THE DEVELOPMENT OF MODERN LOGISTICS: ENERGY AND RESOURCE SAVING.

Azamatova A.B.
c.e.s., professor of
Kazakh New University named by T. Ryskulov
Bekmukhametova A.B.
c.e.s., senior lecture of
Al-Farabi Kazakh National University

Abstract

Kazakhstan has huge reserves of energy, mineral resources and other natural resources, significantly surpassing the most of the countries in the value of the resource potential per capita. However, in our country the level of work in the field of energy and resources saving lags far behind the indicators in other countries. There are big losses in the processes of resource extraction, processing, production, storage and distribution of goods. It may be mentioned the loss of fuel, metal, wood, cement and other products. The level of disposal of production wastes is low one. Due to the scale of the problem every decision to reform the economy should be assessed in terms of its impact on the level of use of the resource potential. If we analyze the results of management in the last period, it can be concluded that the irrationality of approaches to use of materials in our country is not overcome and also increased, as the decline of the volume of production of many kinds of products outpaced a reduction of material costs. Therefore, this article focuses on energy and resource saving in the Republic of Kazakhstan with the experience of foreign countries.

Key words: logistics, development, natural energy products, resource saving, material costs

Аннотация:

Казахстан располагает огромными запасами топливно-энергетических и минеральных ресурсов, а также других природных богатств, значительно превосходя большинство стран по величине ресурсного потенциала на душу населения. Вместе с тем уровень работ в сфере энерго- и ресурсосбережения у нас сильно отстает от показателей других стран. В процессах добычи ресурсов, переработки, производства продукции, хранения и распределения товаров допускаются огромные потери. Можно отметить потери топлива, металла, древесины, цемента и другой продукции. Низок уровень утилизации отходов производства. В связи с масштабностью проблемы каждое решение в области реформирования экономики должно оцениваться с точки зрения его воздействия на уровень использования ресурсного потенциала. Если с этих позиций проанализировать итоги хозяйствования за последний период, можно сделать вывод, что нерациональность в подходах к материалопотреблению в нашей стране не только не преодолена, но и усилилась, поскольку спад в объемах выпуска многих видов продукции,

опережал сокращение материальных затрат. Поэтому эта статья посвящена вопросам энерго- и ресурсосбережения в Республике Казахстан с учетом опыта зарубежных стран.

Ключевые слова: логистика, развитие, природные энергоносители, ресурсосбережение, материальные затраты

Today Kazakhstan, due to its geographical position, has got certain features and benefits of logistics. Logistics is a part of the economic science, the subject of which is to organize the rational process of promoting products and services from producers to consumers, the functioning of the circulation of products, goods, services, inventory management, creation of goods movement infrastructure. Overall logistics raises important issues for the economic development that now affect the competitiveness of the state by the companies. Later, of course, its role will increase.

On the 11th of November 2014 President of Kazakhstan Nursultan Abishevich Nazarbaev appealed to the people of Kazakhstan with a message "Nurly zhol - the way to the future", where he outlined the main directions of the New Economic Policy until 2050:

1. Development of the transport - logistics infrastructure;
2. Development of the industrial infrastructure;
3. Development of the energy infrastructure.

President of Kazakhstan Nursultan Nazarbayev in his Message 2014 "Kazakhstan's way - 2050: The common goal, common interests, common future" defined the main directions of development of the Kazakh energy sector:

"We will develop the energy in its traditional forms. It is necessary to support the search and discovery of a cleaning thermal power plant emission, widespread energy savings based on the latest technologies in the workplace and at home. Recently, the top ten largest companies in the European Union publicly opposed the energy strategy of EU, adopted under the well-known concept of green economy. In the four years of its implementation EU lost 5 gigawatts of power capacities. Working on the program of green economy, we must take into account these errors. "Based on the analysis of errors of EU in energy strategies an international team of scientists from Kazakhstan, Russia, USA, Canada, China and other countries drafted the "National Strategy for Sustainable Energy in Future Kazakhstan up to 2050".

The role of natural resources in the human development has always been significant, but more fully the impact of their use became being realized by the society in the end of the XX century. As a result of profound destabilization of ecosystems due to intensive development of productive forces, the active growth of the population and the stress on the environment there is an objective need to rationalize the use of natural resources for sustainable human development [1].

Significant volumes of various natural substances are used for the production and transmission of energy. Natural energy products generated as a result of natural processes are used for the purposes of energy supply of companies. Ensuring the rational use of natural resources and the application of resource

saving methods of management needs to reduce the impact on the environment to ecologically safe levels. An important indicator, which describes the level of socio-economic development of society, is the efficiency of use of material and energy resources per unit of the gross domestic product.

Today, as part of efforts to achieve the goals of sustainable energy development is central. Audit of natural mineral resources and the impact of humanity on the environment, held regularly in recent decades, leads humanity to the conclusion that in order to ensure ecology oriented use of resources requires the transition to a sustainable use and saving of resources, support for resource policies and compliance requirements for protection the environment, reducing the consumption of resources by identifying potential reserves energy efficiency enterprises.

The main consumers of energy resources are industrial enterprises. Therefore, in order to rationalize the use of natural resources, the greatest importance is the efficiency of power management in the enterprise. The level of energy consumption of Russian production greatly exceeds the world average one. High resource intensive of products of domestic enterprises, increased for 20 years in 2 times, and a tendency to further increase lead to the conclusion that despite increased attention to issues of resources and some work carried out in this area, the available solutions to power management problems in the enterprise ensured achievement significant progress in the ecology oriented use of resources. [2] In the area of resource saving there is a lack of methods and tools for power management, ensuring control the energy efficiency of processes at the enterprises.

An analysis of the definitions of "Resource saving" led to the conclusion that the Resource saving can be understood in a broad sense, taking into account all types of resources (financial, labor, etc.), and a narrower - towards material-raw, natural resources and natural energy products. The term resource saving can be taken literally, as the economy, conservation of resources. But actually resource saving is inseparably associates with the direct use of various types of resources in the manufacturing process. Resource saving refers to the process of realization of complex of organizational, economic, environmental and technical measures aimed at getting the economy and rational use of different kinds of resources. In addition, there is the concept of intensive resource saving, which implies the identification and implementation of the complete reserve of resource saving of enterprises, which requires a systematic approach to the diagnosis of the efficiency of facilities and the use ultimately the whole revealed technical, technological and organizational measures of resource saving.

The state policy in the field of resource saving and environmental security, implemented in the developed countries, is fixed in the legislation, national plans for more efficient use of resource potential, where specific measures, standards and requirements are presented for certain categories of economic agents; combining mandatory requirements and voluntary economic incentives in the area of resource saving and environmental security - allowed for a relatively short period of time to reduce significantly the rate of resource intensity performance of these economies. Wherein, the saving the active position of the state in this area, as well as the

continuous development of innovative technological solutions will keep benchmark on reducing resource intensity of the economy in the long term. [3]

As one of the most important issues in most countries, the problem of resource saving is becoming a priority for Kazakhstan. Earlier resource saving was understood only as economy of resources, which was often carried out by reducing the quality of products or the existence of double standards.. The real work for the optimization of consumption material-raw resources in economic activity of enterprises was not carried out. With the transition to a market economy, enterprises are interested in reducing the consumption of various resources - in order to reduce costs and improve the competitiveness of products. The analysis of various sources concluded that many issues of resource saving are under development or are not studied properly.

The problem of irrational use of resources encompasses a variety of technical, socio-economic, environmental and organizational tasks. Therefore, resource saving management at the company, which is a type of management in the enterprise, it is proposed to consider in the context of operational management approaches. To this end, the economic activity of the enterprise is considered as a set of business processes. Also used in operations management algorithms of improvement the processes of the company are an effective tool for solving problems of increasing the efficiency of use of resource potential of the company. A key advantage of these algorithms is a regular work to ensure continuous improvement. Therefore it is proposed in order to increase the efficiency of use of resource potential of the company to use a regular system of operational improvements in the field of resource saving, which will allow the company to receive a number of benefits in the field of rational use of resources and reduction the environmental impact. Thus, a new system is introduced in the management of resource saving enterprise, that allows to provide a new positive effect, a precisely to determine the effective mechanism of the organization of resource processes by which it is possible to identify the resource potential and resource reserves.

Any enterprise in the normal course of business must be aware what refers to the number of subjects whose decisions directly affect the level of environmental safety and rational use of natural resources. Wherein this statement includes the issues of choice of technology (resource-intensive or environmentally friendly), the use of raw materials or the approval of internal rules of ethics and staff behavior (education responsibility for the welfare of present and future generations or environmental indifference), and certain forms of logistics (choice of transfer of finished products over long distances or focus on local raw materials and markets), and making decision about the production process (safe for human health and the environment or harmful and dangerous).

The issues of resource saving and environmental safety permeate all aspects of the modern enterprises, affecting the majority of decision-making. Consecutive businesses turn towards environmental issues and resource saving is carried out under the pressure of a number of factors and circumstances. There are environmental degradation, the tightening of legislation and standards of environmental responsibility, the growing interest to the problems of ecological

safety on the part of buyers and the pressure of competition, including international.

Consequently, resource saving of companies should be considered not only as a saving of material-raw resources, conducted, for example, by reducing the volume of production, - as well as a factor of economic growth, improving living standards, ensure appropriate environmental conditions. Thus, resource saving should be a priority direction of ecology-economic policies of any enterprise.

Resource saving and environmental safety blend perfectly with the number of functional areas in the structure of the company, a strategic decisions should equally take into account the interests of the production, marketing and finance, and resource saving and environmental safety.

The basic principles of the resource saving that should be taken into account in the development of strategy in the enterprise - are improving the structure of consumed resources towards the most efficient and environmentally friendly; increasing the share of resource-saving technologies; account and control of material-raw resources for all stages of the production cycle; optimization and energy and resources use. [4]

Therefore, it is necessary to develop the methods of resource saving management, allowing on the base of the analysis of energy efficiency reserves of processes of the company to form a mechanism for resource saving management, ensuring efficient use of the resource potential. Nowadays industrial and residential sector of our country is five times more by the energy consumption than the rate of the countries in the European Union. A large proportion of public institutions (schools, hospitals, etc.), and residential buildings are equipped with inefficient energy systems and require updating.

This analysis shows that, in spite of the impressive technological advances, renewable energy is uncompetitive with a few exceptions in comparison with traditional sources of energy. The reason for the rapid development of renewable energy sources (RES) in the European Union was, first of all, a large-scale government support. During the economic crisis, these subsidies have become a heavy burden for public budgets and people in the EU.

With this in mind, "National Strategy for Sustainable Energy Future Kazakhstan up to 2050" provides for the integrated development of energy resources in Kazakhstan.

There as requested by the Head of State, outlined the development of traditional energy sources - coal, oil, natural gas and uranium in the "Concept of development of fuel and energy complex of the Republic of Kazakhstan till 2030". However, the country has large reserves and non-traditional energy sources in our country, such as oil shale, heavy oil, natural bitumen, coal bed methane, brown coal and hydrothermal water.

Today and in the near term, given the country's large reserves of coal, oil, natural gas and uranium, their inclusion in the Energy powerful complex of the country is not relevant and cost-effective.

However, reserves of coal, gas, oil and uranium are limited and calculations made in the "National Strategy for Future Energy of Kazakhstan up to 2050"

shows that in the long term there is a need to include non-traditional energy sources in the turnover - oil shale, high-viscosity oil, natural bitumen, coal bed methane, brown coal and hydrothermal water. And this is obvious, because cost of exploration and development of oil, natural gas and uranium is increasing every year since easily recoverable reserves run out quickly.

It is necessary to develop regulatory and technical documents for mandatory application of modern energy and resource saving decisions in the construction of buildings, installation of engineering networks.

It is necessary to implement measures to stimulate industrial enterprises on the introduction of modern energy-saving technologies in the production process. It is necessary to introduce automated system for managing outdoor lighting st all the cities of our country.

World experience shows that the introduction into using of unconventional sources of energy should be done on a scientific basis. In particular, the experience of the European Union on the development of renewable energy sources, confirms this. The cost of a kilowatt increases every year. For example, in Germany the cost of electricity produced by CHP is already equal to the cost of the wind one. [5]

These results will be achieved by the introduction of innovative technologies and advanced equipment, the decommissioning of old inefficient capacity, equipment and facilities, solving the problem of rational use of productive resources and the transition to a resource-saving methods of production and operation of equipment. Therefore it is necessary the introduction of automated systems of technological processes management at the systems of water supply, drainage, gas, heat and electricity, to solve the problems of:

- improving the reliability of drainage, water, heat, gas and electricity systems;
- increasing the service life of the equipment;
- reduction of maintenance costs;
- reduction of energy consumption;
- monitoring utility consumption of resources and costs of the payment by consumers in real time;
- preventing unauthorized connection to the network of water supply, sewerage and heating systems;
- monitoring the status of engineering networks and identifying leaks in real time.

Now it is necessary to combine the logistical approaches to the organization of production based on the minimization of resource use with energy saving policy. Therefore, logistics must be considered as an effective approach to managing the resource and energy flows in order to reduce economic losses and ensure efficient innovation development of production as a whole.

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Краткие сведения об авторах:

Азаматова Алмагуль Баймахановна 87773619531 e-mail: almagul.azamatova@mail.ru,
Бекмухаметова Асемгуль Бауыржановна 87750002977 e-mail: sultasem@mail.ru