

Peculiarities forest industry enterprises operation according to the principles of sustainable development

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Abstract. The article contains the results of scientific research of the peculiarities of the forest industry enterprises' work taking into account the transition to the principles of sustainable development. In the modern world, increased attention to sustainable development is one of the global trends. The purpose of the work was to develop the basic principles that should guide forest industry enterprises in their activities in the current situation and in the long term. The main methods of work are analysis, synthesis, modeling. As a result, the advantages of individual stakeholders in the transition of enterprises to sustainable development are summarized. The substantiation of certain features of forestry enterprises' work is given, taking into account the need to transition to the principles of sustainable development. The key problems that stand in the way of the active implementation of the concept of sustainable development are highlighted. Several key principles are proposed that should guide forest industry companies in planning their activities. The most important of them is the thesis of the necessity to develop a long-term development strategy, in accordance with which current activities and operational planning should be carried out. It is concluded that sustainable development will become more and more important for society, government and business; the transformation of the forest industry in this direction is inevitable, although the achievement of qualitative changes will take a long period of time.

1 Introduction

The forest industry is a complex structure with many interrelated elements. Some of them are linked into integrated systems, are counterparties, while others compete in different markets. At the same time, the scale of the country and its reserves of wood resources form a significantly distributed structure of enterprises in the industry by regions. Indeed, timber enterprises are present in most of the subjects of the Russian Federation. At the same time, the volumes and types of their activities differ significantly. Specialization is conditioned by quality and quantity of available resources, demand from nearby markets, historical peculiarities of development. At the same time, despite the presence of large reserves of

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forest resources in the East of the country (fig. 1), in the European part forestry enterprises produce more products both in value and volume terms.



Fig. 1. Share of forests of regional area in Russia in 2022 [1].

The peculiarities of the work of timber enterprises also have differences (mainly in large enterprises). This is largely due to technological reasons, the way a particular organization has developed in this direction. At the same time, the formation of a complex industrial structure, as in other industries, requires solving many problems and building unique organizational interactions. Small and medium-sized businesses, for the most part, can be built on a turnkey basis. For example, many small sawmills operating in Russia are created according to a well-established scheme.

Both for large and small and medium-sized businesses, key principles and rules for organizing their work can be formulated. At the same time, it should be understood that the development strategies of companies are determined by many factors, including the scale of enterprises, their propensity to invest, technological and innovative characteristics [2, 3]. The most important in this context is the external environment: the state and its policies, buyers, society as a whole. Enterprises have to adapt to the changes in the surrounding world and meet modern requirements. One of the general trends in the development of industry is the transition to the principles of sustainable development [4, 5]. This approach provides for such a development of a particular subject, which would take into account the interests of future generations. In practice (and very roughly) we can say that enterprises should pay significant attention to environmental protection (resource withdrawal, impact, restoration, etc.) and social aspects of doing business (interaction with local communities, personnel, population in the regions of their presence and product sales).

The internal environment also influences the formation of principles. Management, staff, internal culture and the changes that occur with them have a significant impact on opportunities, constraints, risks and development directions.

According to the author's opinion, domestic timber enterprises have partially modernized their activities for modern conditions. However, there are still many steps to be taken in the direction of sustainable development. At the same time, there is no doubt that under the influence of the external environment or/and internal needs, the transformation will continue and the industry will undergo significant changes. This paper is devoted to the study of some specific features of the forest industry enterprises in terms of transition to the principles of sustainable development.

2 Materials and Methods

The purpose of this paper is to study and develop the basic principles and rules that should guide forest industry enterprises in their activities in the current situation and in the long term.

The study is based on a number of works by well-known authors in the field of improvement and modernization of timber enterprises, forecasting the development of complex systems, the peculiarities of the forest industry. We used classical methods of scientific research and cognition - analysis, synthesis, modeling.

3 Results and Discussion

At the first stage of the research, the benefits of various parties from the implementation of sustainable development principles at the enterprise were studied in detail [6-8]. The results of this work are presented in Table 1. Sustainable development was considered from the position of five key stakeholders (stakeholders): the state, business owners, personnel, and society as a whole. Possible effects that appear when introducing the concept of sustainable development in the practice of enterprises' activities were grouped into the following groups: economic, social and environmental. At the same time, individual effects, which is quite logical, have a similar nature and extend to several parties. In addition, an attempt was made to combine the benefits described in terms of stakeholders into the so-called "resultant effects".

Table 1. Benefits of individual stakeholders in the transition of enterprises to sustainable development.

"Stakeholder"			
State	Business owner	Employee	Society
Economic effect			
GDP growth and tax payments to various funds and budgets in the long term	Increase in profit and profitability in the medium and long term, use of cheap raw materials	Wage growth, increased labor mobility	Growth of general welfare of the population, creation of new jobs and professions
Social effect			
Development of underpopulated areas, reduction of unemployment and social tension	Increase in employee productivity due to improved qualification and interest in the company's results, improvement of the company's image	Improvement of qualifications, living standards and income, changes in life values	Development of infrastructure, social activities, public awareness and interest in quality environment
Ecological effect			
Reduction of all types of environmental pollution, population growth in the long term	Reducing fees and fines for negative impact, improving the environmental responsibility rating of businesses	Improved health, discipline in terms of environmental compliance, reduced risk of occupational diseases	Improving the quality of the natural environment, general standard of living, reducing morbidity
Resulting effect			
Growth of key	Improvement of	Increase in	Formation and

indicators of population satisfaction with living standards, implementation of a set of socio-ecological and economic programs	company image, increase in business value, economic performance and commitment to corporate culture, formation of ESG policy	social security, improvement of working conditions, psychological stability and motivation at the workplace	implementation of a new approach to preserving and improving the environment, quality of life and quality of work
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Undoubtedly, one of the most significant effects of the transition of enterprises to sustainable development principles is related to environmental impact. In addition to the benefits for stakeholders discussed above, it is worth mentioning the reduction in the amount of natural resources withdrawn, the overall reduction in the burden on the environment (from both the population and industrial enterprises) and the development of restorative environmental management. The importance of these positive effects for balanced socio-economic development cannot be overemphasized.

It should also be understood that the transition to the concept of sustainable development will not bring immediate results. For individual enterprises and employees, the effect can indeed be obtained quite quickly. However, for large and complex systems, such as the state, society, and the environment, this process will take a very long period of time.

In the author's opinion, the issue of population growth in the long term due to the active implementation of the concept under consideration is debatable. On the one hand, the population's confidence in a quality environment contributes to demographic processes. On the other hand, as the practice of European countries shows, a high level of quality of life can lead to a decline in the birth rate and general aging of nations. Therefore, this issue requires a detailed study, including the use of modern modeling and forecasting tools.

In general, it should be recognized that the achieved effects allow us to talk about qualitative changes occurring in all the subjects under consideration in a set of areas. Naturally, there are also difficulties, negative effects from the introduction of this concept. They are quite well described in the scientific literature [9-11]. Most of them are reduced to the need for large amounts of investment, difficulties and duration of changing public opinion, transformations in production and educational processes, etc.

Turning to the practice of domestic timber enterprises, it is necessary to emphasize the key problems that stand in the way of active implementation of sustainable development principles:

1. Low economic efficiency of the majority of enterprises. This does not allow to allocate funds for modernization of technologies and improvement of development strategies.

2. Weak management. One of the traditional problems of the industry enterprises is the lack of highly qualified management personnel, which leads to the formation of a set of problems, including those related to prompt adaptation to the changing requirements of the market and society.

3. Focusing on internal problems and organization of activities while ignoring a number of external factors. Enterprises try to pay attention, first of all, to internal difficulties, and external conditions and factors remain in the background.

4. Forced participation in various social and environmental programs, often only for the sake of appearances. The implementation of individual programs is designed to solve local problems, while there is no clear long-term strategy for work in these areas.

5. The majority of enterprises do not see an urgent need and demand for implementation of the Concept and/or other socio-environmental programs.

6. Lack of a set of conditions for the implementation of such programs and support system at the state level. This generally reduces the interest of business in this area.

It is important to understand that from the business point of view, the introduction of sustainable development principles into the activities of an enterprise requires additional investments now, while the result of these actions is extremely delayed in time and characterized by a high degree of uncertainty. In the absence of state incentive mechanisms for enterprises, such a transition becomes practically impossible. Consequently, an important research task in this area is to study the experience of state incentives for the implementation of various practices in forest enterprises, as well as to identify the most promising measures that are relevant in the current conditions of development of the Russian forest complex.

In the author's opinion, the presented problems can characterize not only the forestry sector, but also many other sectors of the country's economy. In general, the key difficulty is the lack of business interest in the implementation of sustainable development principles. At the same time, the effects for enterprises described in Table 1 are not realized due to outdated management principles applied in the forest industry. The situation is aggravated by additional restrictions that the industry has faced in recent years, first of all, the ban on the export of timber products to European countries, where there are traditionally high requirements in terms of product certification and responsibility of businesses supplying products. Thus, the companies that used to export forest products and had to take measures to comply with European norms have reduced their activity in this area or abandoned a number of programs altogether. The replaced Asian and other markets are less demanding, and the domestic consumer is practically indifferent to compliance with a set of production conditions by suppliers. In general, this could lead to a negative outlook towards the implementation of the concept of sustainable development. However, government policy compensates for some negative trends. The environmental agenda is reflected in a number of existing legislative acts, and the general course adopted is aimed at increasing attention to these issues. This necessitates the development of separate programs for the development of forest industry enterprises that meet modern requirements. One of the most important elements of such programs should be the principles and rules of improvement of forest business activities.

In addition to the general principles of production organization and management of organizations that are transitioning to the principles of sustainable development in their activities, there should be used specific principles that are characteristic of forest industry enterprises and take into account the Russian realities. At the same time, it should be noted that the general principles (e.g., integration, long-term, responsibility, etc.) are well enough studied and presented in scientific literature [11-14]. As a result of the study, the following principles were selected and developed, which should guide the forest industry enterprises in their activities in the current situation and in the long term (in addition to the traditional principles inherent in the Sustainable Development Concept):

1. Building current activities and medium-term plans of the enterprise based on a long-term strategy that takes into account the need to comply with the concept of sustainable development. In general, this principle overlaps in its essence with a number of general basic principles. However, in the context of the forest industry it is particularly important. The gaps between strategic planning and current activities are one of the key problems of forestry enterprises.

2. Sustainability in the work with human resources. Personnel should become the most important element of enterprises not in words, but in practice. The success and efficiency of the organization in all areas of activity depends on the involvement of personnel in the implementation of the Concept. The issue of training highly qualified personnel is extremely important for the forest industry, and the formation of an idea of the necessity of

transition to the principles of sustainable development should be carried out at the stage of training.

3. Decision-making on production modernization based on a comprehensive assessment that takes into account economic, environmental and social indicators. In modern realities, economic indicators play a key role. However, ecology and social sphere are becoming more and more important both in the assessment of enterprises' activities by various institutions and for internal processes [15]. This determines the need for a balanced approach to the study of business development prospects.

4. Maximizing the use of all available wood resources, with the least possible harm to the environment. The forestry sector should be oriented towards the full utilization of all available raw materials. Waste-free production is something to be strived for, but the risks involved must not be overlooked. Thus, technological modernization should be associated with a detailed assessment of possible consequences [16]. It should also be noted that currently the least involved resources in the production process are logging waste. It is important to promote the expansion of industrial activities in the forest area, complication of logistics and R&D in order to utilize this valuable raw material.

5. Systematization of information control. Enterprises need to build an effective system of monitoring the most successful practices of similar business in Russia, changes in the regulatory framework, market conditions, as well as to conduct a comprehensive assessment of the performance of their own enterprise. This will allow not only to maintain the competitiveness and efficiency of the enterprise, but also to meet the current requirements of all stakeholders.

6. Advertising and development of new markets, development of new products that meet modern requirements. The market of domestic timber products is rather underdeveloped. At the same time, the prospects and opportunities for the creation of new products are huge. This determines the need to stimulate sales of new products, as well as their development by businesses. In addition to traditional channels of distribution and promotion of advertising and products, various specialized exhibitions, presentations, conferences with the participation of representatives of timber enterprises, society and public authorities should become important.

It is important to note that the principle described above, which takes into account the maximization of resource use, including harvesting waste, does not solve the problem of forest depletion as such. Thus, the most important task in the implementation of the concept of sustainable development in Russia is reforestation, which is significantly ahead of logging. At the same time, this sphere, in the author's opinion, requires strict control and regulation by the state. Of course, the representatives of the forest industry themselves will make significant efforts in this direction and bear the associated costs. Nevertheless, it is the state authorities (both at the federal and regional levels) that should carry out control measures in this industry. It is also critical that the state incentivizes forest enterprises to adopt sustainable development principles. To this end, the tools of subsidies and grants, tax incentives and preferences, as well as a number of information and educational measures can be used, the configuration of which requires a separate study.

The proposed principles also determine the need to develop a methodology for assessing the performance of forest industry enterprises, taking into account the transition to the principles of sustainable development. Such an assessment should take into account a variety of economic and environmental indicators and reflect the actual implementation of sustainability principles in the activities of enterprises, which sets the direction for further research in this area.

As a result, the presented principles are designed to ensure stable competitive functioning of forest industry enterprises in modern conditions. There is no doubt that

sustainable development will become more and more important for society, state and business, so enterprises should also adapt to new conditions.

4 Conclusion

The key result of the research is a number of developed principles that should guide timber enterprises in the process of implementing the concept of sustainable development. The formulated provisions supplement the generally accepted approach to the rules of enterprise development taking into account such transformations.

The forest industry is a complex system characterized by the complexity of processes and many interconnections with ecological and economic systems of different levels. This is conditioned, first of all, by the raw material used at forestry enterprises - timber. Undoubtedly, this segment of the economy cannot be evaluated solely by economic indicators. Taking into account the global trend of increasing attention to sustainable development, environmental issues, social responsibility and many other related issues, the domestic timber industry must also be transformed.

Certain qualitative changes are already taking place; however, they mostly concern large corporations and enterprises. Small and medium-sized businesses are currently poorly involved in this issue. At the same time, its role is rather great and cannot be ignored in the development of the industry.

It should also be understood that possible changes cannot lead to immediate results. Transformation of the industry will take quite a long time, and qualitative changes in the environment and society will take even longer. At the same time, the outlined transformations are necessary for all parties involved.

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