprises is essential for orderly growth and resource efficiency of production can ensure the formation reproductive management mechanism, which includes:

— identify business problems related and can be solved through the introduction of energy-saving measures, the formation of the basis of adequate policy on enterprise resource;

— planning resource-saving enterprise, developing organizational and technical measures to ensure compliance with targets;
— technical, technological, regulatory, organizational and economic support performance targets and implementing energy-saving measures;
— monitoring of the enterprise resource, accounting and control, corrective and preventive actions on resource processes;
— creation of information database and reporting on the results of resource-saving policy of resource management decisions;
— periodic analysis of resource-saving enterprise, evaluation of the efficiency of resource-management business;
— improving resource saving management system with the influence of internal and external factors [4].

Implementation of effective resource-saving model the company has a set of measures to ensure a balance between work outcomes, characterized by rising productivity, rational use of resources and their savings – on the one hand and the increase in the volume of products (works, services), – on the other. The process of establishing this model, the company must: include increasing the material interest of workers in the growth of labour efficiency, reducing unit costs through efficient use of resources; allow to keep a clear record of labour and material costs in the manufacturing process, taking measures of technical, organizational and economic (the use of new techniques and technologies, automation, organization of labour and production, improve staff development and motivation of their et al.); provide increased productivity and economic benefits in the form of income (profit). Implementation of these provisions will create qualitatively new effective system of resource saving the company [10].

Conclusions

Formulation and implementation of resource conservation programs in industrial is a complex task with many alternatives addressing differing scope, content, timing and other implementation options. Theoretical Foundations rationale for the implementation of the transition on resource-type of its production process developed in this work, including the proposed methods of grouping attributes resource-type enterprise development and management of resource and introduced new features of the classification of factors affecting the efficiency of these measures make it possible to better understand the nature of the various alternatives resource-type of commercial enterprise.

Abstract

The current stage of economic development characterized by updating the introduction of new resource assets through complex solutions to technical, economic and social problems through resource-saving models in all sectors of the national economy. Progressive development of industrial enterprises is a key to economic growth in the economic sector of the country that needs a new approach that is based on modernization.

Problems industry enterprises are different – that irrational use all kinds of enterprise resources, and even to the whole industry. In order to solve the serious issues the data necessary to introduce measures in the form of resource models allow advisable to manage enterprise resources.

The main purpose of the study is to develop resource-saving model and its improvement to ensure resource efficiency of production through economic and moral incentives. Modern economic development industry mostly points to the following pattern: intensified trend to higher prices, most of the limited production resources, increasing competition, which entails complications of enterprises. Therefore, to address such issues should implement basic directions to reduce costs enterprise the implementation of resource-saving models. The introduction of the enterprise resource-saving model requires consideration of all possible ways and means of groups that provide savings of inputs. To assess the financial performance measures implementing enterprise resource to a first approximation and for the analysis of short-term consequences appropriate to apply specific methodological apparatus reduced costs, unless the market products that the company produces are competitive. If we consider the long term effects of the program resource, then it is necessary to use the methodology for calculating the net present value. Resource at the manufacturing plant is early detection and meaningful impact on the factors increasing the speed of consumption of material, labor and financial resources in their operation. One approach to the assessment of efficiency of a certain type of enterprise resources construction performance evaluation as the ratio of the actual operating profits of the enterprise to its size such that the company can get if it reaches the maximum possible efficiency of this type of resources. Implementation of effective resource-saving model the company has a set of measures to ensure a balance between work outcomes, characterized by rising productivity, rational use of resources and their savings on the one hand and the increase in the volume of products (works, services), on the other.

The process of establishing this model, the company must: include increasing the material interest of workers in the growth of labor efficiency, reducing unit costs through efficient use of resources; allow to keep a clear record of labor and material costs in the manufacturing process, taking measures of technical, organizational and economic (the use of new techniques and technologies, automation, organization of labor and production, improve staff development and motivation of their et al.); provide increased productivity and economic benefits in the form of income (profit). Implementation of these provisions will create qualitatively new effective system of resource saving the company. Thus, the development and implementation of programs resource in industrial a complex task with many alternatives addressing differing scope, content, timing and other implementation options. Theoretical Foundations rationale for the implementation of the transition on resource-type of its production process developed in this work, including the proposed methods of grouping attributes resource-type enterprise development and management of resource and introduced new features of the classification of factors affecting the efficiency of these measures make it possible to better understand the nature of the various alternatives resource-type of commercial enterprise.

JEL Classification: L10, O21.

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