

## ЛЕСНОЙ КОМПЛЕКС: ПРОГНОЗЫ И СТРАТЕГИИ

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Анализируется информационная основа разработанных прогнозов и стратегий развития лесного комплекса с точки зрения учета территориальной дифференциации сырьевой обеспеченности и наличия инфраструктуры. Сопоставляется структура заготавливаемого лесосырья с объемно-качественными характеристиками сортиментов, необходимых для производства прогнозируемых видов конечной лесопродукции. Утверждается, что объем мелкотоварной древесины и отходов, образующихся при сплошных рубках, а также при производстве пиломатериалов и фанеры, не могут быть полностью утилизируемы при производстве плит и пеллет, а для восточных регионов (при отмене льгот на транспортировку в европейские страны) их переработка нерентабельна. Дана оценка прогноза в внутреннего рынка на основные виды лесопродукции, полученная по расчетам на основе народнохозяйственной межрегиональной модели, в сравнении с заложенными гипотезами в Стратегиях развития лесного комплекса. Проанализированы основные причины невыполнения задач, поставленных при разработке Стратегий, связанных с изменениями институциональных и экономических условий функционирования лесного комплекса. Отмечаются завышенные ожидания в деревянном домостроении.

**Ключевые слова:** лесной комплекс, прогнозы развития, информационная основа стратегий.

## TIMBER SECTOR: FORECASTS AND STRATEGIES

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The authors analyze the information base of the elaborated forecasts and strategies for the timber complex development from the viewpoint of the territorial differentiation in resources and infrastructure availability. The structure of the harvested timber is aligned with the volume and quality characteristics of the wood assortments needed for production of the forecasted types of the final forest product. It is confirmed that the volume of the small-scale wood substance and waste products formed under clean cutting and also under production of board lumber and plywood, cannot be completely utilized within the production of slab materials and pellets. And in the eastern regions when the benefits for transportation to the European countries are cancelled it is unprofitable to process them.

The article also gives estimation of the inner market forecast for the main types of forest products which has been attained with the calculations on the base of the inter-regional model, in comparison with the hypothesis built-in the Strategies of the timber complex development. The analysis is given for the main reasons of not fulfilling the tasks which have been put forward under developing the Strategies connected with the changes of the institutional and economic conditions of the timber complex functioning. Also, inflated expectations for the wooden house constructions are noted in the article.

**Key words:** timber complex, forecasts for development, information base of the strategies.

### *Introduction*

The model of forming forecast for developing certain sectors is used under elaborating strategic documents and represents methods of accounting conditions and management decisions which were partly taken from the soviet system of planning the development of the national economy. At the same time, the majority of enterprises in timber industry and in forestry are represented by private businesses, and therefore the administrative regulating influence onto the results of implementing the Strategic goals is limited for them, being possible only in the field of state demand and state investments [1]. Individual strategies and plans for developing enterprises are formed by them independently. Hence it appears that the state has not enough tools for direct control: limited preferences and benefits cannot determine in full scale trajectories for developing private economic agents. At the same time, the state sector of the timber complex is systematically not sufficiently financed, and therefore the reserves for financial and labor resources for efficient state regulation practically do not exist.

In this paper we look into several documents where factors and forecasts for the development of the timber complex in Russia are considered in middle-term and long-term perspective:

- Strategy for Timber Complex Development in the Russian Federation until 2020 [2] – Strategy-2020;

- Strategy for Timber Complex Development in the Russian Federation until 2030 [3] – Strategy-2030;

- National Project “Ecology” within the May [2018] Russian Federation Presidential Decree [4];

- The Forecast for Development of the Forest Sector of the Russian Federation until 2030 [5].

Also the whole range of the other documents often coinciding with the above mentioned, on the strategic goals and forecasts, are discussed.

It is worthwhile to note that under changing conditions of its activity economically efficient functioning of an economic object needs predictable and sustainable institutional environment [6]. Herewith, due to the absence of clear images about what is really standing on the way of full-rate development of the forest sector [7], there happens permanent correction of the already adopted legislative acts. Many experts connect the negative phenomena in the sector with the implementation of the Forest Code of the Russian Federation in 2006 which has been many times corrected during the whole considered period. It is wrongful to create unified institutional framework for enterprises of the forest sector which are situated in the different natural-climatic conditions. This can lead to unpredictable consequences.

By 2015 it has become obvious that the realization of the Strategy -2020 [9] is actually messed up and there has been made a decision about forming a plan for a more distant perspective – Strategy-2030.

However, it should be mentioned that there have been some positive results of implementing the previous strategy connected with the adopted institutional decisions. Strategy-2020 had its master card in the form of a mechanism of priority investment projects in the field of mastering the forests, i.e. getting raw materials without auction and serious benefits on rental payment. Many investment projects have been implemented in 2007-2015, and then their number has sharply decreased. Vacant timber lots are already taken down, and it is not possible to master virgin territories. The experience of mastering the forests on the base of priority investment projects has shown that the state had created incentives for business for mastering forests without insurance arrangements from the state for efficient use of the timber resources. Exactly this circumstance has become the main reason for adopting a new RF Government Decree [#190 of 23.02.2018], which says that a volume of capital investments should be not less than 500 million rubles [and not 300 million rubles as it was before], and the criteria in relation to forming production capacities are changed in comparison to the previous ones [8].

It is necessary to note that the May Decree of 2018 as distinct from many other initiatives of executive powers has been formed quite tough in a sense of enforcing public servants of all levels, and this allows to hope for accomplishing many of the given goals.

Below we consider the main factors and problems for the main types of economic activities in the timber complex, which by our opinion determine a success in realization of the Strategies and validity of the forecasts.

### *Forestry*

We consider only two functions of this sector: forest reproduction and forestry management.

Due to Federal Forestry Agency, in 2017 forest reproduction has been fulfilled on the area of 968 thousands of hectares, including 772 thousands hectares at the ex-

pense of tenants (lease holders). That said, artificial and combined forest reproduction has been realized on the area of 195 thousand hectares[9]. On current legislation forest reproduction should take place in the forests where cutting has been conducted and officially accounted loss of forestry has happened. This can be creation of forest cultures (artificial crops) or promotion of natural forest reproduction. The last is not much different from natural regrowth: this is, in the pure form, abandonment of felled forest area for the whim of fate. The problem refers to the fact that success of forest reproduction only to one tenth depends upon planting, seeding or promotion of natural after-regeneration, and nine tenth depend on competent and well-timed succeeding care. In order to have economically valuable forests in the future, by official data it is necessary to conduct improvement cutting on the territories subject to forest reproduction at the area of 1,7 million hectares per year. And if to take into account “the debts” of the previous years which have appeared as result of official forest reproduction in the 90-s, then the square of improvement cutting should be two-three million hectares per year. According to the data of the Unified Interdepartmental Statistical Information System, in 2016 the square of improvement cutting was 260 thousand hectares, and this is massively smaller than needed. And even those cuttings which get caught up in official statistics are either conducted with clear violations of technologies or they can be referred to “cutting for profit” since marketable forest crops of decent quality is often cut. These problems and volumes of necessary financing are not distinctly considered in the analyzed documents.

One of the problems in regards to evaluating the possibilities of using the forest resources refers to the absence of information about their operative conditions. Before introduction of the Forest Code of the Russian Federation, Federal Forestry Agency (Rosleskhoz) had quite complete information about total forestry fund (may be, not actualized). Now the Agency has at its access only about 15 % of data about quantitative and qualitative characteristics of forests. The main reason refers to the system of redistribution of power between federal center and regions, which has been realized incorrectly from the beginning. Today the regions getting subventions for forest engineering practically do not spend money. The Government has charged to prepare propositions on the content of a new Forest Code of the Russian Federation by May 20 (of 2019). One of the propositions is a draft law about federalization of powers on forest engineering which has been prepared back to November 2018 but has not been considered up to now [10].

In fact, formulation of the Strategy 2030 is based on the outdated information about the forest resources of the country, average time limitation of forest organization in the country is more than ten years. Strategy-2030 is based on the data about forests from the forest plans of the territorial subjects of the Russian Federation adopted in 2008. Since 2018 there goes a renewal of forest plans, including actualization of information about the forestry fund. But there is one more indicator determining an acceptable volume of wood cutting at a certain territory, i.e. annual allowable calculated cut. This indicator is calculated for each forest district and, separately, for needle-leaved forests and leaf bearing forests. However, the algorithm of calculating this indicator borrowed from the practice of foreign forest use does not fit for Russia.

This approach presumes restoration of valuable species of forest in a full volume, and cut timber is used-up in full. Therefore, orientation onto such calculated cutting placed in the elaborated strategic documents is obviously incorrect.

### ***Logging Industry and Timber Manufacturing Industry***

In recent times the logging industry has bear the biggest changes. Due to the growth of operating expenditures bare cost of timber harvesting became almost equal to the average European level. Adopted constraints for exporting round wood have limited the possibilities for foreign economic activity. The volumes of economically accessible qualitative forests have sufficiently decreased due to the extensive mastering of forests oriented on using the existing infrastructure. An access to unexploited forest needs heavy expanses for a forest infrastructure, especially for constructing roads of year-round use. This is possible only for large holding companies having enough financial resources. As a consequence, proportion of small and medium size business in timber industry will be decreasing in the nearest perspective. To a big extent, unequal possibilities of financing the activities encouraged conducting illegal cutting which quite often represented means of surviving for mono-sector forest settlements. It is necessary to arrange new forest raw material bases accessible for small and medium size enterprises. The experts propose: “In order to make the existing forests in Russia economically accessible, the government should invest in constructing of roads and infrastructure, under conditions of state-private partnership” [11, p.24].

Modern industrial sawmilling is oriented for export since in the country there are no consumers ready to work on long-term contracts and to buy sawn wood products in merchant quantities. Besides, small and large saw mills produce different outputs. Not large enterprises consider sawn wood as products of fixed size and quality corresponding to State Standard (GOST) 18288-87. Large enterprises working at the European and Asian markets take into account additional demands from consumers and consider sawn wood as products of fixed size and quality. These products can be used in construction activities without additional processing but the cost is higher, and this is what domestic consumers are not ready for.

In order to upgrade the efficiency of processing the round timber, it is necessary to increase volume and quality of the sawn wood products. It is not possible to provide getting maximum of possible output of sawn wood because in many (and especially in small) enterprises they use outdated technologies, under decrease of qualitative characteristics of the raw products. These facts, and also the absence of consumers for industrial chips (processed waste products of sawmilling) negatively influence the bare cost of the products [12].

One of the directions for using waste products of sawmilling and raw wood of low quality refers to production of bio-fuels (pellets, blocks) which by many indicators are better than coal. However, due to “massive gasification” they are noncompetitive at the inner market. At the same time, abroad [13] new enterprises are created for joint production of sawn wood and pellets which are assigned for generating warmth and energy. In the countries of the European Union growing prices for oil-fuel have

led to increase of number of pellet boilers in households. The Canadian specialists [14] consider processing of the low-quality raw wood for pellets as a mean of increasing complexity, all-round utilization of raw woods, which allows to stop short of transporting chipped wood. The analyses of wood granulates (pellets) market on the base of the structural model conducted in the work [15] has shown that European demand for wood granulates is growing faster and is more sustainable than offer. The evaluation of prices elasticity on importing wood granulates is given within the research of needs in import of wood granulates for the EU, with the use of the model “Almost Ideal Demand System (AIDS)” [16], on the base of monthly data for the period of seven years, 2009-2015. The first Russian enterprise has been constructed only in 2003, but in the following decade our country has become an important exporter of pellets [17] in the global market. It is necessary to note that an efficient production of pellets in the eastern regions of the country is possible only with the current allowances for their transportation.

*House-Building Industry.* The experts participating in the preparation of the Strategy-2030 figured it out that the development of the wood house-building will allow putting in place the sufficient reserves of the inner demand for wood [18]. During the recent years growth rates of construction wooden houses with few floors were sufficiently lower than general growth rates in housing construction. In Russia of 2016 the portion of the wooden house-building is 10% of the total volume of house-building, and during the recent years one can witness a trend of its decreasing.

According to the forecasts, by 2030 preserving of high rates in putting into operation new buildings (4,8 % per year) is expected in Russia, and under due support from the state this can lead to a comparable growth in the segment of wooden house-building [19]. The key problem of wooden house-building in Russia refers to a low purchasing power of population. Industrial wooden house-building assumes technologies of fast house-building (three-four months) and, accordingly, payment is supposed in two-three months. It will be possible to expect the growth of demand for comfortable, fast constructed buildings, only with subsidizing the crediting when lending rate is less than 9%.

*Innovations.* Broad implementation of innovations is considered as a priority direction for increasing the efficiency of timber complex economic activity. There exist several main types of innovations [20]. For example progress in methods of distance testing has sufficiently improved obtaining up-to-date information about changes in the resource base. Innovations in the produced goods allowed using wood-based materials in production of electronics, medicine remedies, components of automobiles, etc. Composites on the base of woody tissue, wood-polymer composites, nanocellulose, bio-distracted packing may be write down to the innovative products.

The experience of countries actively implementing innovations in timber complex shows the need of active involvement of state in the processes of encouraging innovation activity. Under Russian conditions, it is not possible to get along without visible state support. On the other hand, excessive orientation on the state support can give a strong discouraging influence on the innovative activity of organizations. In the monograph “The Innovation Paradox: Developing-Country Capabilities and the Unrealized Promise

of Technological Catch-UP” [21] the authors consider in details various pitfalls of institutional support for implementing innovations in different countries. It is shown that the witnessed low level of technological acceptance of innovations refers to the fact that economic actors seriously lack clear understanding about connection of innovations with the profits increase due to investments in innovations.

### ***Conclusion***

Reliable information on quantity and quality of forest resources is absent. Financing of work on forest engineering has been decreased to minimum. Low level of forest engineering is explained by decrease (in seven times) of the number of employed in this sphere. Meanwhile, distant methods which are under learning now do not allow substituting traditional technologies.

Underdevelopment of infrastructure, especially in regards to forest roads is one of the reasons of inefficient use of forest resources. Woodmen are ready to participate in creation of the transport infrastructure, but procedure of attracting state-private investments in this sphere is not determined.

The majority of the implemented priority investments projects in the field of forest mastering have been oriented onto the production of sawn wood. Such orientation on accelerated payoff of investments has determined a shortage of saw timber. The problem of utilizing the sawmilling waste is also an important factor which influences the efficiency of using round wood. Production of pellets and blocks from the low quality raw materials and wastes in the eastern regions of the country can be paid back only under the allowances for their transportation as export to the EU countries, due to the absence of inner demand. The absence of the other production in the needed volume, oriented for using these types of raw materials, leads to the loss of potential forest resources.

Industrial wood house-building can be efficient under subsidizing credits for population and creation the needed infrastructure. Only in this case we can expect the growth of demand for the comfortable dwelling-houses. Otherwise, the demand for wooden house-building will be limited by the need in office space constructed by the state funds.

Broad implementation of innovations is considered as a priority direction of efficient use of forest resources. It means the use of new technologies in forestry and in wood processing industry, as well as production of innovative products on the base of using wood fiber. In Russian conditions sufficient state support in the form of different allowances and preferences often render discouraging influence on innovative activity of organizations.

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