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## Gentili Signore ed Egregi Signori,

Buon giorno da parte della redazione della rivista principale russa settoriale del Complesso Industriale del Legno – **LesPromInform**. Sono ormai 4 anni che la nostra rivista partecipa attivamente all'informatizzazione del mercato del Complesso Industriale del Legno della Federazione Russa ed essendo un massmedia assolutamente indipendente e di alta qualità ha acquistato il prestigio ed ha attirato una grande attenzione dei dirigenti e degli specialisti aziendali nonché dei rappresentanti delle autorità della Federazione Russa. Durante gli anni dell'attività fruttuosa la redazione ha acquisito un numero notevole delle fonti d'informazione competenti in tutte le regioni della Russia, nonché un gran numero dei contatti con società estere ed associazioni pronte a collaborare con il Complesso Industriale del Legno della Russia. Stavamo ricevendo periodicamente delle richieste relative alle ricerche analitiche da parte dei nostri partner stranieri ed abbiamo visto il loro desiderio di essere al corrente delle tendenze principali dello sviluppo del settore. In quanto la rivista **LesPromInform** è indirizzata principalmente al mercato interno e ai paesi del CSI essa esce solo in lingua russa. Di conseguenza per poter dare ai nostri partner stranieri la possibilità di sapere di più sul Complesso Industriale del Legno della Russia, nonché di avere un'idea di quanto scriviamo nella nostra rivista russa, abbiamo deciso di pubblicare un allegato annuale – una raccolta degli articoli appositamente stesi relativi al Complesso Industriale del Legno in lingua inglese.

Dunque, adesso tenete in mano la raccolta **RUSSIAN FORESTRY REVIEW** – un'edizione unica. la quale, speriamo, ci permetta di presentare alla Vostra attenzione nel modo più completo e nel contempo obiettivo il Complesso Industriale del Legno della Federazione Russa.

Nonostante tutte le difficoltà attuali, il Complesso Industriale del Legno della Federazione Russa è un mercato serio e promettente che non può non interessarVi. Speriamo che la nostra raccolta Vi aiuti a trovare delle risposte di Vostro interesse e che diventiate nostri lettori assidui.

E se siete pronti ad un'attività dinamica nella Federazione Russa, la nostra rivista russa **LesPromInform** ed il giornale da fiera **LesPromFORUM** sono sempre alla Vostra disposizione.

Abbiamo realmente tutte le possibilità di far arrivare delle informazioni sui Vostri prodotti e servizi alla maggior parte delle imprese del Complesso Industriale del Legno della Russia – a partire dall'ammasso del legname fino alla produzione dei mobili e alla costruzione delle case in legno!



## Dear ladies and gentlemen,

We welcome you on behalf of the editorial board of the leading professional publication in the Russian timber industry – **LesPromInform** magazine. For the last 4 years our magazine has been actively involved in the informatisation of the timber market in the Russian Federation, and being an absolutely independent media providing high quality information, it has gained the respect and attention of company managers and experts, as well as representatives of state authorities of the RF. Over the course of several years, the editorial board has secured a large number of reliable information sources in all the Russian regions, as well as many contacts in foreign companies and associations that are eager to cooperate with the Russian timber industry. We regularly receive queries for further research from our foreign partners and witness their desire to have up-to-date information about the main development trends in the industry. Since **LesPromInform** magazine is aimed mainly at the domestic market and the states of the CIS, it is published only in Russian. Therefore, in order to provide our partners abroad with an opportunity to learn more about the Russian timber industry and to give them an idea about the content of our Russian edition, we have decided to publish an annual English supplement with specially prepared articles about the timber industry.

This volume of the **RUSSIAN FORESTRY REVIEW** is a unique publication and we hope that it will give you a complete and objective account of the timber industry of the Russian Federation.

Until about five years ago, this industry was rather closed and obscure, even frightening for an outsider, because of the high level of criminal activities, mainly illegal felling. This situation resulted in a specific image of the Russian timber business both in Russia and abroad. Publications in major foreign periodicals that focused mainly on the negative developments in the industry only supported existing apprehensions.

However, Russia is changing. The economy is becoming more civilized and at various

paces and to various extents so are all of its industries, including the timber industry. We believe that these positive developments were noted and appreciated and in some ways led the member countries of the WTO to begin negotiations about the possibility for the Russian Federation to join this organization. The ascension to the WTO, which according to politicians is likely to happen in late 2006 – early 2007, will open our borders and gradually ensure equal rights and opportunities for foreign and domestic companies in all market sectors, including investment and banking, mechanical engineering, power generation, the production of industrial and consumer goods, etc. This means that within the next 10 years, Russian producers will not only gain access to the foreign markets, but will also no longer be protected by such measures as artificially low prices for gas and petrol, high import duties for competitors' products, etc.

There have been many discussions about the consequences of Russia's ascension to the WTO, but one thing is already clear: it is necessary to ensure the rapid development of business areas that have apparent competitive advantages in the global market. One of these potentially competitive areas is the Russian timber industry. However, historically, and until now, despite its large potential, the timber industry remains one of the least developed areas of the economy. With almost unlimited resources of oil and gas, few people in Russia considered it necessary to develop wood processing. As a result, the main export commodity of the national timber industry is unprocessed round timber and the share of timber production with high level processing in the total export volume is growing too slowly.

Nevertheless, some changes have taken place or are in progress, and they will pave the way for the rapid development of the Russian timber business and the attraction of large investments into the industry. We are talking mainly about the development of a new Forestry Code, which will radically change the 'rules of the game' in the timber industry and is expected to substantially reduce the risks of



## Sehr geehrte Damen und Herren!

Die Redaktion der führenden russischen Fachausgabe über Forst- und Holzwirtschaft – die Zeitschrift **LesPromInform** begrüsst Sie. Unsere Zeitschrift nimmt schon 4 Jahre die aktive Teil an der Informatisierung der Holzwirtschaft Russischer Föderation. Als unabhängige und qualitative Massenmedium hat die Zeitschrift die Autorität und Aufmerksamkeit sowohl der Geschäftsführer und Spezialisten, als auch der Behördenvertreter Russischer Föderation verdient. Während der Jahre der erfolgreichen Arbeit hat die Redaktion viele kompetenten Informationsquellen in allen Regionen Russlands gefunden und es gibt auch viele Kontakte mit den ausländischen Gesellschaften und Assoziationen, die mit der russischen Holzwirtschaft zusammenarbeiten wollen. Wir bekommen regelmäßig die Anfragen auf die Forschungen von unseren ausländischen Partnern und sehen ihren Wunsch, alles über die Haupttendenzen der Zweigentwicklung zu wissen. Da die Zeitschrift **LesPromInform** hauptsächlich auf den Binnenmarkt und die Länder GuS berechnet ist, wird sie nur auf Russisch ausgegeben. Um unseren ausländischen Partnern die Möglichkeit zu gewähren, mehr über Forst- und Holzwirtschaft Russlands zu erfahren, und auch die Vorstellung zu bekommen, worüber wir in unserer russischen Zeitschrift schreiben, haben wir entschieden, die jährliche Anlage – die Sammlung der speziell vorbereiteten Artikel über Holzwirtschaft **auf Englisch** auszugeben.

Also, halten Sie in Hände die Sammlung **RUSSIAN FORESTRY REVIEW** – einzigartige Ausgabe, die uns maximal voll und objektiv, Ihrer Aufmerksamkeit die Forst- und Holzwirtschaft Russischer Föderation vorzustellen ermöglichen wird.

Trotz aller Schwierigkeiten des heutigen Tages, ist russische Holzwirtschaft ein ernster und perspektivischer Markt, der für Sie interessant sein soll. Wir hoffen, dass unsere Sammlung Ihnen helfen wird, die Antworten auf die interessante Fragen zu finden, und Sie unsere ständiger Leser werden.

Wenn Sie zur aktiven Arbeit in Russischer Föderation fertig sind, sind unsere russischsprachige Zeitschrift **LesPromInform** und die Ausstellungszeitung **LesPromFORUM** immer zu Ihren Diensten. Wir haben alle Möglichkeiten, die Information über Ihre Produktion und Dienstleistungen bis zu der Mehrheit der Unternehmen russischen Holzwirtschaft – von der Holzbeschaffung bis zu der Möbelherstellung und des Holzhausbaus zu berichten!



timber enterprises in relation to the stability of raw materials supply. Also, the decisions of the Government of the Russian Federation concerning the limitation of the export of round timber, the modernization of existing enterprises and the construction of new facilities for high-level wood processing will also be very important. These affect the interests of many enterprises both in Russia and abroad and they will need to adapt to the new situation in order to benefit. The most progressive companies – and there are quite a few of them – are already following the changes with attention and interest, developing strategic plans and making corresponding decisions regarding marketing, investments and production. They are the target audience for our first pilot issue of the **RUSSIAN FORESTRY REVIEW**, which will be published annually.

There is no need to give a detailed description of the content of this volume: you can browse through its pages yourself and choose the articles that are most relevant to you. We would only like to note that we are not trying to offer you a detailed analytical report on the Russian timber industry, because such reports already exist. Our goal is to introduce you to the situation in the industry and to the opinions of the experts who work in the industry and know all of its advantages and disadvantages, which are often hidden from outsiders.

We would also like to thank those who have made significant contributions toward the publication of the **RUSSIAN FORESTRY REVIEW**:

- Ministry of Natural Resources of the Russian Federation
- Federal Forestry Agency
- The Committee of the State Duma of the RF for Natural Resources and Environmental

Management

- Confederation of Associations and Unions of Timber, Pulp and Paper, Wood Processing and Furniture Industry
- Union of Harvesters and Timber Exporters of Russia
- The Russian Association of Organisations and Enterprises of the Pulp and Paper Industry
- Association for Wooden Houses Construction
- Ilim Pulp Enterprise
- Arkhangelsk Pulp and Paper Mill

... and also personally:

- Dmitry Chujko, Development Director of the forest industry corporation, Ilim Pulp Enterprise
- Andrey Gosudarev, chair of the Union of Harvesters of the Leningrad region.
- Natalya Pinyagina, deputy general manager for strategic development, Arkhangelsk Pulp and Paper Mill

Despite all of the current challenges, the timber industry of the Russian Federation is a serious and promising market that will definitely interest you. We hope that our volume will help you find the answers to your questions, and that you will become a regular reader.

If you are ready to start doing business in the RF, you can always use our Russian edition of **LesPromInform** journal and the exhibition newspaper **LesPromFORUM**. We have all the means to deliver information about your productions and services to most enterprises of the Russian timber industry, from harvesting to furniture manufacturing and wooden house construction!

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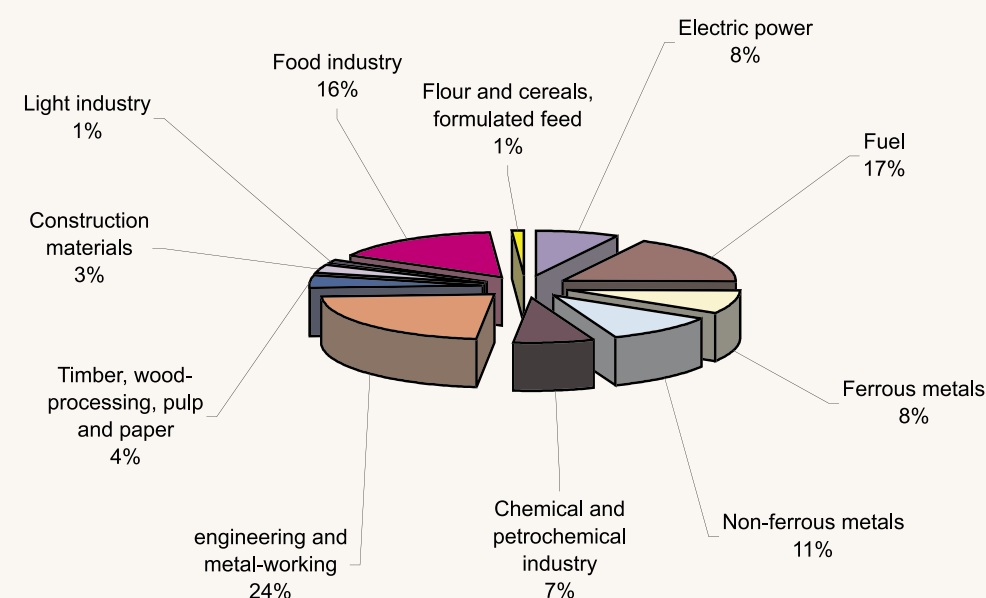
# THE RUSSIAN TIMBER INDUSTRY: PAST, PRESENT AND FUTURE

Russia has long been the supplier of raw materials for more developed countries. There is also no doubt that the Russian timber industry could hold a more significant position both in the national and international economies. However, many people both abroad and in Russia fail to see the real situation. Some believe that the Russian timber industry is a gold mine and will eventually pay dearly for their ill-considered actions. There are also opposing circumstances where neither timber nor wood-processing industries are included into investment rankings. These and many other factors can confuse investors, even those already working in the timber business.

According to various experts, the Russian Federation possesses about one fourth of the world's forest resources. The total area of forests

in the Russian Federation is 1173.4 million ha, and the reserves of standing wood exceed 82 billion cubic meters. The annual increase of wood in Russian forests is 932.2 million cubic meters with an allowable cut of 520 million cubic meters, of which only 22% are currently used. Thus, the potential of the national timber industry is no less than that of the oil, iron and steel industries.

Furthermore, the Russian timber industry has all the prerequisites to become one of the main industries in the national economy, which could provide for its dynamic growth and development. According to some experts, the economic potential of the industry can be estimated at more than 100 billion US dollars. This figure may first seem unreal, but it appears plausible when we consider the data. For example, the average



**Fig. 1. The distribution of Russian production among the main industries in 2004**

Source: The Federal Service of State Statistics.

added value for one cubic meter of production in the Russian timber industry is 45 US dollars, which is 10 times less than in Finland (USD 480). Or consider the index of timber use for a production requiring high-level processing: in Russia it is around 20%, while in countries with advanced timber and paper industries this figure can reach 85%. If the Russian timber industry succeeds in bringing these and other performance indicators to the world level, it might be able to reach the economic potential stated above.

This article looks at the current situation in the Russian timber industry: its potential and capabilities, problems and solutions. We also hope that the reader will come to his or her own conclusions about whether the Russian timber and wood processing industry can be considered a promising direction for future growth?

## THE STATE OF THE RUSSIAN TIMBER INDUSTRY

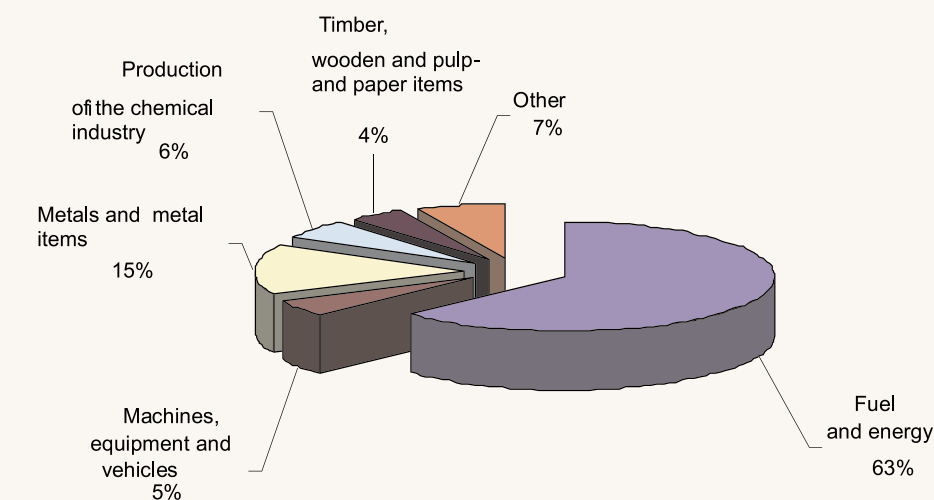
Currently, the Russian timber industry is undergoing a deep crisis and it is no longer a secret that this information also appears in various publications abroad. According to the Federal Service of State Statistics, timber, wood processing and pulp-and-paper production account for a bit more than 4% of the total production volume. This figure has been decreasing each year.

In comparison to the countries with developed timber industries, this figure is relatively low. This is related not only to the low level of business activity in the timber industry, but also to the predominance of production with low-level processing, which has a lower added value.

The share of the timber industry in the Russian export is even lower – only 4%.

One of the reasons for this situation is the traditional attitude toward forest exploitation as well as to the management of timber and wood-processing enterprises.

For many decades the timber industry was based on the principles of a planned economy and profitability was not the main goal of the organization. Back then, the Northern forests were the “national sawmill,” because they were best suited for the quick harvesting and export of timber and the felling sites were located as such that they would ensure the best quality of timber. Lack of communication routes led to expansion of the cutting areas along the railroads and major rivers. An increase in the planned amounts of harvested wood resulted in over-felling and the transition to periodic cutting. Many logging enterprises were created for the cutting of specific sales for several years, while reforestation was often neglected and no attempts were made to ensure proper forest management. Therefore, for natural



**Fig. 2. The structure of Russian exports in 2005.**

Source: The Ministry of Economics, Development and Trade of the RF



biological reasons in many areas of harvesting the softwoods were replaced with aspen and birch woods.

Also, not all regions have many forest, transportation and production infrastructures. Recent research has shown that less than 60% of total forest areas are suitable for further exploitation considering their accessibility and the technologies used in the industry, but most of them have been depleted as a result of extensive exploitation during the last century. Furthermore, more than half of all Russian forests stand on deep-frozen soils (Siberia and the Far East). This leads to low productivity in these areas. Incomplete broken forests cover 224 million ha. The probability of attracting timber companies to these areas is very low, even if a transport infrastructure existed. Economically efficient forest resources cover only 250 million ha.

The restructuring of the industry and liberalization of foreign trade in the early 1990s resulted in a rapid growth of the number of timber enterprises by a factor of 5. Currently, there are about 25 thousand enterprises operating in the industry, which employ more than 1 million people. The lack of management theory and practice, low levels of business organization and competence for solving economic and financial problems in new independent enterprises constitute another important reason for the recession in timber. One of the solutions are large vertically integrated structures that can coordinate business in an efficient way, and are mainly suggested by the companies who have already started creating such structures.

The situation of the main timber industries – logging, pulp-and-paper and wood processing – can be briefly represented in the following way. The logging industry presents the most problems. Most of the enterprises in this industry currently break even or suffer losses. The decline in production for 2005 reached about 6%. The planned increase in export duties for round timber will probably make the situation worse, because it will close the main distribution channel. With an annual felling volume of 130 million cubic meters, only 80 million cubic meters are sold at the domestic market, while the rest is exported. As a result, the Russian export of forest products mainly consists of unprocessed woods.

As for pulp and paper production, its development has also slowed down due to the depletion of capacity reserves for pulp production. In 2005, the index of production was 101.2% of the previous year's volume.

In 2005, for the first time, the wood-processing industry achieved the greatest growth rate in the timber industry. The production index in 2005 was 104.5%. According to experts, this growth is related to the increase in production with a higher level of wood processing.

Of course, one cannot blame predecessors for all the current problems. The best way forward would be to identify the exact problem and to achieve a clear understanding of possible solutions. Today, this is done from two points of view – public opinion (the opinion of those who are directly involved in the operation of the timber industry) and the opinion of government officials. It must be noted that every year

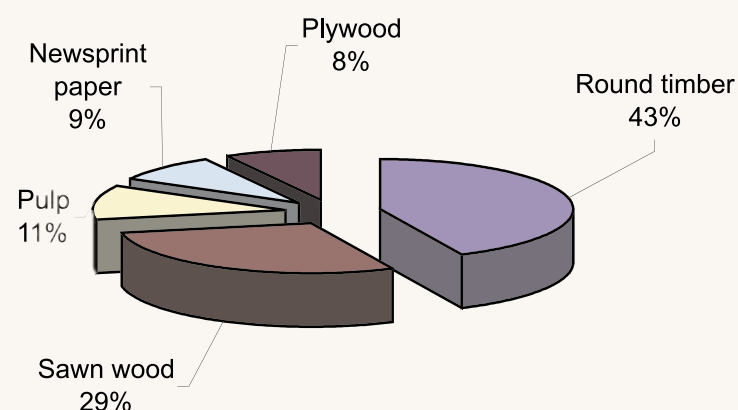


Fig. 3. The structure of the Russian export of forest products in 2005.

more and more areas of common interest are appearing.

There are also definite advancements in the restoration and development of the industry. Along with the ongoing consolidation of Russian enterprises of the industry, the influence of the largest international companies in the Russian timber industry have also increased recently. They have to face such challenges as cost reduction and the further consolidation of capacities in regions with relatively low expense levels. Russia is very suitable for these purposes, because the energy prices are still below the global level, the personnel are cheap and qualified and the timber industry is fragmented. Some Western companies (such as: International Paper, Mondi Business Paper, Stora Enso, UPM Kummene, Kronospan, Metsaliitto, IKEA and others) already control several large paper-and-pulp factories as well as logging and wood-processing enterprises. Their investments into new enterprises and the upgrading of existing ones are estimated at tens of millions, even billions of US dollars. On the basis of this estimate it can be concluded that the industry is becoming more attractive for investors as the trends persist.

Every publication about the Russian timber industry gives a different definition of the "main problem." This is most likely because there are numerous problems, which we will examine in this article.

## PRODUCTION CAPACITIES AND TECHNOLOGIES

The duration of equipment use exceeds its standard service life by 60-80% according to various estimates. New technologies are barely used and the existing ones were implemented about 50 years ago. Furthermore, their technical and economic characteristics are 2-4 times worse than the technological processes used in the West. Today the main advantage of Russian production in the global market is its competitive price, which results from lower domestic prices for raw materials, energy and labour.

Almost all experts in the industry realized long ago that if the national timber industry relies only on this factor to maintain its competitiveness, its future does not look too

promising. Once Russia joins the WTO, the prices for energy and raw materials will unavoidably go up. As a result, basic production prices of the timber industry will reach the global level. Thus, Russian production may completely lose all of its competitive advantages and consequently be driven out of the global markets.

This does not look like the most complicated problem, but the financial situation of most enterprises does not allow for independent reorganization and technical modernization in order to increase the competitive strengths of their production. The average share of unprofitable enterprises in the industry is about 70%.

In order to improve the situation, the timber industry urgently needs large investments, but there are a number of obstacles: the existing procedure for VAT refunds for capital development projects and high rates of import duties for equipment that is not produced in Russia. As a consequence, already at the initial stages of construction, the investor spends 20-30% more, which makes these projects substantially less attractive and increases their payback period. According to various estimates, the modernization of existing production and the construction of new capacities during the following decade requires USD 1.3 to 2.4 billion investments into the industry. Although, at least a 10 times greater sum is required to "release" the economic potential of USD 100 million.

## POLITICAL ASPECTS: FORESTRY CODE, BUDGET, ETC.

Our government still has a major impact on business operations and many political factors need to be considered: New and existing laws, the activities of regulating authorities, etc. Normal business operations require a stable and comprehensible legal basis, primarily the Forestry Code.

The development of a new Forestry Code has been in progress for several years. The draft Code was approved in its first reading at the State Duma of the Russian Federation. The procedure also envisages the second reading, which includes numerous amendments, and the third reading. The second reading is provisionally scheduled for the beginning of May. So far there has been a lot of criticism of the draft,



especially from those who are directly involved in harvesting.

One of the issues that need further clarification is the procedure for forest privatisation. The draft Code makes provisions for private property of forests: the one who has more money becomes the owner. The issues of forest rental, creation and closure of timber enterprises, allocation of forests for construction works, etc., are resolved exclusively at the level of government officials, not only without consulting public opinion, but also (as it often happens in Russia) without informing the general public. This will create a number of possible conflicts: restricted access to forests, disruption of wildlife systems, total privatisation of forests in the nearest suburbs of large cities, etc. In fact, the state lays down its duties to manage, protect and preserve forests without any requirements for forest management and the corresponding systems. The future of the main constituents of the forest management system, forest farms and their units, is in question. The most urgent problems of the timber industry, namely: attraction of investments into high-level processing, reclamation of new forest resources, restoration and protection – have not been fully addressed in the Forestry Code, which mainly treats forests as a commodity.

While there is a general trend by the state to monopolize the economy, the timber industry is a different situation. Maybe this is done to attract more investments and to create “transparent” enterprises. That is, when the new expensive commodity – timber – is on the market, it will be bought by large holdings, including foreign ones. It is possible that the refusal to address many issues, leaving things to sort out by themselves (and this seems to be the political approach in the Forestry Code draft), results from a desire to ensure the free development of the industry in the market without any state interference.

It can also be noted with satisfaction that the Russian budget has been showing a surplus of more than 770 billion roubles over the past few years. Of course, this is hardly directly linked to the timber industry enterprises, but it can be expected that the greater the budget income, the greater the allocations for various projects will be, including those related to the timber industry.

One of them, which is of great importance, is

road construction. The proposed budget for 2006 for the first time allocates around 500 million roubles for the building of agricultural roads, according to Valery Roschupkin, head of the Federal agency for forest management. The investments will be performed as a partnership between private entities and the state on an equal basis, and it may be hoped that the total sum of funding including the funds from the regions and investments will reach 1.5 billion roubles per year. So far, however, for a number of reasons, including the absence of a necessary regulatory basis and the uncoordinated activities of corresponding authorities, road construction has not yet begun.

In 2006, it is planned to allocate some funds from the federal budget for the development of a physical infrastructure for the forest industry within the framework of the special program “Forest Management,” including the purchase of aircrafts and ground vehicles for the prevention and termination of forest fires and aerospace forest monitoring.

Appendix 8 to the Federal Law “On the Federal Budget for 2006,” contains the encouraging information that almost 12 billion roubles have been allocated for forest management. The increase in expenses for most budget items is greater than the estimated inflation rate (however, the rate of 8.5% will most likely remain an estimate, 10% seems more plausible). It is a bit suspicious though, that while serious reform, that is, the approval of a new Forestry code, is planned for 2006, the budget does not include the unavoidable additional expenses for the transition period. Conversely, the planned increase of investments into the timber industry is rather small: it is planned to increase them by 2007-2008 by only 10%.

As usual, the politics do not want to keep up with the “subjects.” Next year once again we will need to rely exclusively on our capacities, competence and the ability to anticipate future developments. However, now more efforts will have to be paid to controlling changes in the business environment and we will have to remain alert at all times.

### ILLEGAL FELLINGS

In most countries, illegal fellings constitute less than 1% of legal harvesting. However, in Russia, they occur on a greater scale, which incurs

substantial environmental, social and economic costs for the state and has a negative impact on the whole timber industry. According to official data, the volume of illegal felling in Russia is around 11%, while the unofficial data reveals figures of 20-30%. The turnover of imported timber of unknown origins in Europe and the US is 25% and in China and Japan 50% and 40% respectively. Obviously the “global community” disapproves of such situations and this has been particularly prominent during discussions about the possibility of Russia joining the WTO. According to various estimates, Russia annually loses around 1 billion US dollars because of illegal felling. Unfortunately, this kind of activity is sometimes called an “industry<sup>1</sup>.” Illegal felling mainly occurs because most of the logging enterprises hardly break even and thus, illegal logging is their only way to survive. It is a pity that not everybody understands this and that protectionist administrative measures rather than “encouragement - punishment” approaches are viewed as the remedy.

### FORECASTS FOR FURTHER DEVELOPMENT OF THE RUSSIAN TIMBER INDUSTRY

Forecasting the development of the market in Russia is a difficult and ambiguous task, which is rather similar to forecasting the weather. The global information and forecasts allow for concluding that the harvesting volumes as well as the share of Russia at the global market should increase by 2-3 times by 2015. This can only be achieved if Russia ensures the conditions favouring the development of integrated forest utilization and the improvement of the legal basis. We would like to identify and examine some activities of the Russian timber industry that could help to achieve these global goals and also other measures being taken by new and existing enterprises.

We already mentioned the state of the forests in the beginning of this article. One might also add, that in some regions, even where an infrastructure exists, almost 5 billion cubic meters of wood are not being used. This is soft-wooded broadleaf timber; the forests

damaged by fires and worms and also felling leftovers. In Russia, with few exceptions, there are almost no capacities for the processing of low-quality raw materials, such as aspen, therefore investments into these technologies can be both profitable and socially oriented. Many heads of regions are ready to take real measures for the organization of such enterprises and the attraction of investments.

As for business, experts forecast the further development of the consolidation trend. Only five years ago, the main goal of the state government was to restore a company management system that would allow the improvement of the situation in the industry and the development of the reorganization program for the timber industry. Of course, this recovery is not possible without creating optimal economic, technical and organizational conditions. Vertically integrated structures on the basis of large pulp and paper and wood processing enterprises were taken as the main turnaround model, which resulted in the emergence of the current Forestry Code.

Some companies have already expressed their desire to be the centre of consolidation in the industry. The companies that were most successful and have become the largest companies in the industry will be able to launch an initial public offering (IPO) during the next few years. This will most likely be possible for the enterprises that include pulp and paper factories with a serious presence at the Western markets, although there may be some surprises. Until then, the main trends (for all large enterprises or those who consider themselves as such) will be growth of the market share, company value and the added value of production.

**Strategic Alliances:** With the ongoing integration of large companies, strategic alliances will become for medium and small manufacturers another way to survive, increase their competitiveness and generally the prerequisite for their existence on the market. We should also mention that the cooperation between large and small companies, and the outsourcing of secondary activities to a greater number of

<sup>1</sup> The trade of illegally harvested wood is a multi-million dollar industry going on in over 70 countries, in all types of forests, from Brazil to Canada, from Cameroon to Indonesia, and from Peru to Russia...



more flexible and mobile subcontractors, which has already become standard in the IT industry. Apart from the direct economic advantages of cooperation, large enterprises will also receive the status of "social protector" that many of them really need.

B2B Companies, which provide various services to manufacturers, will also undergo further development. There is a whole range of various activities: road building, research and development in technologies and other areas, machines and equipment maintenance services, consulting services, etc. Reforestation and forest regulation will also be dealt with.

**Contract Manufacturing Under Foreign Trademarks.** How can this be of interest to our producers and foreign investors? Various systems of branding, marketing and promotion are more developed abroad. On the other hand, our experts are more competent in production management under local conditions. In this situation, joining efforts may be very productive. Considering the existing practice of such enterprises, with the right choice of partners, one side receives a stable flow of orders and an opportunity to try Western work methods, while the other, without any major investments, gets the production demanded at its market (some investments will be necessary though, at least during the search for a suitable partner), and also avoids the expenses for creating their own production site.

**Clusters.** Clusters are well known in the European business environment and are often used, however, in Russia they occur very rarely, especially in the timber industry. A cluster is a group of related companies united on the basis of geographical proximity that complement each other. Clusters not only provide support to their member companies, but also ensure a substantial competitive advantage to the region and a large potential for attracting both investments and employees. The latter is very important for regions outside the European part of Russia, such regions like Siberia, the Far East, and partially the Federal District of Ural, where the main forest resources are concentrated.

These structures significantly increase the profitability of their member companies, the efficiency of their work and their manageability. The reason why there are such a small number of clusters is the time required for their formation

and also the necessity for the head of the region to be directly involved in this process. The regions that are able to recognize this now, in three or four years, will be able to enjoy the benefits. Some regions have already started making small steps in this direction, while some clusters are in operation, and already in pay back.

There is no doubt that the biofuel market has great potential. People have long been considering various alternatives to oil, gas and electricity, and the countries where the energy resources are not as enormous as in Russia have long ago discovered and widely used the modern technologies of biofuel production. There are many different kinds, which for the sake of brevity can be divided into liquid and hard biofuel.

Hard biofuel is a relatively new area, at least in Russia, but it is already well known, produced and widely used: these are pressed fuel, pellets, charcoal, common firewood, etc. This kind of fuel is mainly used for the heating of premises and production facilities (for example, drying compartments). This business may be further developed by medium and small enterprises because of its low investment capacity. In order to create a profitable enterprise, one needs to invest around 200 thousand US dollars. Although, it is not impossible that enterprises producing hard fuel will emerge within larger holdings.

Liquid fuel is still at the beginning of its development but its share continuously increases. One of its disadvantages is highly capital-intensive production, which is comparable to pulp and paper factories in terms of initial investments. Therefore, this area will develop further only with support from state programs, which do not exist so far, or with investments from the largest holdings operating in the timber industry.

We have considered various possible directions for the development of the Russian timber industry, but we also need to point out the existing key trend in the industry: the creation of enterprises for high-level wood processing, especially on the basis of raw material companies, including the foreign ones, in order to increase the cost flow and profit margins. This may seem strange, especially considering the political aspects, but in this case we are

talking about the long-term plans of companies that are seriously considering it. It is well known that the construction of a plant for high-level wood processing on average takes about two years. Therefore, if the decision is made today, production can start in 2008 at the earliest, and reach its full capacity by the end of 2009.

## THE MEASURES THAT ARE BEING TAKEN

One of the goals of the Ministry of Industry and Energy for 2006 is to increase the investment appeal of the industry and to develop high-level wood processing capacities. At the same time, experts believe that the approval of the Forestry Code is more important, because without it the industry will remain unstable.

Still, the official message from the Ministry states that "...the main task of the Ministry of Industry and Energy for the beginning of this year is to develop and present to the government a draft of the Federal Special-Purpose Program (FSP) for the development of capacities for high-level wood processing and the reclamation of new sales by 2015." According to the deputy Minister of Industry and Energy, the concept of the FSP is almost ready. The program is aimed to facilitate the search for investments for the development of the industry. Corresponding projects already exist. Thus, the message from the Ministry mentions that in last November already, the Ministry presented the government with six investment projects related to the construction of new pulp and paper factories, for which the required transport, financial and energy infrastructure will also be created. Each of these projects requires investments of about 1 billion US dollars.

Also, a three year project for increasing customs duties for the export of round timber is being implemented. Today it constitutes 6% and it is planned to increase it to 10%. A "pilot project" has also been launched, which cancels the import duties for foreign equipment for 9 months, and if the results are positive, the duties may be cancelled for a longer period of time. Various tax privileges have also been discussed for the construction of new pulp and paper factories in Russia up to the time when they reach their planned capacity. The projects for special economic zones where wood

processing would be the most profitable are also being considered.

Furthermore, the possibility of compensating the enterprises for a part of their expenses for interest payments is also being considered, and changes in customs rates policies are planned. In order to increase the share of high-level processed production in Russian GDP, suggestions have been made to lower the corresponding duties.

In general, the government has recently paid a lot of attention to the restoration of the Russian timber industry, triggered by the President's speech on March 27th where he expressed his concern about the creation of "energy prerequisites," which would encourage development. Stimulating devices were also discussed at the recent meeting in Syktyvkar. "While consistently increasing the export duties for unprocessed wood, we also consider the possibility of investment contracts with those market players who will invest within the next few years toward the modernization and construction of new capacities in the timber processing industries," said Christenko, at the meeting of the extended Committee of the Ministry of Industry and Energy.

*Denis DMITRIEV*





# ON THE THRESHOLD OF GREAT CHANGES

**During the years of sluggish attempts at reforming Russia's forestry sector, everybody has already grown accustomed to the typical, with some rare exceptions, apathy of the federal authorities towards the destiny of the industry. This apathy can hardly be explained rationally, considering the immense potential of the timber industry complex, since Russia ranks second to none in the world in its quantity of forest resources – over 20% of the planet's forests are concentrated in the Russian Federation.**

**Against a background of the low efficiency of forest exploitation (according to official data, the volume of lumbering amounts to just 180,000,000 cubic meters annually, which makes up 23% of the rated felling area), woodworking, pulp-and-paper and other branches of the timber industry complex consume a little more than 80,000,000 cu. m of wood, and their share in the industrial products of the country is just 4.5%. However, the spring of this year is likely to be something special for Russia's timber industry complex – in fact, top state officials are paying attention for the first time. A number of events, including the session of Russia's Government headed by Prime Minister M.Ye. Fradkov and the speech by RF President V.V. Putin at the meeting in Syktyvkar in the framework of a familiarization visit to one of the major pulp-and-paper mills allows us to hope that they have started dealing seriously with the industry at last. Besides, a new Forestry Code is just around the corner and it is sure to radically change the situation in the forestry complex. We have decided to talk about what can be expected in the light of all the current events with one of the most active participants in the reformation of Russia's timber industry complex – Dmitry Dmitriyevich Chuiko, the Forestry and Woodworking Complexes Development Manager of the Ilim Pulp corporation.**



**– Dmitry Dmitriyevich, in your opinion, what is the reason for the close attention of the RF President and the Government to the forestry complex?**

**DC:** I think that at last they have found time for this promising and interesting industry that has very serious potential. The process of changing asset owners in the timber industry complex and market re-distribution is under way: the role of China's market is becoming extremely significant; there is a trend towards production curtailment in Scandinavian countries, first of all, in Finland; assets are gradually moving to regions with forecastable long-term competitive advantages from the perspective of cost reduction – regions with cheaper forest resources and labour forces (South America, South Africa, etc.). Now is a very important period, which is promising from the standpoint of making timely decisions in changing the situation in the industry, therefore it is not accidental that the top leadership of the country has turned its attention to these issues.

In November 2005, a session of the RF Government headed by Prime Minister Mikhail Fradkov dedicated to this question was held, and in April the President of Russia visited Syktyvkar and delivered a speech, and on 19th April a Russian-Finnish intergovernmental meeting took place in Helsinki. The All-Russian Coordination Council of the Forestry and Timber Industry Complex is resuming its work, and a meeting of the Council was held on 26th April after a long period of inactivity and made decisions on the new body of members of the entire Council, its Management Board and its plan of action.

The work on the completion of the new Forestry Code is in full swing. Since 4th April, a respective Task Force of the State Duma has held its meetings on every second day. 1,625 amendments that have been given official status were dealt with. All of them have already been considered, the majority of them declined, though some recommended for adoption. As a result, appropriate proposals will be forwarded to the State Duma Committee for Natural Resources and Nature Management. At the government meeting that was held by the President in April, Minister of Economic Development and Trade Herman Gref said that preparation of the draft code for the second reading would

soon be completed. I expect that we will finish that by the end of May.

The process of forest resources certification has accelerated drastically. Russia has joined the FLEG (Forest Law Enforcement and Governance) process, and certification is one of the efficient ways of tackling the tasks that are set in the framework of this process. Besides, the situation in the world market is being drastically changed for certified products, and the change in China's attitude towards the issue has a dramatic effect. The Olympic Games Organizing Committee in Beijing has decided, with the sanction of the Chinese Government, I suppose, to ensure absolute cleanliness during the forthcoming games and to use only certified wood for everything having to do with timber industry articles – paper, cardboard, plywood, boards and panels, construction parts, floors and ceilings, doors, windows, etc. This is fundamentally changing the situation and suppliers' attitudes towards certification. It is from Russia that an immense quantity of timber industry products are supplied to China. Respectively, there is a task of having our country's forest management certified as soon as possible. A conference dedicated to this issue was recently held in St. Petersburg and much attention was paid to ways of adequately responding to the current situation.

Our corporation sees certification as a means to achieving two goals. The first is strengthening our position in the market and the second is putting things in order inside the corporation as concerns forest exploitation and putting an end to illegal felling. Ilim Pulp has been working on implementing voluntary forest certification for two and a half years. It took a year and a half to do everything needed to get the international certificate. Even with our considerable capabilities and a very serious attitude towards forest work organization, the first certificate was obtained only in August 2005. We have to get nine certificates in order to be entitled to apply for the FSC stamp: three certificates for each region where we operate: the forest management and forest exploitation certificate, the production chain certificate and the final products manufactured certificate. We have obtained four. I expect that by the end of the year we will have nine, and we will have the right to mark our products in a certain volume



in all three regions – not one hundred per cent, of course. Availability of the certificate implies a lot of things, including: no debts in respect to taxes and wages, up-to-date labour protection conditions and individual protective gear, a certain educational level for the people working throughout the system, from a worker to the general manager, and all these things are components of voluntary forestry certification too.

**– What is being done to strengthen the position of Russia's timber industry complex in the world market?**

**DC:** During the meeting of the Government held by the President, high emphasis was placed on the imbalance between lumbering and woodworking, both chemical and mechanical. Attempts are being made to find ways of intensifying the flow of investment in processing industries. The planned increase of export duties for round wood will become an external stimulus for that. I think this is the right decision, but, as I have said many times, the problem cannot be solved bluntly and mechanically.

Increasing export duties is an efficient way of closing the channels of illegitimate and illegal wood sales. A high duty, stricter customs checks and the introduction of systems for control over the movement of forest cargoes can minimize the problem. However, what to do with excess wood? On 6th April the RF President raised this issue before the Government, drawing its attention to the need for developing woodworking in the country. Herman Gref, the Minister of Economic Development and Trade, said that there is a program of increasing export duties on a stage-by-stage basis, which provides for differentiation by types of raw materials and, obviously, by the regions from which they will be exported. It will successfully facilitate suppressing the exportation of illegally felled wood and resolving the problem of the low efficiency of forest resource exploitation, which is accounted for by the fact that the bulk of the added value is obtained outside of this country. However, this cannot be considered as a panacea. Increasing the duties alone will not improve the situation, it will aggravate it, because there will be excess wood. Supply will be higher than demand, and the price of wood will go down drastically. Processing enterprises

will gain, however, and lumberers will get on their knees, as the market price of wood will not cover their costs. The actions should be well thought-out and differentiated by types of products and regions.

It makes sense to close the channels when woodworking is not satisfactory. But if the capacities of woodworking are not adequate to the capabilities of lumbering, then we will have a very acute problem of investment development, especially taking into account that today people speak a lot about the need for expanding the available forest resources using various programs related both to production facilities upgrading and actively developing the infrastructure; the forest roads. Apropos, there are two ways of development here: the first is to fully master the sections of the forest resources that are available now, and the second is to expand the geography of economically available sections of the forest. Measures are needed to reduce lumbering costs – the introduction of up-to-date machinery and processes, development of the road system, reduction of transportation expenses, enhanced control; however, the key problem is the development of woodworking in a way that would be adequate to market requirements and raw material resources.

**– One may get the impression from what our ministers say that the Government is expecting to resolve the problem by just increasing export duties, without offering any set of extra measures for woodworking development. Do you share these doubts?**

**DC:** I am also confused by that. We've got a certain balance today. There is lumbering, and there is consumption of wood by the operating production facilities inside the country and there is the export of a part of round wood abroad. Today, in contrast to what was happening 5 or 6 years ago, I do not encounter much information that the existing facilities are underloaded because of raw material shortage. There are enterprises that work inefficiently because of their financial and economic standing, lack of investments in upgrading, in a deeper processing and in a transition to more up-to-date products that are called for by the market. From time to time the issues of raw material shortages arises, for instance at the Baikal pulp-and-paper mill, because of its geographical position, expensive

logistics, etc. Sometimes this happens here, at the Bratsk pulp-and-paper mill, too, and we exert extra special efforts to provide raw materials for production. The same happens at other enterprises, but this is not a pattern, not a constant symptom that has to be resolved by closing exports, while sending round wood here.

If we are going to develop deep woodworking in the domestic market, then we must create respective conditions for such a market to live and develop. Besides, we must encourage the consumption of wood and wood products, using, among other things, marketing methods. IN the last 50 years people have got used to thinking of wood construction as a less reliable and strong material as compared to concrete, metal, etc. However, in reality, modern technologies used in Canada, the USA and Scandinavia in mass-scale wooden house-building (and not only for residential buildings) allow people to resolve this problem efficiently.

We have prepared a 15-page analytical note for the management of Ilim Pulp, in which we suggest creating a ramified network of ten to twelve federal centres of prefabricated wooden house-building all over the Russian Federation, from Kaliningrad to Khabarovsk. There are proposals as to organizing the production of panels from low-grade wood, e.g., OSB boards, which have not been produced in this country and so far have no demand in the market for psychological reasons, though they are widely used in wooden house-building in other countries. Respectively, the issues of PR and influencing the public opinion arise. Experimental plots should be made, where such houses will be built. Of course, this means a risk and the investment of money, but people will be able to make sure that houses built using up-to-date technologies have a long service life and are reliable and comfortable. These are not the 1950s-1960s, when prefabricated panel houses became unfit for living several years after they had been built, this is up-to-date, really comfortable mass-scale residential house-building.

Our vision is that Russia's market is will be capacious. There are plans to move 18 million people to the Far East and the Siberian region, as these regions are losing their population. Problems of forestry settlements should be

resolved without investing much money in preserving them – plans of re-basing them and using the camp method of lumbering should be developed. Retired people are moving on a mass scale from the North to the South. Much is being said about providing the military with fair housing in the places where they serve. All this is creating prerequisites for a powerful upsurge of wooden house-building.

Wooden house-building has great prospects, and they are absolutely real both for the domestic market in its pure form and for the markets of former USSR countries: Kazakhstan, Uzbekistan, Belarus and possibly the Ukraine. Today this must be the key direction, as wooden house-building is second to no other branch of the timber industry complex in its full utilization of wood. High-grade wood is used for manufacturing sawn timber, structural units and plywood, low-grade wood – for panels/boards, while that of even lower quality is used for energy pellets. As a result, taking into account the capacity of our market, the forestry complex may be raised to a good level and thus one of the social needs of the population can be met.

According to our calculations, it will take at least 30 years for twelve centres of wooden house-building with a very high capacity to ensure today's demand for such housing. I.E., we are talking about three decades, not a program for two or three years, and this eliminates at once the question of long-term prospects, e.g., organizing capital-intensive panel productions. We believe that demand will be ensured for at least 30 years. I.E., for the life period of such productions, till the moment of its radical upgrading. We have performed enlarged calculations, and Ilim Pulp's management is considering them, and we hope they will be called for outside the corporation too, while the Ilim Pulp corporation, in its turn, could become a centre for developing and implementing such a program.

**– There is an impression that society's perception of the reliability of wooden houses started changing for the better. Does it correspond to the actual situation?**

**DC:** It is changing. Moreover, there are some examples of successful implementation in the field of big projects of wooden house-building.



However, they are local, done in the framework of private initiative and are not coordinated with demographic programs, schemes of moving settlements to other locations, natural and regulated migration of the population, provision of housing for the military or quick construction of fair housing in areas where emergency situations arise. There is no unified coordination of all these programs, and, as a result, there are doubts as to attaining this goal. The situation must be worked on with a systematic approach.

**– More than once there have been reports that the respective federal ministries have been developing various programs of forestry complex support and development, however, there is no open-access information about them. What kind of programs are these and to what extent have they been coordinated with the recent statements of the President?**

**DC:** In my opinion, all the existing federal programs of forestry sector development must be reviewed with a critical eye. First of all, they must be tied to the real prospects of the market. Take, for instance, the program of pulp-and-paper industry development, which provides for the construction of scores of new mills. I doubt whether the market actually requires this. How can business investments in this industry be made more expedient than in other industries where the yield is faster and higher? It is not clear what stimulating moments might direct business to certain areas, which are obviously not the most profitable. And the program implies that there will be interest, money, and the market will accept the products. Secondly, solid coordinators and contractors, implementation stages, resources, funding sources, and participants of the program on federal, regional and business levels must be established.

By the way, I am quite sceptical about the plans for building new pulp-and-paper mills, as I have never seen any analysis showing that there will be a demand for such products in the world market. I believe that the dynamics of domestic and external markets are fully covered at the moment by the upgrading of existing production facilities. The example of the Ilim Pulp corporation shows that the production volume and quality of wood and paper articles

can be substantially increased and improved through upgrading.

**– Today, Russia imports many varieties of high-quality paper. There are only several enterprises producing offset paper in this country: the Svetogorsk and Syktyvkar pulp-and-paper mills, both being divisions of big international corporations at the moment. Besides, there is the Northwestern Timber Industry Company. Obviously, these products are in high demand in Russia, and therefore it will be advisable to develop their manufacture here. Is it enough to just upgrade the existing production facilities for that purpose?**

**DC:** No, new facilities will have to be created within the operating production sites, however, this is a question of quite large and capital-intensive investments and, respectively, of stimulating such investments, as in the framework of the existing costs – expensive loans, very high rates of the natural monopolies – it is doubtful that business will be actively developing in this direction. However, the consumption structure shows that if one manages to make products competitive by price and quality, they will find demand in the domestic market. This can be seen from the structure and volume of imports.

**– Many companies, especially those from the West, often face the problem of a very complicated system of government regulation in the forestry complex of Russia. How, in your opinion, is this situation going to develop?**

**DC:** This is a very interesting question, as starting from 1st January 2007, under federal law 199, a part of the centre's powers will be delegated to entities of the Federation. An interesting thing has been revealed: powers will be delegated, but finance will not. This will divide those who strived for powers and will get them into two camps. The first – those who wanted powers, will get them and will have the finances to exercise them. The second camp will be those who wanted powers, will get them, but will have no financial capability to exercise such powers. Some of them are looking for and finding funds, and some are abandoning powers that are not supported by money. At the moment, the situation is at this stage and attempts are being made to regulate it.

One thing is clear: the structure that exists at the moment is a transitional one, as it is not efficient. For instance, in some regions, forest resources are distributed through tenders only, in some through auctions, and in some through both. The Federal Forestry Agency has carried out audits in regions and has found out that tenders and auctions have not been held in all RF entities in strict compliance with the requirements set forth by the Agency. Forest resources are often allotted and distributed according to quite different rules and criteria. A decision has been made to suspend holding tenders in a number of regions, including the Irkutsk and Leningrad Oblasts, until the rules of holding them are fully brought to conformity with the Agency's requirements. A constructive process of forest management system reform, transition to a system approach towards accounting and the formation of a resource base, as well as distribution and forestry development stimulation is under way.

The situation with legislation in the forest sector is similar. This is another element of the two-year (this and the next years) transitional

period in the development of Russia's timber industry complex. The key problem of today's base of legal texts and regulations is the National Forest Policy, the new Forestry Code and numerous subordinate legislation. I do not think it would make sense to comment on the existing legislation in great detail, as the new Forestry Code will cardinaly change the rules of the game. I am sure that it will not be impeccable for all participants of the process, however, there still is the possibility of making certain amendments successively, when experience shows that such changes are needed. I think that the Forestry Code will be adopted for 6 to 8 years – for the period of the turning point of the entire destiny, the entire position and the entire investment picture in the forestry sector of Russia, and amendments will be made from time to time during this period. Then, perhaps, a situation will arise for another radical re-writing of the Forestry Code, which will then be adopted for a longer period, as the entire economy of Russia, I hope, will be more stable and understandable for assessing development prospects.

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# TIMBER CORPORATIONS TO BECOME A WAY OUT

**In spite of Russia's huge potential, supported by a quarter of the global forest stock, its forest industry still cannot overcome a severe system crisis lasting more than a decade. What happened? We decided to ask a prominent Russian forest expert, Natalya Pinyaguina, Ph.D. in Economics, of the Department of the Economy of Forest Management and Industry at Moscow State Forest University and the Director of Strategic Development of Arkhangelsky TsBK.**



**NP:** In all developed forest countries, the object of strategic planning is the whole forest sector or a cluster of national economies, uniting all industries in a system, including forest growing and protection and timber processing. We have it the other way around in this country. The Russian government approved two major documents in November 2002: the "Concept of Forestry Development" and "Basic Trends in Forest Industry Development."

Today, after the lapse of more than three years, it is obvious that neither of the programs are implemented in full, and the severe system crisis in the industry is still persisting. As a matter of fact, practically all forest-related industries faced crises during the transition to a market economy, entailing a slump in production volume and the declined financial standing of enterprises, timber industry performance and labor efficiency. Most enterprises became low profit or profit-losing, the share of Russian timber and paper products

on the global timber market decreased, and forests rapidly deteriorated. The volume of illegal timber turnover is now impermissibly large, making the budget lose more than 1bln dollars annually, as ecologists say. To my mind, one of the main reasons for this problem is the unjustified division of the unified forest sector into two spheres – the forest and timber industry.

**What indicators can illustrate the state of affairs in the Russian forest sector? This could help us realize the scale of the crisis you are speaking about.**

**NP:** I can give you some figures. In comparison with 1990, timber harvesting in Russia decreased 2.7 times, sawn timber production – 3.5 times, paper and cardboard output – 1.5 times, and the timber house construction volume fell nearly 40 times. The annual allowable cut is 559.2mln m<sup>3</sup>, though the degree of implementation ranges within 18-23%. In 2004, the timber and paper

products output expressed in monetary value was 300bln rubles, or just 10% of the potential. The cause of such a fall-off is an extreme technical and technological backwardness observed in all spheres and industries of the forest sector. The main facilities of the enterprises were installed more than 20 years ago; since 1990 not one large timber processing enterprise has been built. The introduction of resource-saving and environmentally safe technologies is very slow, resulting in the poor competitiveness of Russian timber and paper products on the domestic and global markets.

The current system of timber export is quite imperfect; unedged timber accounts for 32.2%, so currency earnings from timber export are USD7bln (in Finland – more than USD11bln). The volume of timber and paper products import grows by 15-20% every subsequent year; in 2005, the volume of import exceeded USD3.2bln. The net profit of the timber industry was only 8bln rubles in 2004, which was a 20% decrease against the previous year. In general, harvesting and sawmilling industries are unprofitable. Loss-making enterprises account for 56% of all timber processing enterprises and 64% of logging operations.

The contribution of the Russian Federation into the global forest industry has been insignificant. In 1991, Russia accounted for nearly 10% of the total timber harvest (extraction) in the world, now, this indicator is only 3%. Our share in paper and cardboard production shrank from 3.6 to 1.2%, in sawmilling – from 15 to 4.4%.

The global timber trade shows that Russia is on top only in round timber sales – 25.6% of the cost of total export. As for other articles, we are positioned much lower: sawn timber – 5.2%, paper and cardboard – only 1.5%. What's more, Russian timber and paper products are of lower quality and poorer performance; they are produced using environmentally unsafe technologies and worn-out and obsolete equipment; consequently, they cannot withstand competition on the foreign market. Russian timber products are 30% cheaper than the global average.

The annual per capita consumption of timber and paper products differs greatly from that in developed countries. Thus, the per capita consumption of paper and cardboard in Russia is 35 kg, while in the USA – 317 kg, in Finland

– 336 kg... Per capita consumption of sawn timber in Russia is 19 times less than in Finland and 11 times less than in Canada or Sweden.

To summarize, I should say that only 20% of the resources of the Russian forest sector are used; this factor hinders the socioeconomic development of the country as a whole. Owning a quarter of the global forests, Russia holds an impermissibly low position among developed countries in terms of the advancement and competitiveness of all industries making up the national forest sector, which moved down from the top five to the second dozen of the rating.

**Many specialists believe that favorable conditions may make the forest sector one of the major sources of budget revenues, along with the fuel and energy sector. Do you agree?**

**NP:** Absolutely. The potential of the Russian forest sector is huge. Regarding forest stock, Russia is second to none among developed countries. It is only Russia and Brazil that still possess vast virgin boreal forests, which is why Russian forests are referred to as a source of biological resources for timber and paper production and the major global climate-forming factor. Our country is rich in highly valuable tree species with unique properties. For instance, the wood of our White Sea spruce is the best in the world in regard to shock resistance and durability, and is the most competitive building material in the construction industry. The same can be said about Angarian pine and Siberian larch; products made of these species may push our foreign competitors out of the market.

The Russian forest sector has a number of competitive advantages: a comparatively cheap labor force, gas, electricity, and the fastest growing timber market. The significance of the forest sector is verified by the growing share of industrial production in GDP, stable currency earnings from the forest products export, a growing need for jobs and a constantly increasing demand for timber and paper products in the domestic and international markets.

According to the UN forecast, by 2020, the global demand for timber will grow by approximately 300mln cubic meters. There is only one real source of timber that could meet this demand – Russian forests.



**If our country has so many indisputable advantages, why haven't we solved our multiple problems for so many years?**

**NP:** First of all, this is due to a lack of investments into the upgrading and construction of new plants. The need is USD2.5–3bln, while the actual investments don't exceed USD900mln. It can be explained by the unfavorable and high-risk investment climate in the forest sector, the absence of required guarantees of ownership rights and invested funds, the high level of red tape and corrupted permission procedures, related to the commissioning of new facilities. The main factors, however, are the so-called corporate wars unleashed in the forest sector hampering the work and development of effective transparent enterprises.

Among all of the Russian forest-related industries, the pulp and paper industry has always been the most dynamic; its profitability in 1999 was more than 33%. Nevertheless, for the past five years a significant slowdown of the development rate was observed in almost all types of pulp and paper products; the profitability fell to 13.2%. In 2005 alone, paper production growth decreased 4.2 times, cardboard – 3.3 times, pulp – nearly 4 times.

The main reason behind the sharp decrease of effectiveness of the leading pulp and paper enterprises was the attempted takeover of their assets by companies structurally related to the company "Bazovy Element." The list of victims included Ust-Ilimsky LPK, Kotlassky TsBK, Bratsky LPK, Syktyvkarsky LPK, Kondrovobumprom, Kamsky TsBK and others. Today we are seeing an acute corporate conflict at Arkhangelsk TsBK, the largest producer and exporter of pulp, cardboard and school exercise-books, and JSC Volga, the largest newsprint producer.

The most common tool used by corporate aggressors during criminal takeovers is the pressuring and blackmail of shareholders aimed at forcing them to sell their stocks at an underestimated price. The pressure is enhanced by multiple inspections and law suits against a particular company, unjustified arrests of stocks, property and even armed seizures of administrative and industrial buildings.

The process of unfriendly takeovers of timber companies infected most forest regions of Russia, i.e. became widespread, undermining the

socioeconomic stability of the areas where the forest industry forms the basis of the economy. Over the previous decade, no new large timber enterprises were built; foreign investors are convinced that investing in Russia is too risky. We need to take urgent measures to ensure the guarantees of ownership rights and investments of both Russian and foreign shareholders and repress the destructive activities of officials from security and supervision agencies and representatives of the judicial system who always turn out to be the supporters of organizations playing a skin game.

**What measures does the government take and how do they correspond with your view of the policy to be implemented to improve the situation?**

**NP:** All developed timber industrial countries have developed their national forest policies or foundational doctrines and special strategic development programs for the national forest sectors. Russia has not yet developed a National forest policy, without which, the new Forest Code cannot be approved. The Forest Code permits continuous adjustments or even changes, while the National forest policy, like the Constitution, must remain intact.

However, we still have not decided how many federal target programs are needed to allow the Russian forest sector to occupy one of the leading positions in the global market, though it is obvious that the concept of the national advanced timber processing development target program can partially solve this problem.

Nevertheless, the Ministry of Industry and Energetics intends to submit this program to the RF Government for consideration in March. In this case, many problems of forest use and management will remain outdated, and yet another industrial forest program will fail. To my mind, all of our problems grow out of the absence of a central coordinating governmental body ensuring the consolidation and harmonizing of interests of all forest stakeholders. The vertical structure of the forest sector management is imperfect. Today, the performance of industries growing or processing wood is controlled by many federal ministries and agencies. Can such an approach ensure the success of the forest industry? Very unlikely.

Another thing to realize while determining the national forest sector development

strategies is the role and importance of international companies. The global tradition of developing forest-related program documents is characterized by the high degree of integration of all forest activities concentrated within several large transnational corporations (TNC) operating in the global timber market. As a result, more than two thirds of paper products are produced by enterprises belonging to TNC's. National forest policies in developed countries support these vertically integrated structures creating favorable conditions to enhance their competitiveness and effectiveness and, consequently, increasing their profits and tax payments. In other words, the government should promote the creation of strong national timber corporations and not hinder it.

In Russia, the technological integration of timber companies began in 1995. More than a dozen large vertically integrated structures operate in this country today, demonstrating the advantages of this type of structural organization. Their competitiveness, however, is still inferior to that of similar foreign TNC's.

The improvement of this situation is retarded by the unstable and continuously changing legislative framework, imperfect laws and customs, and tariff regulations regarding the export and import of wood-based products, as well as the import of timber processing equipment. The list can be extended at the expense of the insufficient protection of bona fide shareholders and investor ownership against corporate takeovers, the high degree of bureaucracy and corrupted permit procedures related to the commissioning of new facilities, etc.

Revolutionary privatization of some timber enterprises has already destroyed regional timber sectors, which used to unite enterprises into technological chains and ensured the continuous timber supply of large pulp and paper sawmills. As a result, many timber-processing plants felt the shortage of raw materials and approached bankruptcy. Now, if the Forest Code offered by the Ministry of Economic Development is approved, our timber industry will face the second wave of revolution and destruction, which will throw it back to the bottom of the rating list.

In order to help national timber holdings develop and acquire strength, our government

must recognize the strategic importance of the forest sector for the national economy and order an inventory of the national timber resource potential and declare the priority of the increased production of competitive timber and paper products before formulating the national policies. This measure will help identify points among the operating timber companies and plan the construction of lacking facilities to fill the gaps in advanced timber processing.

To stimulate the modernization of industrial production and enhance its competitiveness, the updating of technological equipment should be promoted using depreciation mechanisms and tax policy. The revised RF Tax Code should include preferences for financing capital investments made at the expense of the profits and grant newly created enterprises a remission of income taxes.

Economic viability of the forest sector may be increased only by governmental support of enterprises exporting timber and paper products with high added value. These measures may include, say, subsidies of interest rates on bank credits, issued for the development of industrial production. Apart from this, all customs duties imposed on exported products of advanced timber processing should be abolished. Special export duties should be introduced to limit the export of coniferous sawn timber, which is the major raw material for the Russian timber processing industry. Harvesting can be promoted by approving normative documents stimulating the integration of logging operations and large timber processing plants in the regions with a developed timber processing sector, and solving the problem of the joint financing of forest road construction by the government and businesses. Finally, we need governmental support for the educational programs aimed to prepare the management, engineering and technical staff of the Russian forest sector. Unfortunately, the government has not yet taken the required measures.

In summary, I'd like to say that the Russian forest sector is in a difficult, but not a deadlock situation. If our government recognizes the unity of the forest sector as a strategic importance for the national economy and approves a relevant forest policy and effective federal forestry program, this industry will certainly recover.

*Interviewed by Ivetta Krasnogorskaya*



# VALERY SAYKOVSKY: "RUSSIA IS FOLLOWING IN THE STEPS OF FINLAND AND SWEDEN"

**The non-commercial partnership, "Confederation of Forestry, Pulp-and-Paper, Woodworking and Furniture Associations and Unions," was established in 2005 with the aim to consolidate all Russian timber producers. We discussed the state of affairs in the Russian timber industry with Valery Saykovsky, President of the Confederation.**



**Valery, if we asked you to summarize the results achieved in 2005, what positive and negative trends in the Russian forest sector development would you highlight?**

As for the positive results of the year of 2005, I would emphasize, first of all, the enhanced control over illegal logging. As you know, the RF Ministry of Forest Resources and the Federal Forestry Agency have begun the satellite remote sensing of forest areas; forest crime prevention measures have been enhanced at the local level.

The increased share of the timber industry is very encouraging. The statistics show that it grew from 33.1% to 35% during 2005. The monetary value of the aggregate output of goods and services offered by large and medium-size timber companies in 2005 was 321bln rubles or a 17.6% increase against 2004.

The year of 2005 saw hot debates over issues related to the use of neglected wood as a bio-fuel. Bioenergy is becoming one of the most perspective areas of focus for timber companies. New bio-fuel production facilities are being commissioned; industrial boiler houses are shifting to this fuel type. It is obvious that Russia's ratification of Kyoto Protocol in 2005 was an additional impetus for the updating of boiler houses.

Nevertheless, we have to admit that many problems and difficulties still remain. Unfortunately, the long expected and much-discussed Forest Code has not been approved yet. Timber wars are persisting in the forest industry, especially in the Arkhangelsk Region. The pulp and paper sector hasn't demonstrated high growth rates as it did before. Pulp and paper production growth has slowed down and remained at the same level as last year (3.3%

– in 2005, 5.4% – in 2004, 5.5% – in 2003, 14.9% – in 2000).

Certainly, this process has several objective causes. At present, almost all operating enterprises lack stand-by capacities. The main equipment of pulp and paper mills is largely worn out. Increased output of pulp and paper products is guaranteed by more the intensive exploitation of existing facilities, upgrading of old equipment and introduction of the new production lines being made by the enterprises on a self-support basis. One of the most serious outstanding issues is a poor condition of infrastructure as well as loss-making enterprises constituting more than 60% of all logging companies.

I'd like to draw your attention to another important event which took place in 2005: the lockout of the Finnish paper market announced by member companies of the Finnish Forest Industries Federation in May. It had a very serious influence on the Russian market.

**- Trying to look into the future, what prospects can you see for the Russian forest industries?**

- Speaking about the prospects, I hope a smooth transition to the advanced processing of timber and integrated use of raw materials will take place. To ensure the competitiveness of Russian products on global markets amid growing production costs, we should care both about the production and integrated recycling of industrial waste: for example, chips may be used to make pulp and paper, bark – for generating electricity, etc.

We expect a timber house boom over the next two or three years. Analyzing the advancement of the timber processing industry in neighboring countries, we can see that in the overwhelming majority of cases, 60-70 percent of individual houses are timber frame structures with wall panels. Nowadays the costs of these types of houses are lower than the cost of stone or concrete-based buildings.

The development of pulp and paper industries will gradually continue; we will observe the shift from large cities to the areas located near undeveloped forestlands, making the production cheaper.

Among the challenging sectors in the regional timber processing industry are the wood-based panels (MDF, chipboards, OSB), plywood and package. For the past two years new plants for production of MDF, plywood and corrugated cardboard have been commissioned.

In general, the national forest sector may expect significant prospects from "coalition" with intensive production investments. Russia is following the steps of such forest countries as Finland and Sweden. The thing is that it took our neighbors more than one hundred years to complete this process, while we have only 10-15 years to shape our forest industry.

**- Please, tell us a little about your Confederation: whom does it support and whose interests does it protect? What are the results achieved by your organization for the short period of its history?**

The decision to establish the Confederation was made at the meeting of the Board of Trustees of the International Forest Industry Forum. It has been functioning for half a year. Our main goal is implementation of the tasks posed by the Forum, which is an open negotiating body. The Forum unites all forest stakeholders including the administration and industry. It is a channel for exchanging views and discussing forest industry problems and finding possible solutions.

From its start, the Confederation was to reach the key goals: promotion of development of the Russian forest sector, cooperation with governmental authorities, and protection of RF forest industry interests at the international markets. We have united all leading industrial Russian associations and unions with the aim of formulating a uniform position in the industry.

In 2005, the Confederation was engaged mainly in addressing organizational issues. This was the stage of information gathering, establishing partnership ties, and studying the niches where the Confederation could work effectively. The study allowed us to draw up a strategic Action Plan for 2006.

We are trying to expand both in and out of the country. As for international projects, we cooperate with the leading European forest industry organization – European Confederation



of the Woodworking Industry ("CEI-bois"). We have much in common – both structures pilot similar technological platforms, develop forest projects, and interact with research institutions. CEI-bois has a long and successful experience. We have a lot to learn from them, we would like to use their experience and potential. The Confederation of Forestry, Pulp-and-Paper, Woodworking and Furniture Associations and Unions took part in the General Assembly of CEI-Bois held in late March.

CEI-bois doesn't include Russian organizations. In connection with this, its members showed a significant interest in our presentation informing about the dynamics of the Russian forest industry's development and the Confederation, its activities, plans and prospects. At the end of the meeting, assembly participants agreed that the future of Europe and the world in general is connected with wood. CEI-bois members are working not to promote particular forest products but wood in general as a material competing with plastics, metals and other materials.

We made a decision to join efforts and redirect them toward creating a unified "Wood" brand. The unified Wood brand will be promoted by both parties and refer to all wood-based products – paper, cardboard, panels, glued laminated structures, etc.

In general, our activities are aimed at solving the internal problems of the Russian forest industry. Confederation members are actively working to develop the concept of timber house building in Russia. The concept is a constituting part of the priority national project "Affordable and Comfortable Accommodation for Russian Citizens." The Confederation joined the work of the development of the "Concept of Developing Advanced Timber Processing Facilities in the Russian Federation up to 2015."

Efforts have also been made to develop and implement a National Road Construction Program.

The Confederation takes part in solving the problem of illegal cuttings. In January 2006, it made a flush statement against illegal cuttings and trade in forest products of illegal origin. We made a statement regarding our internal ethical norms for Confederation members. They require that all members follow the specified

forest use rules, maintain Russian legislation and demonstrate openness and transparency. On our part, we are sure that this step will be useful for the forest sector as a whole.

This March was marked by the VIIIth International Conference "Wooden House Building – a Way to Affordable and Comfortable Homes" held within the framework of the second international exhibition WOODBUILD-2006 under the auspices of the Confederation of Forestry, Pulp-and-Paper, Woodworking and Furniture Associations and Unions.

At the end of March we took part in the meeting of the Coordination Council for forestry and forest industries of the interregional association "Siberian Agreement." This work resulted in solving problems in the field of effective forest resource use and forest planning in Siberia. We hope that our cooperation will promote the development of forestry and the forest industry in the whole Siberian region.

**- We would like to know the opinion of the head of the Confederation of Associations and Unions about the position and share of the Russian forest industry on the global market? What do you think of the prospects of the Russian forest industry as a global leader?**

- Russia accounts for 25 % of global timber stock and only 2.3% of global timber production. During the previous years Russia's share in lumber production decreased 4 times; in pulp, cardboard, plywood and panels – more than 2 times. In the global timber trade, Russia is the second largest exporter of round timber only, accounting for more than 30% of the market. As for the other forest products, we are outside the top ten. In general, Russia's lag is illustrated by the level of income per hectare of managed forests – it is 10–15 times less than that of, say, Finland or Sweden. Per capita consumption of major forest products also indicates forest industry development. Average per capita consumption of paper and cardboard in Russia is 40 kg, while in Canada – 228 kg, in USA – 327 kg, and in Finland – 412 kg. The same figures were identified for other forest products.

According to leading experts' forecasts, the global consumption of commercial timber will grow by another 100mln m<sup>3</sup> by 2020. The only real sources that can meet this increased

demand are Russian forests. The thing is that our country, possessing one fourth of the global forests, accounts for more than half of the most valuable coniferous species.

Moreover, Russian forests as a deposit of carbon have a planetary value as they have a great influence on the environment's condition and retard negative climate change. An optimal combination of these two critical functions is the pacing factor in the development of the national forest sector including forest management and industry. Unfortunately, neither segment of our forest sector is ready for rigorous performance. The national timber industry has been in a crisis all these years; the crisis has not been overcome yet.

Analysis of the dynamics of production growth and consumption of paper products in the world and by leading industrial forest countries over the past 10-15 years shows that, in terms of most indicators, Russia has fallen into the shade, lagging behind the USA, Canada, Finland, China, Brazil and a number of other countries. We lost the leading position in paper production and our leadership is indisputable only in the export of unedged timber or so-called round timber. So, you see, leadership is very doubtful.

Nevertheless, the situation is not as tragic as some people see it.

One of the reasons for Russia's unfavorable position in the timber and paper markets is the ineffective export structure, which includes round timber and the cheapest wood-based pulp and paper products. In order to restore its position, Russia should shift the priorities of the industry toward advanced timber processing.

**- Some people think that many problems can be easily solved once we have a relevant national forest policy and effective legislation. Do you agree?**

- About 65% of the Russian territory is covered by forests. Forestry is a huge industry. The potential of the national forest industry, expressed in monetary terms, is not less than USD100bln per year. However, we produce only USD12bln. The situation could be improved by the new Forest Code. The present version of the Code was approved in 1997, but it doesn't meet present requirements. The country is in urgent need of the new Forest Code. But, this doesn't

mean that the new law should be developed and passed in a hurry.

We realize that the Forest Code is a milestone document for our large-scale industry. That is why it is so important to avoid mistakes while discussing the Code and try to consider a maximum number of peculiarities.

I'd like to say that the richest forest country in the world is increasing its import of timber and paper products from year to year. Thus in 2003, the cost of imported products was USD2.3bln or nearly 16% more than in 2002. It included coated paper products, furniture and high quality sawn lumber made, as a rule, out of our raw timber. This means that unless urgent measures are taken, the country, having the largest forest resource base, will turn into the largest importer of forest products.

To sustain the balance of such a complex ecosystem as forests, the parity between harvesting and forest regeneration should be reached. The government must provide equal development opportunities for both sectors and identify the sources of financial support for forest regeneration.

Economic, legal, organizational and technical regulation of forest leasing should be introduced, as well as norms regulating the transfer of forest lands to private ownership. The structure of forest fund management should be improved. The federal forest management bodies should determine the basic trends of the industry, ensuring their legislative support, develop balance forecasts for forest resources and manage forests.

Actually, a lot of problems accumulated in the industry are quite urgent. However, the major problem is the absence of a long-term strategy for national industry development. We don't have the national forest policy implemented by all developed countries, which ensures its effectiveness. To our minds, the national forest policy should become a part of the long-term national strategy of socioeconomic development. It is only then that the forest industry will find its niche in the Russian and global economy, corresponding to its actual potential.

*Ivetta KRASNOGORSKAYA,*

*Olga MURATOVA*



# ALEXANDER BELYAKOV: "WE DON'T NEED A NEW FORESTRY CODE"

**In 2005, Alexander Belyakov, former chairman of the State Duma Committee on natural resources and nature management, and current auditor of the Accounts Chamber, headed the Forest Industry and Forestry Development Committee for the Chamber of Commerce and Industry of RF. He is a famous expert in nature management and, in particular, on timber resources, and was elected chairman by an overwhelming majority of the committee members.**



**Alexander, summing up the year 2005, what positive and negative tendencies have you observed in the Russian timber industry?**

**AB:** The Russian timber industry achieved the poorest results, as compared to other Russian industries, and its export rates even reduced. The timber complex is constantly expecting serious modernization upon the new Forestry Code, so no qualitative shift is seen. That's the sole reason for all of our problems. Let me explain.

The forest strategy our government has adopted over many years is very conservative. It complies with the statement of administrative reform

rather than focusing on the forest management efficiency increase. In fact, its aim is forest privatization. This hidden entitlement for private property is mentioned in the new Forestry Code project, and the Russian timber industry has just started to rise. Many difficulties have been met since the introduction of leaseholds in 1997. However, many of the unfaithful leasees have abandoned the industry and many conscientious ones have 49-year-leases during these years. And now the new code! How do you like that!

The reform on function distribution is quite questionable. During recent years all competent experts have been speaking of this need to separate forest management and business.

It seems quite reasonable to me. A manager shouldn't be doing business by himself. Should there be no businesses run by the government? Certainly not. In many civilized countries business is separated and united into independent governmental enterprises performing business functions that are unfeasible for the private sector. Can a leasee fight with the forest to exterminate vermin and extinguish fires on his own? No. What is happening now? The control and supervision functions have been withdrawn from the management sphere and delegated to the Federal Service for the Supervision of Nature Resources of the Ministry of natural resources. The forest conservation function was delegated to the Rosprirodnadzor. Russian forests were left without protection while workers went without salaries for several months after 199-ФЗ came into force on January 1, 2005. Furthermore, this innovation brought much controversy. In fact, the mass lockouts of forestry enterprises are imminent. With only 20% of Russian forests being leased, who is going to perform a forestry practice for the other 80%, if authorities are not allowed to do business according to the new Code and forestry enterprises are going to be cancelled?

In 2004-2005, we haven't increased the woodprocessing depth at all, and haven't increased the production of pulp and paper. There is a 1.5% insignificant increase, but this is minor.

**Who is in charge of the national forest policy development? In your opinion, what fundamentals should it include? Some attempts have already been made to work it out. Were they for nothing?**

**AB:** The national forest policy is the right topic to ask about. My position is that forests should be federal, public property. In my opinion, private property is possible, however, it concerns only artificial forests planted on abandoned fields. Forest planting is our future. Forest harvest could be reaped every seven years, as per the example in bio-fuel production. Or balances for processing factories could be grown every 25 years in a volume of 200 cubic metres instead of the current 50 cubic metres per hectare. Land could be publicly owned while forests are transferred to private ownership.

The national forest policy should reflect a balance of interests. On the one hand, a forest is part of our environment, on the other – a natural treasure, enabling the maximum utilization of its economic opportunities; not only to cut the grown forest – but to totally process it. This is what the goal for forest strategy should be. It is strange enough to plan forest strategies for only 15-20 years, as our authorities did in 2003 when they approved the Forestry Development Concept up to 2015. The Concept ought to be planned at least for 80-100 years, i.e. a forest lifecycle.

Actually, all levels of authority, including Russian regions and municipal units, ought to participate in the forest policy development. The center must delegate the operative management rights downward and keep only principal strategic functions. Laws as well as strategies should be effective during the hundred years.

**Is it possible? The current Forestry Code was approved in 1997 and we have already judged it as old-fashioned and have been giving rise to a new one for over three years.**

**AB:** Frankly speaking, I'm sure that we don't need a new Forestry Code at all. The current Forestry Code is quite capable of solving the problems of the present forestry development level, providing some necessary amendments are made. All the main points, including public ownership of forests, and long-term forest leases (up to 49 years) are contained in the present Code. And my point of view is that forest sections should be leased for 25 years with the possibility of renewal. It should be stipulated by law that only 3 years' late payment of rental fees could be grounds for terminating a lease contract. Our country is the only country where a rental fee is paid before the beginning of a year and not according to the year's results. We take money before the forest is cut, whereas it's better to pay for the forest after it is cut and sold. It is easy to understand that if a company rents a forest yield of 50 thousand cubic metres, it has to pay \$200 thousand immediately on the basis of \$4 per cubic metre. The forest hasn't been cut, the results are vague – still you have to pay. At least the recently adopted quarterly rental fee payments are favourable. Sometimes there are no forest roads, no roads constructed by the government-owners and forest users are not able to enter forests either in November



or December. He in fact loses the right to cut down forests but he has to pay anyway. The startling fact is that although they are the forest owners, the government does its best to put the brakes on forestry and timber industry development.

It's a shame that in neighboring Finland the annual forest yield is 4 cubic metres per 1 hectare and we have only 1-1.5 cubic metres. It's all because the Finnish reform has been working for 70 years and no deteriorating acts for users were accepted.

Forest payments should be very flexible and take into account many circumstances. There shouldn't be a tax on "forest development," like on the minerals. The forests are different and you should realize it. Why does the government evaluate a 150-year pine as equal to a rotten 45-year aspen?

Lastly, each Russian citizen's needs must be considered by the forest strategy. Forest users should provide citizens with the unrestrained right to freely live, stay and rest in the forest and utilize its gifts.

**It was in November of 2002 when the government approved the policy document, "The main development lines of the timber industry." This document promised to increase timber output by 4 times by 2015. Is the programme operational?**

**AB:** It is totally out of the question to fulfill the programme in the way it is executed now. All of the governmental programmes are quite pretentious and have no supporting measures. Deep timber processing can't be encouraged by economic and market methods when many rawwood products are still taxable by export duties. In practically all countries, raw wood products are non-taxable by export duties. We claim that we should saw forests in Russia rather than export round timber. At the same time we set up economic barriers – export duties on processed timber, as well as taxes and duties on imported foreign equipment.

But customs import duties on equipment seem to have been canceled.

Well, yes, but not all of them. Take for example harvesters and forwarders – the modern forestry equipment with attached implements. The

harvester duty on the head is cancelled, while it is kept on the head power drive, although the tractor makes up 2/3 of the whole machine's cost. It's ridiculous! Are we kidding ourselves?

What are the chances for woodprocessing, plate and pulp and paper industry development in Russia? What measures should we take to develop each of the subindustries?

The government does nothing to provide for the wood processing industry's efficient development. Export of unprocessed oak, beech, hornbeam, ash-tree and other valuable kinds of wood ought to be banned, in my opinion. This is long-living forest and it will so remain in ten years when we will modernize wood processing technologies. Don't rush to cut down all the forests and export them. We should think about future generations. According to reliable sources, there are already deep timber processing factories for valuable kinds of wood being built in our country. And these are the factories to produce veneer sheet, which is 10 times as expensive as round timber.

The protecting duties on sawn log export should be laid gradually and all duties on boards should be totally cancelled. This is the method for implementing deep processing. There should be more profit-making semi-processed goods produced. They demand high-quality modern equipment to be imported, which is lacking. In case domestic marketing is our aim then native equipment is suitable for the first stage, whereas certified machines would be necessary to produce export goods.

Strangely enough, waste from the pulp and paper industry provides the highest percent of surplus value, so the industry must be developing in the leading rates. However, the pulp and paper complex involves capital-intensive enterprises, so their construction must be financed by the government. The investment ratio can be the following: 70% public funds and 30% partners' funds. At first, a joint-stock company is founded. After the factory is put into operation, the shares are introduced in markets by the government and then sold, recovering the expended funds and gaining profits from taxes. There also should be a special forestry development fund in the Russian budget in order to prevent money dissipation. As the capital of the fund grows we would be provided with an

opportunity to construct more enterprises for deep processing.

At the same time, Russia doesn't need to deeply process timber in its whole territory. A periodic yield of 500 billion cubic metres being cut and processed into semi-processed goods is quite enough. The domestic market demands the deepest processing in order to replace import. The external market demands semi-processed goods production and encouragement of Russian capital export to foreign countries in order to finally process the goods. We will then receive more profit, yet in the foreign territory, and ensure the factory's work load as we will be the co-owners of the assets. This policy is very subtle and effective.

**Do you think the Russian LPK has a chance to achieve world leadership?**

**AB:** Russia has 25% of the world's forest resources. So forests are our strategic stocks. We ought to take care of them. At the same time, forests should become a source of profit for all Russian people. I'm sure that Russia has every prospect of achieving world leadership in the timber complex, providing the government addresses the needs of forests. We might obtain a much higher position in world timber production. The country's growth potential is \$110-120 billion of gross production, i.e. ten times. To achieve such results we should invest \$10 billion in timber production over 10 years. We currently invest no more than \$1 billion per year.

By the way, we needn't use public funds. The government should induce investments by, for example, establishing an equipment purchase guarantee fund for small and medium businesses. It should also provide stable conditions of gambling for payments, establish cooperatives, and support business through subsidies. Suppose a timber man buys equipment, provides modern wood processing and forestry management technologies and buys modern machines. In such a case the government could subsidize credit interest rates. Let's stop the erroneous policy of prohibiting the privilege of using profits for investments. By doing this we can decrease taxes on profits two-fold for fair users and for all timber processors, and the degree of mechanization and production mass will increase by 4-5 times. The government benefits from it. Growth of timber exchange trade is also a

serious motivation as this is an enormously buried reserve. I think we should establish a State Forest Bank and it ought to be the main pledge-holder who has the opportunity to transfer to it all federal forest assets on behalf of the state. The bank could release obligations or depositary receipts, attracting people's currency for forestry financing. This is a brand new market approach.

**Are there any timber producing companies in Russia, apart from Ilim Pulp and Titan vertically integrated structures that have a chance to gain the lead in the industry?**

**AB:** Actually, there are many, both in the European and eastern part of the country. There are also many good veneer sheet factories, plate factories and sawn log deep processing factories. The majority of them are rather small, however they are shock workers of capitalist labour.

**Yes, but we've got few vertically integrated structures.**

**AB:** In my opinion, it's an erroneous view that only holding companies should exist. I'm for the forestry cooperation similar to the Finnish one. In Finland they involve private persons in the cooperatives, but we've developed small and medium businesses. For instance, 20 leasees of forest fund sections could construct a forest factory and enter another cooperative of pulp producers, then they could form a bigger cooperative of pulp, paper, plates, etc., producers. It's the government that can help perform this, especially since it has many possibilities.

**Could you say a bit about the new RF Chamber of Commerce and Industry Committee on the timber industry and forestry development founded in 2005?**

**AB:** The new Chamber of Commerce and Industry Committee's aim is to improve relations between government and business. It is our objective to listen to timbermen and inform the government about their difficulties and offers and to demand from the latter that they provide necessary conditions for our timber industry complex's development.

*Interviewed by Ivetta Krasnogorskaya*



# RUSSIAN FORESTS

## Official Outlook of the Federal Forestry Agency of the Russian Federation

### OVERALL PICTURE

Forests are recognized as the most considerable of Russia's natural riches and, unlike other natural resources, they can largely facilitate national economic prosperity and the well-being of the population. Russia accounts for about a quarter of the global forest coverage. According to FAO, the largest owners of the forest areas are Russia (22 %), Brazil (14 %), Canada (6 %), the USA (6 %), and China (4 %).

According to the Federal Forestry Agency, the total forest area in Russia amounts to 1,173,400 thousands ha (for more details, see below).

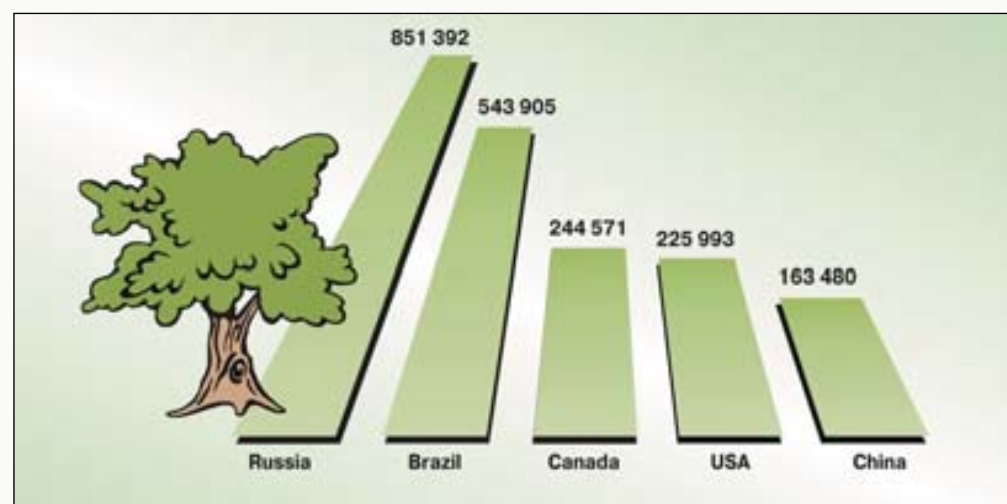
In terms of boreal and temperate forests, Russia is considered the sole monopolist, possessing nearly half of global boreal and temperate forest resources. Russian forests are crucial for the planet because they regulate environmental conditions and prevent negative climate changes. Russian forests are also the world's

largest carbon dioxide holders, accounting for nearly a third of the total net deposited carbon of the Earth's forests.

### ORGANIZATIONAL STRUCTURE OF THE FOREST FUND MANAGEMENT IN RUSSIA

According to the current legislation, the state's administration of use, control, protection and reproduction of forests throughout the country shall be executed by the President of the Russian Federation, the Government of the Russian Federation, executive bodies of the subjects of the Russian Federation, and the federal executive body of forest administration.

The state forest administration bodies are represented by the Federal Forestry Agency (federal executive body of forest administration), agencies of forest administration in the subjects



Diag. 1. Forest areas of the key forest-possessing countries (FAO, 2004), thousand ha



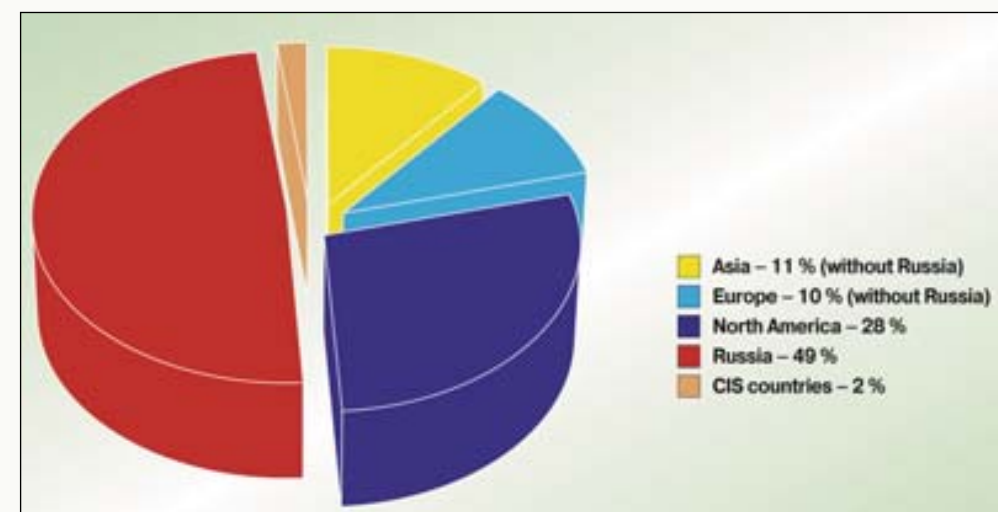
Diag. 2. Forest area per capita (FAO, 2004), ha

of the Russian Federation (territorial bodies of the Federal Forestry Agency), and forest management units (entities subordinated to the Federal Forestry Agency).

The Federal Forestry Agency (FFA) is led by the Head, who shall be nominated or dismissed by the Government of the Russian Federation at the suggestion of the Minister of Natural Resources of the Russian Federation. The FFA activities shall be regulated by the Statute of the Federal Forestry Agency approved by the Decree (#283, as of June 16, 2004) of the Russian Federation's Government, as well as by other standard legal acts.

According to the current Forest Code of the Russian Federation, Forest Fund lands and the forests located on defense lands shall be under federal jurisdiction. It is worth mentioning that the new Forest Code will be passed at the end of this year, and may crucially change the rules of play.

The FFA exercises control of 94 % of the total Forest Fund area in the Russian Federation, the remaining area being under the jurisdiction of other ministries and agencies. Forests formerly owned by agricultural organizations are now administered by the subjects of the Russian Federation.



Diag. 3. Distribution of forest area in the boreal and temperate zones (FAO, 2004), %



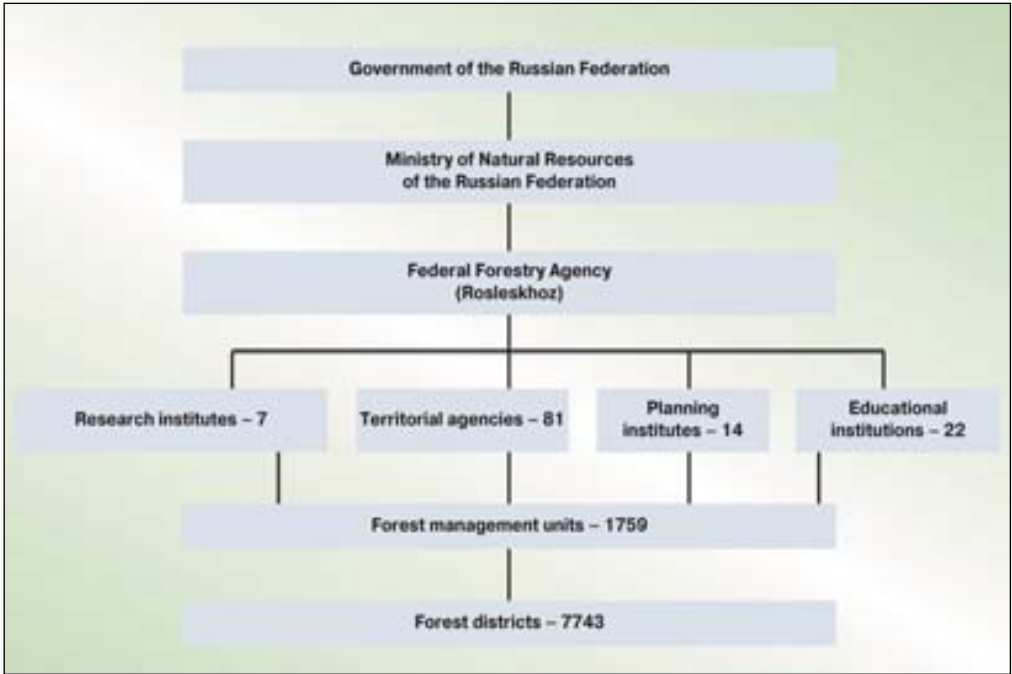


Fig. 1. The organizational structure of forest management in the Russian Federation

RUSSIAN FOREST FUND CHARACTERISTICS

All forests except for those located on defense lands, settlements, as well as lands of the Forest Fund not covered with forest vegetation (forest lands and non-forest lands), make up the Forest Fund.

The total area of Forest Fund lands is a rather stable value that varies insignificantly. As of January 1, 2004 it amounted to 1,173,400,000 ha, including a total of 1,132,600,000 ha administered by the Federal Forestry Agency. The area of forests that are not referred to the Forest Fund is 5,900,000 ha. The total standing volume exceeds 82 billion m<sup>3</sup>, including 81.7 billion m<sup>3</sup> in Forest Fund lands. The average percentage of forestland in the Russian Federation is 45.4 %. This index varies depending mainly on climatic and anthropogenic factors in Russia's regions.

All Russia's forests are divided into three groups:

- Group I forests include those whose principal purpose is to perform water conservation, protective, public health, and sanitary functions, as well as the forests of specially protected natural areas. They account for 269 554.6 ha (22%).

- Group II forests include those located in areas of high population density, which are of protective or limited forest-exploitation importance, and the forests located in areas of scarce forest resources, whose preservation makes it necessary to restrict the forest use regime. They account for 88 79.2 ha (6%).
- Group III forests include the forests of well-forested areas, which are of mainly commercial value. Those forests are meant to meet economic needs on a sustainable basis by providing timber without undermining forest protection functions. They account for 815 036.5 ha (72%).

Only II and III group forests are of interest for commercial exploitation.

TIMBER RESOURCES

Russia possesses mainly boreal forests that are growing under severe, moderately cold and temperate climate conditions. They are basically coniferous forests whereas mixed coniferous-deciduous forests are characteristic of the southern boreal zone. In such a geographical context the major timber species that make up the forests of the Russian Federation are larch, pine, spruce, Siberian stone pine, oak,

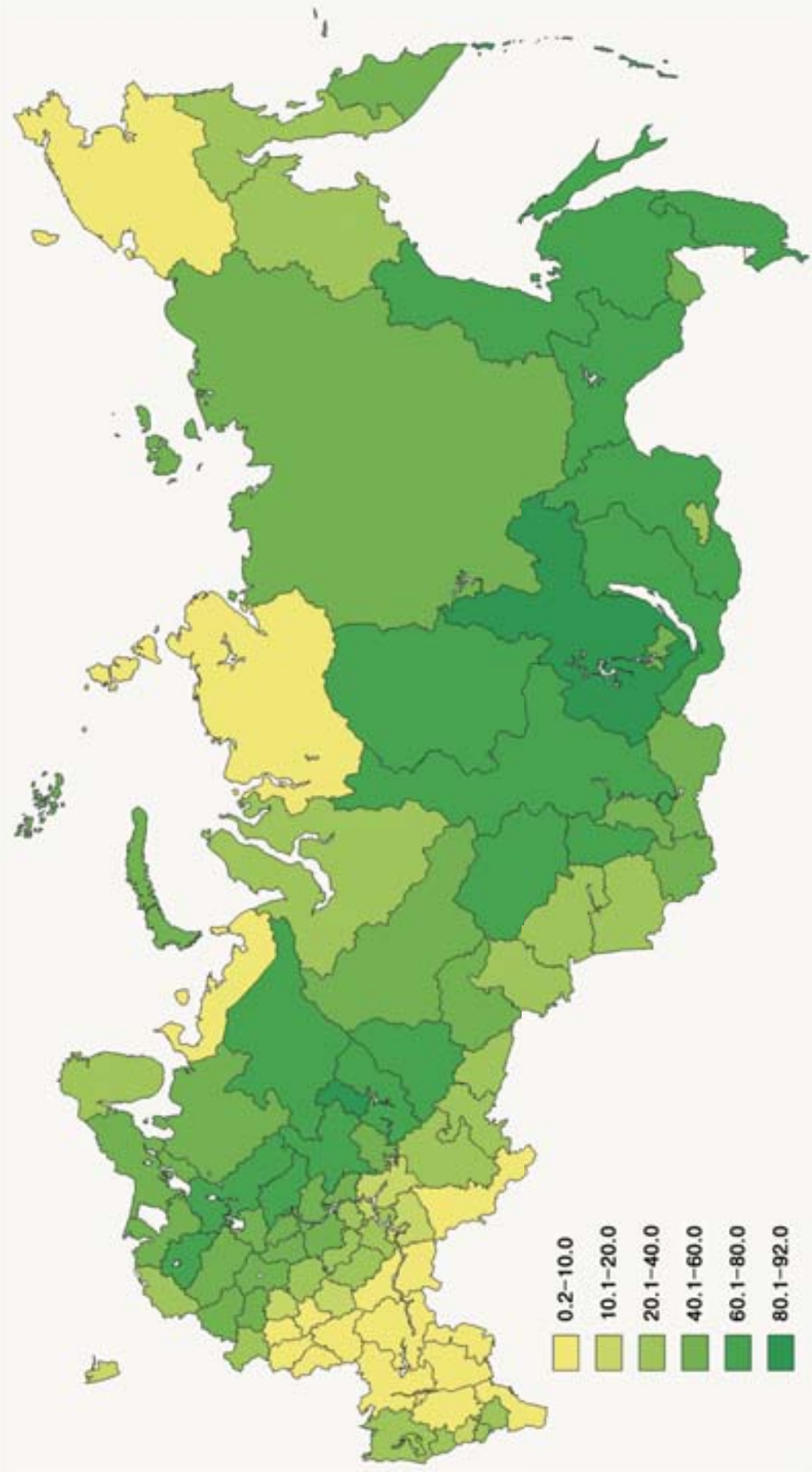


Fig. 2. Percentage of forest land in Russia, %





beech, birch, and aspen. The above species account for over 90 % of all the forested area. Other timber species (pear, chestnut, European walnut, Manchurian walnut, etc.) occupy less than 1% of all the forested area while shrubs (dwarf Siberian pine, dwarf birch, etc.) cover the remaining area.

The major forest-forming species are clustered into three groups: coniferous (77%), hard-leaved (3%), and soft-leaved (20%). Within the coniferous group, the larch predominant stands of Siberia and the Far East occupy the largest area (51%) and possess the largest standing volume. Pine forests occupy 23% and spruce forests 15% of the total coniferous group area.

As a whole, the areas covered by the major forest-forming species have remained quite stable over the last decades. A slight decrease in the coniferous group area during the past decade was caused, in particular, by new measurement regulations (a criterion for determining the main species of forest stands) adopted in 1985 and 1994.

The decrease in areas covered by standard oak is a result of altered growing conditions, due to the natural decline of environmental health in the oak forests of the European-Ural part of Russia.

The decline in areas covered by spruce forests is a consequence of cutting, slow rates of artificial regeneration and, perhaps, climate changes in said areas. On the contrary, the areas covered by

spruce forests within special protected natural areas are gradually extending.

The increase in areas covered by soft-leaved stands is caused by natural stand succession, slack demand for timber of low-grade species (birch, aspen) and, as a result, a reduced AAC utilization. Ultimately, mature and overmature stands are prevailing in the soft-leaved group.

As for the hard-leaved group, stone birch, which grows in the Far East, occupies about a half of the hard-leaved group area, while other valuable species, such as standard oak and beech, cover some 25 % of said area.

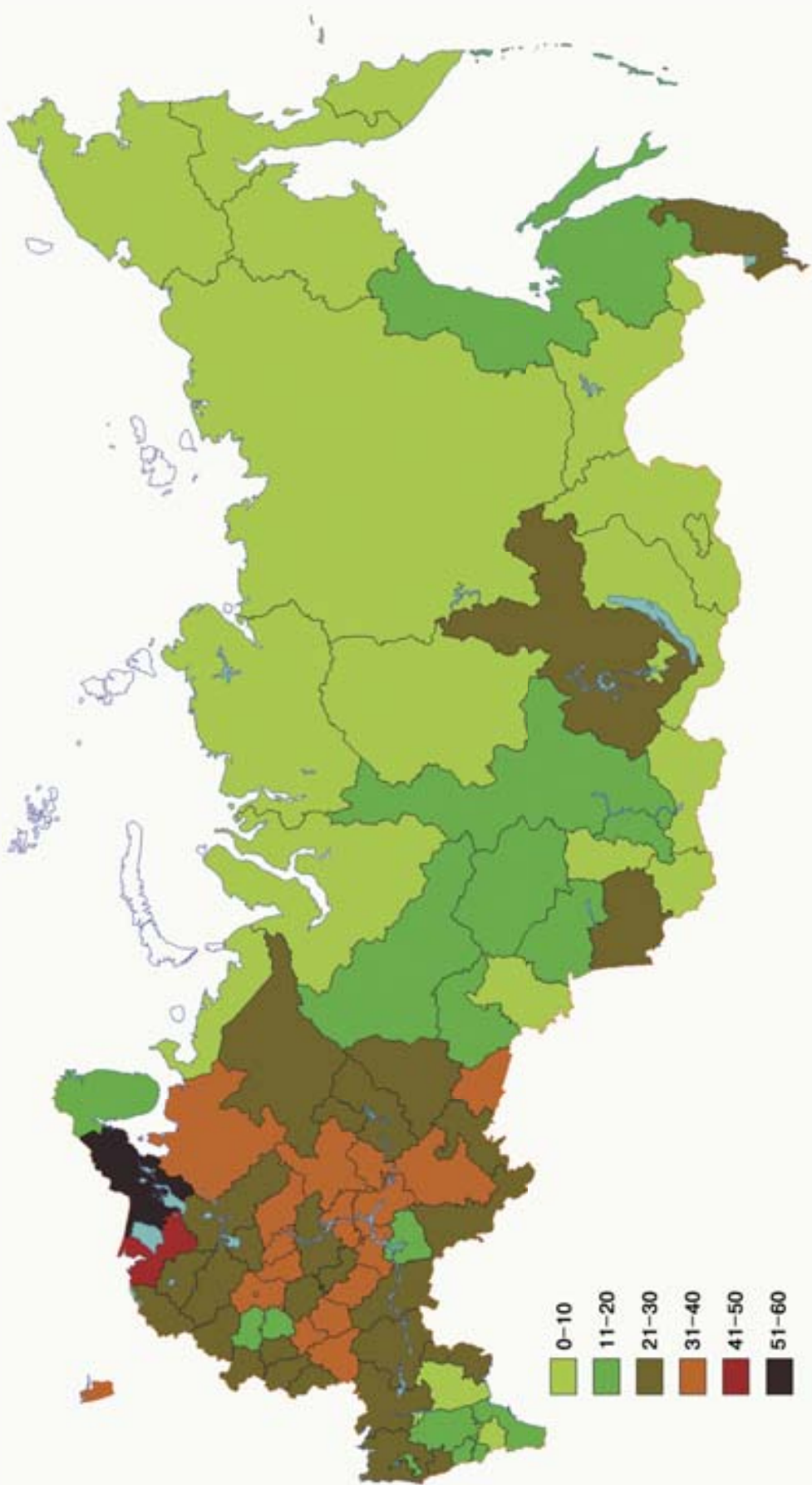
Mature and overmature stands account for some 50% of the coniferous group area. Over the past years, a certain improvement of the age structure of coniferous forests has been observed throughout Russia: the area of young growth, middle-aged and maturing stands is increasing while the area of mature and overmature stands is decreasing.

In some regions (Astrakhan, Voronezh, Belgorod, Kursk, Orel, Rostov, Tula, and other Oblasts) certain negative changes in the age structure of forests have been reported, as a consequence of the final felling being prohibited in the sparsely forested areas of the Russian Federation. The increase in the area of mature and overmature forests is expected to deteriorate the sanitary state of stands.

**Tab. 1. Areas covered by major forest-forming species in the forests administered by MNR Russia, thousand ha**

Major forest-forming species	Year of account				
	1988*	1993*	1998	2003	2004
Coniferous					
Pine	113 563.9	114 326.1	116 740.2	117 472.9	117 205.0
Spruce	78 810.0	75 866.3	77 658.0	77 198.4	76 737.4
Larch	277 897.8	263 348.1	265 719.0	264 287.4	263 986.3
Siberian stone pine	40 166.0	39 797.6	41 033.2	40 852.0	41 054.6
Hard-leaved					
Standard oak	3 761.0	3 808.0	3 719.0	3 633.7	3 650.2
Oak coppice	3 198.7	2 971.3	3 110.3	3 200.0	3 169.6
Beech	698.5	701.3	786.0	789.6	790.1
Soft-leaved					
Birch	85 531.0	87 732.5	94 170.5	97 950.0	98 824.8
Aspen	17 711.4	18 907.9	20 035.0	20 573.4	20 682.0

\* Forests of nature reserves not included



**Fig. 3. Actual harvested volume to average volume growth ratio, %**





The bulk of Russian forests are growing on the permafrost soils (Siberia, the Far East), which is a fact that contributes to the rather low productivity of timber producing areas of the forests. Only 55% of the total forested area in Russia is considered to be accessible for forest exploitation.

According to the 2004 State Forest Fund Account (SFFA), the total standing volume of major forest-forming species in the Rosleskhoz's forests is estimated to amount to 76.3 billion m<sup>3</sup>, including 42.6 billion m<sup>3</sup> of mature and overmature timber. The average standing volume in mature and overmature stands (shrubs not included) is 132 m<sup>3</sup> per ha, including 162 m<sup>3</sup> per ha in accessible forests. The gross annual increment in Russian forests is 932.22 million m<sup>3</sup>, and the mean annual increment is 1.21 m<sup>3</sup> per ha of forested lands.

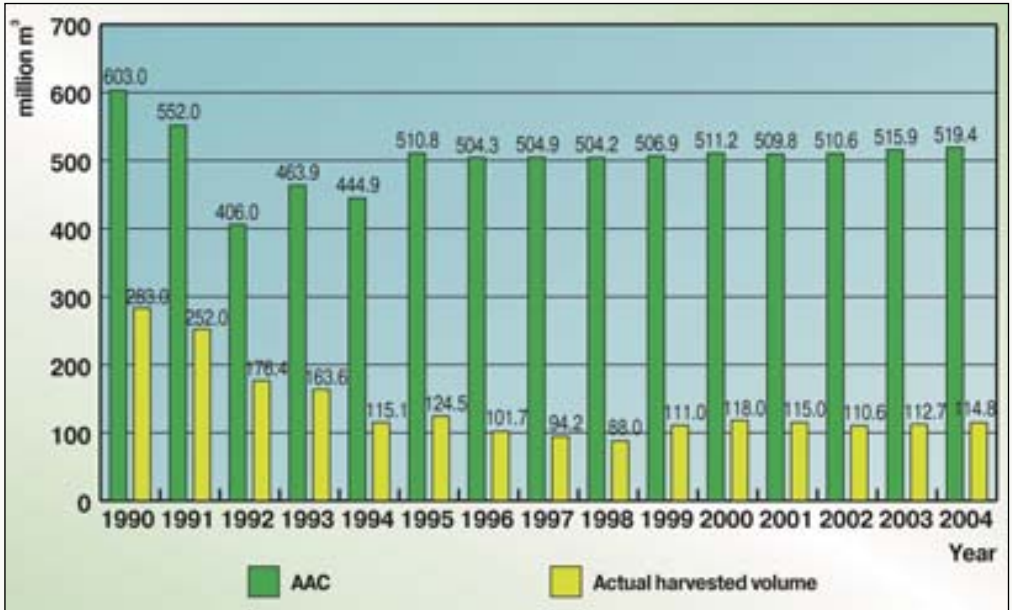
FOREST USE

According to the Forest Code of the Russian Federation, timber shall be mainly harvested through final felling in mature and overmature stands. In 2004, a total of 127 million m<sup>3</sup> of timber was harvested in Russian forests, including 115 million m<sup>3</sup> in the forests administered by FFA. The annual allowable cut (AAC) amounts to nearly 520 million m<sup>3</sup>, including 295 million m<sup>3</sup> in conifer forests. The AAC is used, on the average, at 22%. The highest use of the AAC is observed in the forests of northwestern, northern, central

Tab. 2. Standing volume by main species in the forests administered by MNR Russia (as of January 1, 2004)

Main species	Standing volume	
	million m <sup>3</sup>	%
Pine	115 035.87	19.71
Spruce	9 972.3	13.07
Fir	2 523.08	3.31
Larch	23 068.94	30.25
Siberian stone pine	7 846.45	10.29
Tree-like juniper	0.09	0.00
Total for conifers	58 446.73	76.63
Standard oak	470.65	0.62
Oak coppice	371.97	0.49
Beech	207.61	0.27
Hornbeam	44.99	0.06
Other hard-leaved	973.94	1.28
Total for hard-leaved	2 069.16	2.71
Birch	10 027.96	13.15
Aspen	3 124.97	4.10
Other sot-leaved	1 019.12	1.34
Total for sot-leaved	14 172.05	18.58
Other timber species	44.16	0.06
Brushwood	1 539.81	2.02
GRAND TOTAL	76 271.91	100.00

and western regions of European Russia. In the conifer forests of the European-Ural part of the Russian Federation the AAC is used at 40-60%.



Diag. 4. Annual allowable cut and actual harvested volume (final felling), million m<sup>3</sup>

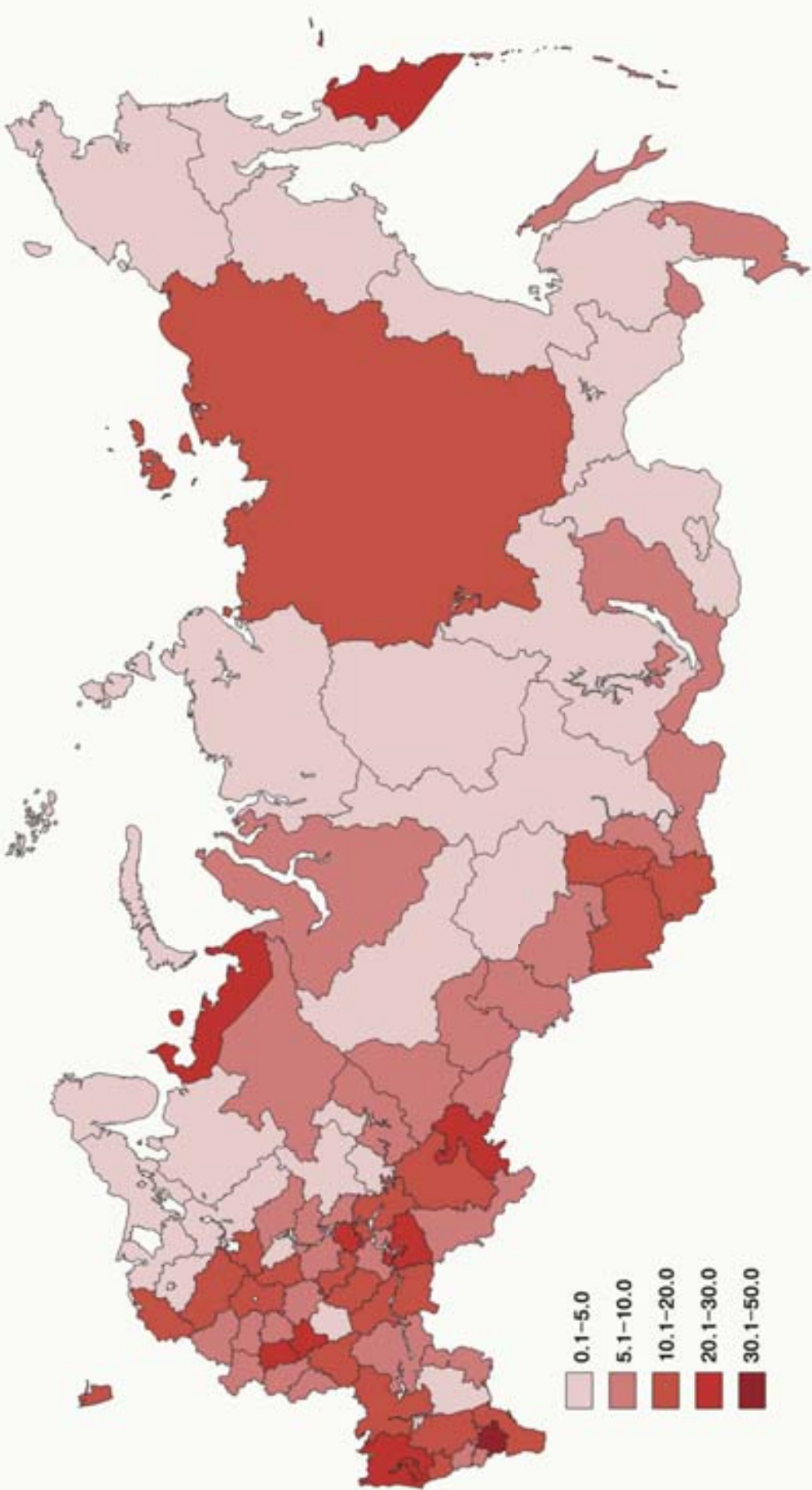


Fig. 4. Area of the Forests of Special Protected Natural Areas as Percentage of Stocked Forest Area



# FOREST CERTIFICATION: RUSSIA AMONG THE TOP ACTORS

**The major portion of Russian forest products (both round timber and wood-based) is sold abroad – in European and Asian markets. In connection with this, timber companies are forced to meet the requirements of Russian laws and international standards and regulations. This is particularly relevant for forest management, considering that such requirements are increasingly common not for Russian government and supervising bodies, but for international institutes, environmental organizations and, consequently, European markets. Russian timber producers are facing increasing difficulties in selling their products unmarked by the logo of a recognized certification system.**

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Among the various forest certification schemes, the most popular with Russian timber producers is the one offered by the Forest Stewardship Council, which is a monopolist in the Russian forest certification market. The main reason for this is the high demand for FSC-marked products on international markets and the support provided by the leading environmental organizations – WWF and Greenpeace – to paper product producers.

A sustainable forest management certificate allows the timber company to declare the transparency of forest business and should, in principle, promote production investments. Moreover, certification in Russia is developing so fast that, in many regions, forest agencies initiated the establishment of specialized certification divisions proving the importance of the process for regional authorities.

## HECTARES, CUBIC METERS, CERTIFICATES

In late 1999, the first Russian enterprise forest management system underwent a baseline appraisal for compliance with Forest Stewardship Council standards. In March 2000, the corresponding certificate was issued to Kosikhinsky FMU and Timber Production Ltd Company, which covered forests around the city of Barnaul (Altaysky Krai).

In the meantime, a National Working Group on Voluntary Forest Certification was created. The group has already prepared a version of national framework principles and criteria of sustainable forest management adapted to the Russian environment. Regional standards are under active development in the Republic of Komi, the Arkhangelsk Region, Krasnoyarsky, Khabarovsk and the Primorsky Region.

At the end of 2000, the second certificate was granted to the German company Dammers, operating in the Arkhangelsk Region and harvesting timber on the leased area of JSC Dvinsky lespromkhoz. Some time later, JSC Madoc (Novgorod region) received its certificate.

A real breakthrough in forest certification, however, was observed in the second half of 2004. Certificates snowed in Russia: now 27 FSC forest management certificates are issued and valid in Russia. The total certified forest area (as of April 10, 2006) is 8,919.9 thousand ha (see Table 1). By the end of 2006, this figure may double.

As for the geographic location of forest management certificates, most of them relate to the Arkhangelsk Region (10 certificates issued, including one group certificate) and cover the certified area of 2,729.7 thousand ha, while the second largest certificate holder is the Irkutsk Region (2 certificates covering 2,645.7 thousand ha).

The high expansion of certified areas in the Arkhangelsk region can be explained by the fact that more than 90% of its timber products are sold in European markets, placing more strict requirements on timber products. Apart from this, Russian timber companies realize the imperfection of national forest management standards, leading to the loss of valuable forests and the replacement of coniferous stands with hardwoods.

According to the latest data, 18 companies from various Russian regions with an aggregate forest area of 4.6mln ha are under the certification process (i.e. underwent pre-assessment and are eliminating identified gaps in compliance of forest management systems). One of these enterprises – IlimSeverLes Ltd. (Arkhangelsk region) – passed a baseline appraisal in early April 2006, and is waiting for issuance of a group certificate covering the area of 700 thousand

ha. 10 more companies with the aggregate forest area of 3.3mln ha have declared their intention to certify forest management systems according to FSC standards.

## INCONSISTENCY SHOULD BE ELIMINATED

The major obstacle to certification is flawed Russian legislation, in particular, discrepancies between Russian laws and international requirements and standards. As a result, enterprises trying to meet international standards and obtain forest management certificates are forced to break Russian timber harvesting rules, forest legislation and, as a consequence, pay large sums in fines. In fact, the government is punishing environmentally responsible forest users, following international standards. Although, some positive changes have already been made: the Federal Agency for Forestry (Rosleskhoz) has begun “adjusting” Russian standards to international norms. So, we may hope that some day Russian and international standards will be similar. The “adjustment” process, however, is too slow.

Some Russian regions do not recognize the vital importance of the implementation of global forest management standards and are still putting spokes in the wheels of certification. Nevertheless, most regions demonstrate an understanding of the significance of certification for the development of forest management. The greening process in the forest business has already reached the Arkhangelsk, Vologda, Irkutsk and Pskov regions, the Republic of Komi, Altaysky and Krasnoyarsky Krai, and other federation subjects. Among active followers are the Republic of Karelia, Kirov and Leningrad regions.

In general, the degree of certification development may signal the degree of environmental responsibility of the authorities.

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Table 1. Certified forest area in the Russian Federation as of April 10, 2006

Enterprise	Certified forest area	Certificate validity, expiration date
ARKHANGELSK REGION		
JSC Svetlozerskles	171,900 ha	08.12.2009
Dammers Ltd.	65,905 ha	12.31.2005
JSC Maloshuykales	336,445 ha	06.02.2008
JSC Velskoye LPP	68,035 ha	06.12.2010
JSC Ust-Pokshengsky LPH	236,541 ha	05.16.2010
JSC Zelennikovskoye	89,872 ha	07.12.2010
JSC Shalakushales	274,172 ha	05.17.2010
JSC Nimengales	187,000 ha	04.05.2010
Toyma-les, subsidiary of Solombalsky LDK	166,379 ha	10.16.2010
PLO Onegales (group)	1,133,451 ha	12.11.2010
Total in Arkhangelsk Region	2,729,700 ha	
IRKUTSK REGION		
IlimSibLes (a part of Ilim Pulp)	1,589,944 ha	08.12.2010
CJSC Logging and timber rafting Depart- ment (a part of Ilim Pulp)	1,055,759 ha	02.23.2011
Total in Irkutsk Region	2,645,703 ha	
PRIMORSKY REGION		
Terneyles	1,394,488 ha	11.15.2009
REPUBLIC OF KOMI		
Komilesbusiness	62,727 ha	05.02.2010
Priluzhsky leskhoz	794,409 ha	02.29.2008
Leskom	78,362 ha	11.03.2010
Luzales	36,169 ha	12.29.2010
Total in Republic of Komi	971,667 ha	
VOLOGDA REGION		
CJSC Bely Ruchey	398,000 ha	07.20.2009
JSC Belozersky lespromkhoz	221,492 ha	08.24.2009
Avtodorles	351,83 ha	03.15.2011
Total in Vologda Region	654,675 ha	
KRASNOYARSK REGION		
Novoyeniseysky LHK	49,333 ha	04.25.2009
Lesosibirsky LDK № 1	219,155 ha	12.29.2009
Total in Krasnoyarsk Region	268,488 ha	
Kirov Region		
Kay	124,203 ha	07.12.2009
Zalasninsky timber plant	48,615 ha	11.08.2010
Total in Kirov Region	172,818 ha	
ALTAISKY KRAI		
Kosikhinsky agricultural FMU	32,712 ha	11.14.2009
NOVGOROD REGION		
Madoc	31,200 ha	12.03.2006
PSKOV REGION		
STF-Strug	18,440 ha	08.31.2008
Total in Russia	8,919,891 ha	

According to FSC Russian Office

In the regions where certification is flourishing, environmental organizations and federal and local authorities managed to strike a compromise. Such agreements stimulate the development of forest certification. However, a blanket distribution may be reached only when Russian legislation and international requirements have been brought into harmony.

The forest business strives to be a responsible user (including international standards), as in the future, this will help preserve the environment and become the only possible strategy of making international trade profitable. However, timber companies meet a number of problems in the process of certification, which are indicated following the FSC principles – the 1st, 4th, 6th and 9th principles.

FSC principle # 1 requires compliance with laws and FSC principles. As was mentioned above, this principle can hardly be observed in Russian legislative conditions because international and Russian standards are underpinned by different forest management principles.

Principle # 4 provides for community relations and workers’ rights. Companies interested in obtaining forest management certificates maintain worker’s rights. Such forest enterprises, as a rule, have no problems with special clothes, labor safety, legal salaries, etc.

The problem arises when it comes to the local population. The people are inexperienced with forest management; they cannot make an informed choice about the most appropriate system of forest management and use. Even the pilot project in the Pskov Model Forest supported by WWF and STF-Strug Company showed that people are reluctant to take part in such work. Meeting this principle will require careful, time-consuming work, aimed to change the mentality of people and alter their attitudes to forest resources.

Principle # 6 covers environmental impact. At present, the law maintenance policy is not yet regarded as natural by most enterprises. This is particularly true of the environmental expertise of forest management projects.

Principle # 9 – maintenance of high conservation value forests. There is no notion of “high conservation value forests” in Russian legislation, and consequently, the enterprises have no right



to preserve HCVF (though this is prescribed by FSC standards) otherwise they will have to pay a fine for “undercutting.” Besides, a year ago a working group created under the auspices of the Arkhangelsk WWF Project Office completed the development of the High Conservation Value Forests Identification Methodology and submitted it for approval to the Regional Agency for Forestry. This normative document was approved not so long ago, though it is not obligatory yet.

The opening of the FSC National Office is considered by many stakeholders as an important impetus toward the promotion of FSC certification in Russia. According to Andrey Ptichnikov, the head of the Office, certification specialists at enterprises and in local administration bodies have gathered unique experience in FSC standards implementation, which they should share with other stakeholders. The FSC will focus on promoting certified products to environmentally sensitive markets.

The promotion of products is, however, not enough for forest companies – Russian timber is in demand irrespective of certificates. The FSC is required to influence not only the producers, but also the consumers of forest products, who should be reflected in the price policy – the producers must get compensation for their certification expenses.

Today, the audit services are quite costly. This is largely because audits are performed by five foreign companies operating in Russia. One of the alternative ways of reducing the cost of auditing could be the appearance of an FSC-accredited Russian audit company. Two Russian companies are under the FSC accreditation process at the moment; as soon as they get the right to perform certification audits, an issue of certification cost decrease may be raised. One of them is EuroPartner Ltd. It is to receive FSC accreditation shortly and its experts are already participating in the audits of timber companies.

IT IS TIME TO CUT OFF  
INEFFECTIVE ELEMENTS

Head of Forest Stewardship Council, Heiko Liedeker, during his recent visit to Russia, said that the FSC keeps working to improve forest certification requirements and standards.

Table 2. Russian Enterprises Holding Chain-of-Custody Certificates as of April 10, 2006

Enterprise	Certificate validity, expiration date
Altaiisky Krai	
Timber Production Pricebatch	11.13.2009
Kosikhinsky and Nalokhibinsky LDK	11.13.2009
Biyskaya Furniture Plant	01.30.2011
Arkhangelsk Region	
Solombalsky LDK	01.10.2011
Arkhangelsky TsBK	02.20.2011
IlimSeverLes	01.30.2011
Kotlassky TsBK	03.08.2011
Onezhsky LDK	10.13.2010
Lesozavod 25	08.12.2010
PKP Titan	12.11.2010
Irkutsk Region	
IlimSibLes (a part of Ilim Pulp)	08.12.2010
CJSC Logging and timber rafting Department (a part of Ilim Pulp)	02.23.2011
Kirov Region	
LZK Lunvozh	09.11.2010
Kostroma Region	
Fanplit	10.31.2010
Krasnoyarsk Region	
Novoyeniseysky LHK	04.24.2009
Lesosibirsky LDK # 1	02.03.2010
Moscow	
VM-Invest	11.16.2010
Republic of Komi	
Finleskom	07.18.2010
Komilessnab	07.05.2010
Kustyshev N. M.	07.11.2009
Mag Ltd.	08.01.2010
Verkhnyaya Lopya	07.27.2010
Syktyvkarsky Plywood Plant	06.23.2009
Komiles	09.26.2010
Noshulsky LZK	08.14.2008
Luzales	07.31.2008
Saint-Petersburg	
Pomosch-Invest	07.05.2010
Vologda Region	
Cherepovetsles	05.30.2010
JSC Belozersky Lespromkhoz	03.21.2010

According to FSC Russian Office

At this time, 5,168 FSC certificates of forest management have been issued in 80 countries; the area of certified forests is 72.3mln ha. It is expected, that by the year 2015 it will be 350mln ha – the FSC will become the leading international certification system according to the area of the certified forest.

It is common knowledge that applicable forest certification standards are too cumbersome and inconvenient for users. At present, the FSC is demonstrating a new trend for standards simplification – “cutting off ineffective parts.”

As Heiko Liedeker noted, this work will result in the second version of chain-of-custody standards and new rules for marking certified products. The existing standard came into force about a year and a half ago and is to be revised. According to Liedeker, the FSC is trying to make the chain-of-custody standard more convenient, simple and acceptable for the forest business.

CHAIN-OF-CUSTODY

However, forest management certification is not enough for the right to mark the products with the FSC logo. A supply chain of raw wood (chain-of-custody) should be certified, too.

The chain-of-custody certification is an essential condition for the finished products to be marked with an FSC logo and recognized in the international markets. The goal of certification is to verify that FSC-certified raw materials were used to produce FSC-certified products. The sold volumes of certified lumber or paper products are controlled based on the actual volumes of procured certified sawn timber used in production.

Today, 29 Russian timber-producing companies are chain-of-custody certificate holders (see Table 2). Is it too much or too little? Most likely the latter. For example, in China, 150 certificates have already been issued, while in Japan – more than 300.

NATIONAL FOREST  
CERTIFICATION STANDARDS

The certification market in Russia has become almost monopolized. There are

several reasons for this. First of all, the FSC certification system is supported by the leading environmental organizations – WWF and Greenpeace, which have authority in the global timber industry. Apart from this, the FSC began working in Russia in 1998 when our country was not yet regarded as a rightful participant of the certification process. The FSC paid for elevation and got it. Also, as the study showed, the FSC is the most required certification scheme in the global forest certification market. 71% of consumers in the territory covered by the UN Economic Commission for Europe are oriented with the FSC, and only 29% with the Pan-European forest certification system (PEFC). The largest suppliers of certified products in Europe are Sweden, Finland and Germany; the major certified products markets are in Great Britain, Germany and the Netherlands. However, the boom of certification in Russia may make this country one of the leaders in the global certified forest product markets in the near future. Today, Russia accounts for about 10% of the FSC-certified global forests.

This perspective conflicts with the results of studies conducted in Russia. The results of studies showed that the forest certification market should not be a monopoly of one system. Moreover, forest market participants expect not only a competitive cooperation of certification schemes, but for Russia to have its own national forest certification system oriented at local conditions and based on Russian legislative and normative acts regulating forest activities. At the same time, the national system should receive international recognition.

COMPETITION  
IS AN ENGINE OF PROGRESS

One of the main drawbacks of FSC forest certification is that it does not provide for the recognition of national forest certification systems. The PEFC system competing with the FSC admits the establishment of national forest certification systems provided they are approved by the PEFC. That is why several years ago the development of the National Voluntary Forest Stewardship System was started at the initiative of union timber producers and exporters, oriented with PEFC endorsement. The work was coordinated by the National Voluntary



Forest Certification Council. Among the founders of the Council were timber companies and forest management enterprises from various Russian regions, research institutions and forest-related NGOs. Work on the national system has been performed since 2000 and is nearly complete.

The National Forest Certification System includes a legal framework, specifying the requirements of certified objects and indicators of the degree of compliance of certified objects; forest management and use certification procedures; chain-of-custody control procedures; TOR on system trademark; statutes of the managing board and functional departments of the system.

The legal framework is based on principles of sustainable forest management and use in economic, environmental and social spheres. These principles are requirements for the activities of all forest stakeholders. They are based on Russian legislation. The principles consider all PEFC requirements for national forest certification systems. They also reflect some FSC requirements not interfering with Russian legislation and reality.

The draft system of voluntary forest certification, including its legal framework and procedures, underwent testing in the production environment at three timber producing regions of Russia: Central (Vladimir region), Northwest (Vologda region), Urals (Yekaterinburg region).

For the past three years, corresponding seminars, discussing the system, were held in Arkhangelsk, Vologda, Yekaterinburg, Moscow and Saint-Petersburg. The system was revised and amended based on the results of tests and public consultation processes. In April 2005, the system passed the state registration. The national forest certification standards are to be submitted to the PEFC for endorsement.

However, several years after the set-up of the National Forest Stewardship Council, a Russian National Forest Certification Board was established by the Federal Agency for Forestry. The board had a similar task – to develop a national system of voluntary forest certification. The Russian National Board, though, was oriented at drawing up standards within the FSC framework.

Thus, a competitive environment in forest certification is being formed in Russia, which is an element of normal market relations.

These days the government is becoming increasingly concerned with the necessity of voluntary forest certification implementation in the Russian forest sector. On the other hand, it creates obstacles for the development of national forest certification schemes and the use of western certification schemes.

One obstacle is the constantly changing Russian legislation. The recently approved Federal Law "On Technical Regulation" abolished the existing rules of voluntary forest certification bodies' accreditation, according to which, Roslesaudit, the only operating national voluntary forest certification body, was accredited. The new law provides for the accreditation of voluntary certification bodies to be made in compliance with the rules approved by the RF Government. The rules, however, have not yet been established.

Moreover, certification bodies face difficulties when operating under the constantly changing legislation, including the Forest Code and normative acts, swallowing dozens of crucial amendments every year.

## CONCLUSION

Russia is now experiencing a certification boom. Just a few years ago no one could imagine that forest certification would expand so quickly. Nevertheless, at present, the certified forest area in Russia constitutes over 10% of global certified forests. In terms of the certified area, our country jumped up to the third place. Certification in Russia can be expected to develop further and the area of certified forests will exceed the areas in other countries.

This forecast is supported by the fact that the forest business in Russia has great potential for profit and will develop in the future. Industry development is always driven by changing demand. The demand, however, is increasingly oriented with certified products. Thus, certification is a cornerstone of successful forest business, giving the enterprises a financial impetus and drawing their interest. It doesn't matter what certification scheme dominates – the FSC, PEFC or others. The final objective is sustainable forest use, to which our timber companies are striving.

# FOREST CODE: CHOOSE OR LOOSE

**It is widely known that the State Duma passed the new Forest Code draft in the first reading in April 2005. The second reading of the draft, however, has not yet taken place due to heavy criticism of the document, and is scheduled for the spring session. The Forest Code draft is currently being revised by the State Duma Committee on Natural Resources and Use. Vladimir Kroupchak, doctor of economic sciences, an RFSD deputy and Chairman of the Subcommittee on Forests of the corresponding SD Committee, has discussed its progress.**



**"Vladimir, how many proposals for amendments to the Forest Code draft has your subcommittee received since the first reading?"**

**VK:** "At this time we have received more than five thousand amendments, comments and proposals to the version of the Forest Code approved by the State Duma during the first reading. Based on these materials, and the final protocol of the working group, our subcommittee prepared its version of the draft law, considering most of the proposals submitted by various forest stakeholders – forest managers, timber producers, environmentalists and authorities at

all levels. This version was sent to all interested enterprises and organizations, so now we may compare the two main versions of the Forest Code:

1st – a version developed by the Ministry for Economic Development and Trade of the Russian Federation, which was submitted by the Government to the State Duma and approved in the first reading.

2nd – a version prepared by the Subcommittee on Forest Resources for the second reading, which took into account proposals of the working group, the public and business."



**“As far as I know, the draft offered by the Ministry for Economic Development and Trade is referred to as largely unsuccessful. Could you list its drawbacks?”**

**VK:** “Having studied the version of the Forest Code submitted by the RF Ministry for Economic Development and Trade, I can definitely say that this version doesn’t solve the problem of attracting investments into the development of new resource bases, forest infrastructure, or the improvement of forest protection and regeneration. It doesn’t provide conditions for the development of advanced timber processing; on the contrary, it provokes ownership redistribution in the forest sector and the crumbling of effective timber companies. The thing is that it offers only one - not always justified - mechanism of forestland lease by companies, including non-specialized fly-by-night companies through a forest auction system. In practice, this draft law regards forests not as a fragile ecosystem but as a commodity, as the only way to win the auction is to offer the highest bid. It is obvious that the auctions will entail a decline of forest use, the interrupted supply of large processing plants with timber and, finally, a system crisis due to the collapse of technology-based local timber corporations. Newly-made forest monopolies will get permission for the unrestricted building of cottages in the forests, surrounding cities, and push up the prices of such socially-sensitive commodities as wooden houses, furniture and paper.”

“The draft law doesn’t provide advantages for forest use companies, which passed voluntary forest certification, and introduces a non-market mechanism of increasing the forest resources use fee, forcing the forest managers to use at least 30% of each forest resource type irrespective of site-specific management conditions. One of the major disadvantages is the absence of a justified procedure for determining fees per forest resource type; it should be calculated based on the conditions of the lease.”

“The draft law ignores investment-attracting instruments such as pre-qualification for participation in an auction, forest concessions with investment commitments, and the establishment of management units for specific purposes. It has no provisions regulating the construction and financing of forest roads. In fact, accessibility of forest resources

plays a vital role in the development of the national forest industry. As for the length of forest roads, we are lagging far behind other countries. It is worth noting, however, that, thanks to our efforts, the 2006 budget appropriates 500 million rubles for forest road construction. The sum is insufficient, but better than nothing...”

“The Ministry for Economic Development and Trade didn’t consider many other comments set forth in the final protocol of meetings of the working group established by RF Duma for revision of the draft law.”

**“They say, also, that the Ministry for Economic Development and Trade implicitly allows for the private ownership of forestland, which we have all anticipated.”**

**VK:** “The draft law introduces an institute of private ownership of forests, indeed. Moreover, the transfer of forestlands belonging to the forest fund will be accomplished under civil legislation. There will be a risk of the transfer of large forest areas into private property without considering the interests of local communities, which will give rise to social instability in the densely populated forest regions of Russia.”

**“What is the difference between this imperfect draft law and the version of the Forest Code prepared by your subcommittee?”**

**VK:** “Our version of the Code prioritizes public ownership of forests, as the global practice showed that the effectiveness of forest management and business does not depend directly on the forms of ownership of forestlands. In Europe, less than half of all public lands are private property. The share of public lands varies from 15% in Iceland to 99% in Turkey. In Canada, public lands account for 94% of the area, in USA – 39%. However, the effectiveness of forest use and regeneration in these countries, which are on top of the international timber market, is nearly the same.”

“We have also excluded the provision about the unjustified limitation of citizens’ access to the forests – this is our principled position. The forestland’s lease procedure in our version of the Forest Code requires holding auctions with the pre-qualification of participants. Priority should be given to the leaseholders with harvesting and advanced timber processing facilities, thus

demonstrating the relevant experience necessary for forest planning and sustainable use.”

“We offer an alternative classification of lease types. In our opinion, a short-term lease should be a lease excluding forest management for the period from one to six or seven years, and a long-term lease – a lease including forest management for the period of seven to twenty-five years with the option to prolong for five subsequent years provided the contractual obligations were fulfilled. This practice proved highly effective in Canada.”

“The fees per forest resource type should be determined based on lease conditions, that is, considering the quality of resources, their location and harvesting conditions, as well as finished consumer products manufacturing options.”

“The most important of our amendments to the draft ensuring the inflow of investments into the development of forest use and management is a provision regarding concessions of forest areas in the form of a long-term lease providing for the investment commitments of the parties.”

“The subcommittee’s version prioritizes the lease of the forest fund by enterprises performing the advanced processing of timber, and attracting subcontractor organizations to perform the works, as specified in the lease agreement. Companies engaged in forest certification will also have privilege during forestland allocation.”

“I believe that the draft should include provisions regulating the development and financing of forest infrastructures. If the forest user has already borne considerable expenses from the construction of forest roads or other infrastructure-related costs, our version provides for the compensation of investment outlay in the event of the transfer of developed lands to the other forest user.”

**“As we know, you took part in the meeting of the Government of the Russian Federation on November 24, 2005, which touched upon the development of the forestry and timber industries. The participants decided to work out a Federal Program entitled “Forests of Russia.” Is there any progress with this program?”**

**VK:** “First of all, a national target program for forestry development is a must. I am sure this program will allow us to join efforts with

all forest stakeholders and elaborate specific measures in order to help the Russian forest sector out of the crisis and let the timber industry use all its competitive advantages and hold an appropriate position among the developed timber countries. Our subcommittee has already worked out conceptual approaches to the development of such a program.”

**“What do you think of the transfer of federal forest governance and management functions to the RF territorial subjects following the federal law FZ “On Introducing Amendments to Some RF Legislative Acts in Connection with the Perfection of the Division of Powers?”**

**VK:** “My attitude is negative, and I will explain why. First, large timber corporations include harvesting companies and processing enterprises, located in different regions, i.e. they maintain an interregional status. Being a “growing point” for the forest sector and the national economy in general, they require a guaranteed supply of raw timber to their processing plants. This problem can be solved only on the federal level, as the practice shows that pursuing the personal interests of regional administration heads may lead to the discrimination of timber companies, developing their production in other RF subjects.”

“Apart from this, the transfer of forest governance functions to the regional level has a political background. Owners or heads of large interregional corporations, which have demonstrated the ability to control a large management project and made a significant contribution into the development of the region, have authority with the local population. So, the heads of corresponding administration bodies are often tempted to interfere with the dynamic growth of their political opponents’ businesses, first of all, through the distribution of natural sources of raw materials. This notion is proved by the experience with forest auctions, held in late 2004 in the Arkhangelsk region, which resulted in the transfer of the best forest areas to fly-by-night companies, leaving aside traditional forest users owning advanced timber processing facilities. The federal ownership of forests, interregional and transnational character of the timber industries and vast forest areas require that the coordination be performed by the federal center.”

*Interviewed by Ivetta KRASNOGORSKAYA*



# OVER THE PAST FIVE YEARS, THE AREA OF CERTIFIED FORESTS HAS INCREASED SOME 20 TIMES

By the end of 2005, the certified forest area in Russia reached 6.7mln ha. All of these forests are FSC-certified. Though the Forest Stewardship Council has been operating in this country since 1998, the FSC Russian Office – the direct office of FSC-International, controlling development of the certification in Russia, was opened in Moscow only in February 2005. How did it start, what are the challenges of FSC-certification in Russia and should it fear competition? We asked these questions to Andrey Ptichnikov, director of the FSC Russia National Office.



**AP:** "Some years ago, in 1998, a number of non-governmental environmental organizations (WWF, Greenpeace Russia, Centre of Wildlife Protection, etc.) created an initiative working group for the development of national FSC standards. If no standards existed, implementation of the FSC certification system with all its merits would be impossible in Russia: every country has its peculiarities. The progress was slow, a lot of conflicts arose between the parties; we tested tentative standards in different regions of Russia. Practically speaking, the agreement was reached not so long ago: national FSC-certification standards came into effect only last year."

**Despite all the difficulties, none of the authors doubted the importance of their work, as the certification had already covered 80 countries and Russia could not stand aside, could it?**

**AP:** "Surely. Even China has about 150 FSC chain-of-custody certificates. Chinese enterprises procure Russian roundwood, process it and then re-export nearly half of it to Europe and the USA. This, in fact, is the reason why they entered the certification process. Recently, a Chinese governmental delegation visited FSC headquarters in Bonn and supported the initiative for opening an FSC National Office in China."

"In Japan, over 300 enterprises are holding FSC chain-of-custody certificates. Importing timber for their numerous processing plants, they make high demands on the certification of tropical forests and increasingly strong requirements for imported forest products from temperate and boreal zones."

"Russia has faced the same situation – almost all the enterprises in its European part have to meet certification requirements. The certification is expanding to Siberia and even to the Far East. Up until now, FSC certificates have been issued to 24 Russian companies, out of which 22 have the so-called chain-of-custody certificate, allowing the opportunity to trace the movement of certified forest products from the stump to the enterprise and commercial agent and mark the products with an FSC logo. A number of large enterprises, such as Kotlassky TsBK (PPM) have FSC-mixed

certificates: according to this system, certified products make up 30-50% of the total volume, while the remaining part doesn't pass a thorough inspection, but the legality of the products' origin is controlled by the enterprise. At present, from 10 to 15mln ha of Russian forests have entered the certification process. So, we may say that forest management is under the significant influence of forest certification."

**Is it only export-oriented market actors who receive certificates?**

**AP:** "Not necessarily export-oriented. Among certificate holders there are companies oriented exclusively in Russian markets, supplying products to 'responsible' producers or trade companies with foreign capital. Thus, Kaysky lespromkhoz (logging operation) harvests birch sawlogs, used by Domostroitel company to manufacture furniture, supplied to IKEA supermarkets and purchased by Russian customers."

**So, the voluntary certification is, in fact, forced: if you want to be successful in business and meet with the approval of the industry, you won't be able to survive without certification...**

**AP:** "Certification is needed to minimize the business risks. If the corporate policy of IKEA requires only certified products, the supplier cannot but meet these requirements. Or he will have to search for another buyer. Some timber producers are willingly passing the certification procedure not only because it is the requirement of the market, but because this is the requirement of their corporate policy. In the view of the market, for Ilim Pulp company, there was no sense in passing certification: most of its products are exported to China and supplied to the domestic market. The requirement of certification of Ilim Pulp is, first and foremost, the requirement of the corporate forest use standard."

"The certificate means the opportunity to sell the products at a higher price. Many big western banks crediting forest-related enterprises, for instance, the International Financing Corporation (IFC), Abn-Amro, may refuse the grant of a credit if the company lacks the certificate or doesn't plan to



obtain it. Thus, there are many reasons why enterprises enter the voluntary certification process."

**How much time does it take to pass a certification process?**

**AP:** "Certainly, this is not a quick process. It begins with a pre-assessment. An experienced expert or auditor makes a visit to your enterprise to get acquainted with its performance, paying special attention to the quality of forest management and use, highlights all gaps in compliance to be eliminated by the enterprise by the time of the baseline audit. As a rule, for the average Russian enterprise, the time period from the date of pre-assessment till the date of the baseline audit is from six to twelve months. During this period the enterprise should eliminate all gaps in compliance with certification requirements. Large companies may need up to two years for the whole process, though much depends on the enterprise itself. For example, the Titan group of companies spent two years on the certification process, while Ilim Pulp Corp. – only one year."

**What factors in to the refusal of the certificate?**

**AP:** "The task of the auditor is to check the progress of the enterprise in taking action on the prescribed corrective measures. If the problem cannot be solved entirely by the applicant, the auditor assesses the situation and makes an informed decision as to what extent the problem hinders the issue of the certificate."

"There is an illustration in point. The buyer of the raw materials is to conclude contracts with the supplier. These contracts must guarantee that the company buys only legally harvested timber. The suppliers should present the buyer with all required documents: logging permits, transport bills, documents verifying the controlled status of the wood. The companies following this principle in their work with timber logging enterprises are regarded as contributors to the fight against illegal timber harvesting."

"The auditor has the right to send enquiries about the supplier to the Federal Service

for Supervision of Nature Resources or Tax Inspection. If he comes to know that the supplier is recorded as engaged in illegal harvesting, the auditor will issue a pre-condition or a condition for the company: to refuse a dishonest partner or make him play by its rules..."

"One should not stick to the idea that if an enterprise managed to obtain a certificate, its performance is perfect. This means only that the problems of the enterprise are identified and should be addressed within a five-year period. They are not, however, serious enough to prevent the issue of the certificate."

**In this country, certification is often put on par with environmental responsibility. How are these notions interrelated? Can you draw a demarcation line between them?**

**AP:** "Certification often encourages the enterprise to take greater environmental responsibility. Before the certification era, only a small percentage of companies demonstrated such responsibility. Speaking on this issue, I should touch upon the problem of illegal logging. It has two sides: on the one hand, there are the so-called 'black loggers,' operating in our forests and ignoring permits and rules. On the other hand, Russia has a chronic problem with the underassessment of timber due to a systemic error in forest inventory. Forest rangers should make measurements of the forest before and after cutting. Unfortunately, no one wants to do this job, so the measurements are all too often made in a hit-and-miss fashion, based exclusively on forest inventory data, which is outdated. The error accumulates with every passing year."

"When it comes to 'black loggers,' the enterprise must filter out controversial sources, and in case of any doubts check its suppliers and reject those with tarnished reputations. How can certification help with 'officially non-inventoried' forests? Obviously, they can't. This is the system's problem, which is to be solved by the government. Our FSC office receives a lot of appeals asking us to have this problem addressed at a higher level."

**You mentioned earlier that despite the uniform principles and criteria applied**

**by all countries, which accepted the FSC system, each country has specific features that cannot but influence the certification process. What are the peculiarities of the Russian process?**

**AP:** "Indeed, though the principle and criteria are the same for all countries, Russian distinctive features are related mainly to its unique forest management system. Nowhere else in the world does the government interfere with business as much as it does here. Nowhere else are there leskhozoes and such complicated knotty rules of forest use as in Russia. Existing rules of planning the allowable cut, designation of harvest, forest regeneration, all turn out senseless in market conditions and lead to forest deterioration. In short, the system itself is inadaptably and non-marketable."

**Let us speak a bit about alternative certification schemes applied in the world and their prospects of expansion into Russia.**

**AP:** "If we look at the USA, they have elaborated three certification systems: the first is the proper American SFI scheme; the second is the Canadian CSA scheme, actively promoted by the government and the FSC. The latter is well developed in Europe. On the other hand, Europe has its own and very active Pan-European Forest Certification scheme – PEFC. It was worked out on the initiative and for small forest owners possessing half of European forests. In some European countries PEFC certification may be easy for small forest owners thanks to the benign requirements and standards of certification procedures. On the other hand, this system has a smaller market share. Many experts believe that the PEFC certification development is stimulated by politicians, not businesses. Most experts recognize that the FSC system is less flexible and oriented mostly at large and medium forest owners; consequently, it is developing actively in countries where they dominate (Canada, Sweden, and Russia). When purchasing wood, the buyers are concerned with decreased environmental and social risks, so many of them, if not most, are oriented in strict certification schemes. By the way, the FSC logo is most often seen at retail shops; it can be seen practically in all large DIY shops. In

the meantime, other logos can also be seen in wholesale trade: any certified wood is better than non-certified."

"In Western Europe, FSC forest management certification has less bright prospects due to the dominance of small forest owners. On the contrary, FSC is booming in Russia and other former socialist countries. For the past year the area of certified forests in the Ukraine increased 5 times, in Belarus – 4 times, in Bulgaria and Romania – 3-4 times, in Russia – 3.5 times. This year we predict a doubling of the certified forest area. The total certified forest area in Russia has expanded nearly 20 times over the past five years."

"Now our main task is to help small and medium forest owners certify their operations. FSC offers a group certification scheme and a simplified certification procedure for small and low intensity managed forests (SLIMFs)."

"In Russia, two initiatives for the development of National certification schemes emerged; both are planned to be accredited in the Pan-European Council. For this purpose, two councils were established: the National Forest Certification Council under the supervision of academician A.S. Isaev (close to the Federal Agency for Forestry) and the National Council of Voluntary Forest Certification under the supervision of N.S. Yermeev (close to the RF Union of Timber Producers and Exporters). Each of these councils passed the standard development procedure and now they both are completing their packs for standards and certification procedures. It is obvious that some of the Russian enterprises will be PEFC certified, though the competition of the two systems on a limited market may become a headache for interested forest users."

"Our FSC Russian Office is supporting the National Forest Certification Council headed by A.S. Isaev: this system is much closer to the FSC in terms of forest management standards. It will be suitable for the enterprises desiring to obtain certificates for various systems, the forest management requirements, however, will be largely similar."

*Interviewed by Ivetta KRASNOGORSKAYA*



# PSKOV MODEL FOREST: BACKGROUND INFORMATION

**The project aims to develop an environmentally appropriate, socially beneficial and economically viable forest management model and replicate the model for other regions of Northwest Russia.**

**The Pskov Model Forest is located on the territory of Strugo-Krasnensky District of Pskov Oblast in Northwest Russia. The model area covers 18,400 hectares of forestland.**

## Project Donors:

- Swedish International Development Cooperation Agency (Sida)
- WWF Germany
- Stora Enso Oyj

## Project Partners:

- Ministry of Natural Resources of the Russian Federation
- Administration of Pskov Oblast
- Administration of Strugo-Krasnensky District
- Forestry Agency for Pskov Oblast
- Northwest Forest Inventory Enterprise
- St. Petersburg Forestry Research Institute

## Project Duration:

Phase I – 2000–2004

Phase II – 2005–2008

## THE PROJECT TODAY

“After the second phase of the Pskov Model Forest had been launched in April 2005, the project gradually started to pick up speed in disseminating innovative approaches in four regions of Northwest Russia,” remarked the project’s donors and stakeholders at the meetings of the Advisory Board and Steering Committee, which took place on December 6th and 7th in St. Petersburg. Issues under discussion included the dissemination of project outcomes in Arkhangelsk, Vologda, Pskov and Leningrad Oblasts, mechanisms for the approval of forest norms on the federal level, the role of the newly established consultative body – the Advisory Board – in facilitating the project’s work, and other important matters.

## PROJECT’S TARGET COMPANIES: NEW WORK FORMAT

While establishing productive means of collaboration with our target companies, it is important to understand what expectations we are holding of each other and what practical results our joint efforts will lead to. We realize that there are a lot of challenges ahead, however, it is only the replication of new approaches in the everyday work of forest companies that will help them reach new levels in developing an economically viable and environmentally sound business. “Dissemination of the project’s major outcomes means a transition to a new format where modern approaches to forest management will go beyond the 18,400 hectares of experimental area and be replicated and tested in new territories covering 500,000 hectares of forestland,” said **Boris Romanyuk**, scientific director of the Pskov Model Forest.

According to the project’s work plan, the focus of 2006 activities is going to be on determining region-specific models for disseminating experience in the four target companies, including Russkiy Les, Swedwood-Tikhvin and the Kingisepp Forest Enterprise in Leningrad Oblast, and STF-Gdov in Pskov Oblast.

During negotiations with the target companies in November, a decision was made to conduct a preliminary assessment of the companies’ forest funds in order to determine the list of forest norms that are of primary importance for certain forested areas. Another objective

that needs to be addressed is to identify which of the forest companies in Arkhangelsk and Vologda Oblasts are interested in disseminating the Pskov Project’s experience in sustainable and more intensive forestry.

## FOREST NORMS ARE TO COME INTO FORCE!

According to law, new forest norms should be officially approved before forest companies may apply them in their operations. In cooperation with the project, WWF-Russia is actively working towards the facilitation of the authorization process by the forest administration. The first success in this direction has been achieved: as it was announced at the Advisory Board meeting, norms for commercial thinning developed during the project’s first phase are going to be considered by the Forest Use and Forest Inventory Section under the Council of the Federal Forestry Agency (Rosleskhoz) in February-March of 2006.

By the summer of 2006, project experts are planning to develop norms for conservation



planning, which are also subject to the official approval procedure in Rosleskhoz.

### FINE-TUNING OF THE PROJECT MODEL

Project specialists are in the process of fine-tuning and upgrading technologies of more intensive and sustainable forest management. In the summer and autumn of 2005 they conducted an extensive field survey of forests in the north of Pskov Oblast with the purpose of collecting field data necessary for developing new forest norms, interpreting satellite images to obtain rapid and accurate forest data, and establishing a system of economic methods in forest management, including assessment of the quality of standing timber and impacts of thinning operations on its quality.

Field surveys included a number of activities, such as tree counts on the identified forest compartments, selecting of model trees, measuring of parameters of model trees,

and the identification of wood defects. The total number of model trees measured was 1900. Fieldwork aiming to collect data necessary for testing taxation and landscape parameters and the application of remote sensing methods was focused on establishing a network of 320 test polygons to analyze the information capacity of satellite images with different resolutions.

### A NEW PROJECT COORDINATION BODY ESTABLISHED

The first meeting of the Advisory Board of the Pskov Model Forest was held on December 6th in St. Petersburg. The goal of this coordinating body is to ensure a broad involvement of stakeholders in project implementation. Every autumn, members of the Advisory Board representing the Federal Forestry Agency, Forestry Agencies from Leningrad, Pskov, Arkhangelsk and Vologda Oblasts, leading forest companies and their associations, forestry research institutes and educational institutions will come together to discuss the project's current activities, provide their feedback and establish priorities for the next period.

Participants of the first Advisory Board meeting addressed the following issues: economic analysis of practical implementation of the project's model by its partner, STF-Strug Company, and comparative analysis of new technologies and traditional methods of forest management, official approval of normative documentation developed by the Pskov project on the federal level, revision of the cutting age for aspen in light of its current economic inefficiency in most territories of Northwest Russia, and other important matters.

Director of the Northwest Forest Inventory Enterprise **V.I. Arkhipov** suggested that his company and the Pskov project might consider possibilities of cooperation in developing federal standards for establishing databases of test plots on the territory of the Russian Federation. Mr. Arkhipov also said that it would be useful to elaborate on the incentives for developing environmentally responsible forest businesses since only large forest companies can afford the transition to the intensive forest management model proposed by the project.

On the next day, project donors at the Steering Committee meeting summarized the input from the Advisory Board members and discussed the project's work plan and budget for the year 2006.

## PROJECT NEWS

### PROJECT GOES BEYOND PSKOV OBLAST

On October 7th-9th, 2005, over thirty journalists representing various print and electronic mass media took part in a press tour organized by the Pskov Model Forest Project.

The motto of the press tour was, "Pskov model of sustainable forest management in reforming forestry in Northwest Russia." Alongside federal media such as RBC, AIF, and Forest. RU, participating in the press tour were journalists from Leningrad, Arkhangelsk, Vologda and Pskov Oblasts, St. Petersburg and Novgorod. According to scientific director of the project **Boris Romanyuk**, "One of the major objectives of the second phase of the project is to disseminate knowledge and experience in the northwestern region of Russia." Thus, the press tour was one of the instruments used to communicate information about the Pskov Model Forest, its ideas, and practical outcomes to the public in four key regions.

The press tour program featured a press conference with the head of the Forestry Agency for Pskov Oblast **Oleg Semyonov**, an excursion of the project's demonstration plots and the nature trail, a meeting with local community activists in the Forest Club and a presentation of children's environmental clubs. The journalists got first-hand information about the current situation in the forest sector of Pskov Oblast, as well as feedback on major problems and solutions suggested by administrators, foresters, policy-makers, researchers, and the general public.

A number of practical solutions were developed in the framework of the first phase of the Pskov Model Forest (2000-2004). Thus, the journalists were introduced to major elements of the project's approach to sustainable forestry including its silvicultural, economic, environmental and social aspects. The press tour aimed not only to inform the public in



**Olga Rogozina, environmental director, Stora Enso International Wood Procurement**

four regions of Northwest Russia about this approach, but also to initiate broad discussions on the ways forestry can become economically viable and environmentally appropriate.

The press tour brought tangible results: according to the follow-up monitoring, approximately 40 analytical publications appeared in the national mass media and information about the project was communicated to the public in Northwest Russia. In addition, new professional contacts established among the journalists will be maintained and developed in the future.

### HOT DISCUSSIONS IN MODEL AREA PROCEED

Among the 60 forest specialists who visited the Pskov Model Forest on October 10, 2005, there were directors, chief foresters and forest engineers from 22 agricultural leskhozoes of Pskov Oblast. The touring group also included **Mikhail Zenkov**, head of the Pskov Oblast Committee for Nature Use, and **Nikolai Buriy**, head of the state enterprise "Pskovprirodresursi" (Pskov Nature Resources).

The goal of the tour was to get acquainted with practical outcomes of the Pskov Model Forest Project in the area of sustainable forest





management, including experience in FSC certification. According to N Buriy, who initiated the excursion, "We want to keep up with modern requirements, so we are very much interested in methods of rational forestry developed by the Pskov Model Forest."

The Project's demonstration plots were a popular topic regarding the advantages of various silvicultural systems in the light of new forest norms proposed by the project. Retention of key biotopes in clear cutting was also one of the issues under discussion. Admitting the necessity to update forest management methods, forest specialists, however, pointed out that positive aspects of the standard system of forest use should not be left out.

### PROJECT'S EXPERIENCE PRESENTED AT INTERNATIONAL CONFERENCE

On December 13th and 14th, project experts took part in the international conference, "High Conservation Value Forests" (HCVF): from the Global Concept to Regional Forest Management Systems," which took place in Arkhangelsk.

**Mikhail Zenkov, head of Pskov Oblast Committee for Nature Use, is interviewed by Pskov TV Company**



The goal of the conference was to develop environmentally sound mechanisms of long-term forest planning at the national and regional levels based on the global HCVF concept. Pskov Model Forest Project leader **Ekaterina Chernenkova** made a presentation on the application of project experience for developing a regional strategy for conservation of biodiversity in forest use.

### ECOLOGICAL MARATHON OF YOUNG NATURE LOVERS

At the beginning of December an ecological marathon, "Love your Land!" started on the model forest area in the Strugo-Krasnensky District of Pskov Oblast. Eight teams representing various educational institutions took part in the event organized in the framework of WWF Friend's Club program. During a month-long preparation period each team practiced drama pieces devoted to issues of environmental protection. Young nature lovers called on the audience to protect nature, take action and join the environmental movement. In addition, they organized an exhibition of pictures and artworks made from wood, straw and other natural materials. The marathon had a significant response among local residents.

### LOCAL COMMUNITY IS CONCERNED ABOUT FOREST REFORMS

A meeting at the Forest Club on December 16th discussed the situation in the forest sector of Pskov Oblast, which is in the process of reforming. The meeting was attended by 26 regular club members residing in the model forest area including forest specialists, administrators, teachers, journalists and other representatives of the local community.

Among guest speakers who shared their opinions about the situation in the forest sector of the region was **Nikolai Buriy**, head of the newly established state enterprise "Pskovpriodresursi" (Department of Nature Resources for Pskov Oblast). This department was organized as part of the ongoing forest reform, which assigned responsibility for management of former agricultural forests to the regional authorities. According to N Buriy, the situation in his department is far from ideal. Major problems they have to address on a daily basis include inaccurate forest data, lack of qualified specialists, inefficient

forest management practices, and illegal logging. N Buriy believes there is an urgent need to change the entire forest management paradigm through introducing modern thinking and new attitudes and by building on the available experience of the Pskov Model Forest. With this strategic goal in mind the head of "Pskovpriodresursi" is working on the new inventory of the forest fund, establishing a staff retraining system, and purchasing professional tools and equipment.

Reforming processes also affected self-government structures. The new head of the local self-government body, **Victor Reshetov**, noted that the list of his priorities includes the most urgent needs of local residents, such as firewood for heating homes, street lighting, cleaning forests adjacent to the village of domestic waste, and increasing penalties for individuals and organizations that drop litter in the forests.

Members of the Forest Club meeting also welcomed specialists from the Pskov Model Forest, who shared results achieved by the project in 2005.

### OTHER NEWS

On November 22nd, in-field monitoring of STF-Strug's performance of the ecological/landscape forest plan was carried out by project experts, specialists from the Northwest Forest Inventory Enterprise and the company's management. As a result, a decision was made to upgrade the system of training for the company's staff and to further develop the system of monitoring compliance with the requirements of the forest plan developed within the framework of the project's first phase.

#### The project's recent publications include the following brochures:

1. B Romanyuk, A Knize, S Shinkevich, G Zakharov, and A Kudryashova. Thinning Schedules. 500 copies (in English).
2. Y. Bublichenko, A. Bublichenko, and B Romanyuk. Criteria for Assessing Biological Diversity of the Vertebrates in Conservation Forest Management Planning. 1500 copies (in Russian).
3. A 2006 desk calendar "Wildlife of the Pskov Forest". 1000 copies.



**Boris Romanyk, scientific director of the Pskov Model Forest Project**

### MASS MEDIA ABOUT THE PROJECT

- **N. Popova.** Podium for Trees. "Volna" (newspaper published in Arkhangelsk Oblast) №41. October 25-31, 2005.
- **S. Mikhailov.** Pskov Model Forest Shares Experiences. "Lesniye Novosti" ("Forest News") №20. October 15, 2005.
- **S Mikhailov.** Pskov Model Forest Is Replicating Outcomes. Magazine "Lesprominform" №9. 2005.

**Iliya Verveiko, senior forest specialists, Ilim Pulp Enterprise**







# FROM IDEA TO PRACTICE

## The Komi Regional Non-Profit Foundation "Silver Taiga" implements principles of sustainable forest management in the Komi Model Forest Project

### Project Implementation Area:

Priluzsky Leskhoz, Komi Republic, Russia, 800 000 hectares

### Project Goal:

Implementation of sustainable forestry in the Komi Republic and new experience dissemination in Northwest Russia.

### Key Components:

#### Social:

- Long-term interests of local population
- Participatory tools in forest management

#### Economic:

- Economic basis of forest management
- Economic assessment of timber resources
- Efficiency of forest management

#### Ecologi:

- Pristine forests
- Biodiversity conservation plan
- Soil protection

The popular term, "sustainable forest management," is interpreted as attainment of a balance in economic, social and environmental values of the forest. At first sight it seems to be a clear definition. Moreover, national and international criteria of sustainable forest management has been developed and applied for over 10 years in different forest certification systems to carry out conformance evaluations of timber companies. In reality it is not that obvious, especially when a theory meets daily practice in specific forest areas, logging sites and landscapes, and encounters problems of the local population dependent on forest. On the border of the 20th and 21st centuries, the World Wide Fund for Nature (WWF) and World Bank held a conformance evaluation of forest management systems in several countries and found that even the best systems met the sustainability criteria maximum by 65%.

Sustainable forestry strives for a combination of three important components: a long-term and stable profit in forestry, meeting ecological requirements during logging operations, and observing interests of the local population and future generations. It is a goal of the Komi Model Forest Project to guarantee application of international criteria to forestry practice, a complex project that aims at analyzing and handling economic, environmental and social issues of forest management in the Komi Republic and the European North of Russia.

The Komi Model Forest Project has been functioning since 1996 and is funded by the Swiss Agency for Development and Cooperation (SDC).

Since 2002, the project has been implemented by the Komi Regional Non-Profit Foundation "Silver Taiga," assisting forest stakeholders in the promotion of sustainable forest management.

## MAIN ACHIEVEMENTS OF THE KOMI MODEL FOREST PROJECT

### REGIONAL FOREST POLICY

- Draft Concept of sustainable forest management and use in the Komi Republic is developed and determines the main aspects of the regional forest policy for a middle-term perspective.

- Draft of the development strategy of the timber industry of the Komi Republic until 2015 is elaborated on the basis of the Draft Concept.

### PRISTINE FORESTS AND BIOLOGICAL DIVERSITY

- Inventory and ecological evaluation of pristine forests in the Priluzsky Forest Unit (leskhoz) was carried out and utilized as the basis for decision-making in their conservation and sustainable management.

- Regional Program on Pristine Forest Conservation and Management in the Komi Republic for 2001-2008 was elaborated and is under systematic implementation. By the beginning of 2006 the inventory of pristine forests was completed in the territory of 19,5 million hectares (2/3 of the total forest area in the region). A field evaluation of pristine forests was carried out in 10% of the total forest area.

- Methodological recommendations for determining the ecological, social and economic value of large pristine forests areas in the Komi Republic were drawn up. Various solutions in conservation and sustainable management in the Udora Region of the Komi Republic were proposed on the basis of the conducted evaluation.

- Recommendations on final fellings in pristine forests with ecology conservation for the Komi Republic were approved by the Head of the State Forestry Agency for the Komi Republic.

### FSC-CERTIFICATION

- The area of the Priluzsky Leskhoz of 800, 000 hectares and chains of custody of the 3 logging companies were certified by the FSC system.

- FSC-certification of the IKEA suppliers from the Kirov Region (100, 000 ha) and Mondi Business Paper Syktyvkar (1, 200, 000 ha) is assisted by the Komi Model Forest Project consultation.

- Komi Regional FSC Draft Standard is harmonized with the National Draft Standard.

### FOREST ECONOMICS

- Rent assessment method of timber resources is developed and presented to the forest stakeholders. Approaches to the determination of the economic accessibility of forest resources are elaborated based on this economic evaluation method.

### PUBLIC PARTICIPATION IN FOREST MANAGEMENT

- Recommendations on public hearings in forest management are introduced in the Komi Republic.

- The Statute on allocation of mushroom and berry sites in the state forests is drawn and recommended for application throughout the Komi Republic.

- The Community Forest Council is established and functioning in the Priluzsky Region. It involves local activists, carries out information and training activities in sustainable forestry and assists cooperation between the population and the forestry unit.

- The Project has supported local initiatives in: establishment of the Forest Museum in the Priluzsky Regions (place, 2 expositions on the forestry history and forest exploitation); recreation forestry (popular recreation areas, village tourism development).

### FORESTRY

- Recommendations on soil protection during logging operations were approved for the Komi Republic.

- Inventory program according to the principles of sustainable forest management is prepared for the Priluzsky Forest Unit.

### TRAINING AND QUALIFICATION IMPROVEMENT

- Extension courses in sustainable forest management are developed for foresters.

- Over 800 professionals from forest units, logging companies and conservation organizations of the Komi Republic, neighboring regions and abroad have attended extension courses in sustainable forestry.

- Training courses in the Komi Model Forest are aimed at practical solutions to the issues related to biodiversity conservation, forest certification, forestry and logging planning, etc.

- Most of the Model Forest courses are held in the field at special demonstrational trails and polygons.

- The Komi Model Forest Project and Silver Taiga Foundation are interested in a broad dissemination of new and previously accepted approaches to sustainable forest management. Information on most of the project achievements is available at the web-site [www.komimodelforest.ru/cgi-bin/eng/eng\\_main.pl](http://www.komimodelforest.ru/cgi-bin/eng/eng_main.pl). However, as the saying goes, it is better to see once than to hear a hundred times. That is why the Silver Taiga staff invites all interested specialists to visit the Komi Model Forest Project to see how this sustainability concept is realized in forestry practice.

*PAUTOV Yuri Anatolyevich,  
Forest Policy Officer  
Silver Taiga Foundation*



# OLD EQUIPMENT WON'T LAST LONG: THE FUTURE OF RUSSIAN SAWMILLING

**The glowing reports of Russian officials on the non-stop growth of the Russian sawmilling industry signify anything but a radical turn in the industry. The growth achieved by timber factories and sawmills derives from the selflessness of industry workers and competent on-site managerial decisions rather than from the competent management of the industry itself.**

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## RUSSIA'S POSITION IN THE GLOBAL SAWN GOODS MARKET

Approximately 400 million cubic metres of various kinds and grades of sawn timber are produced in the world annually. The USSR was the industry leader up until the mid 1980s, producing up to 80 million cubic metres of sawn goods annually.

Nowadays, the biggest sawn timber producers are the USA - producing 87.5 million cubic metres in 2004, Canada - 60.6 million cubic metres, Russia - 21.5 million cubic metres, Brazil - 21.5 million cubic metres, and Germany - 19.5 million cubic metres. Consequently, our country yielded its leading position in the sawmilling industry and its share now amounts to only 5.5% of the global sawn timber output. This share is said to be decreasing year by year. While the last 5 years have seen a 6.7% increase in Russia's sawn timber production and a 7.8% increase worldwide - and the tendency still persists- these figures seem quite deplorable when we take a more significant period of time, such as 1992 until the present. The output has decreased since the economic liberal reform in Russia by 2.5 times while increasing by 1.5% worldwide.

Nevertheless, an increase in sawn timber exports has been observed in Russia. 12.5 million cubic metres of sawn timber was sent out in 2004, with 7.6 million cubic metres in 1985 and 2.8 million cubic metres in 1992. This proves not only the accretion of demand for Russian sawn timber, but also an increase of Russian sawmilling companies' dependence from the situation in outer markets, as well as from the currency rate.

The leading importers of Russian sawn timber are: Japan - 750,000 million cubic metres, Great Britain and Egypt - 700,000 million cubic metres, China - 650,000 million cubic metres, and Holland and Germany - 500,000 million cubic metres annually.

Today, the lost positions are prevented by several factors, primarily being a lack of contemporary equipment and the significant tearing of existing equipment, in addition to a shortage of investments, both domestic and foreign.

## WHAT ABOUT TECHNOLOGY?

The Swedish Institute for Sawn Timber Research has published pictures of three Swedish sawmills

in its 1995 inventory report to illustrate the state of the Swedish sawmilling industry and its development in the 1700s, 1950s and 1990s. The picture is included in this article. It's clear that the pictures from the 1990s comply with the modern state and development of the sawmilling industry in the Scandinavian country. The pictures from the 1950s are recognized by every Russian sawmill operator, featuring large native sawmills or LDK's with prevailing saw frames. Yet, 30 years ago, Valentine Samarin, the director of Severolesoexport, the country's largest timber exporting group, said that we were 25 years behind in the sawmilling industry. Similar high-flown announcements were made by Nickolai Tomofeev, the minister of the timber and woodworking industry. No considerable changes were made in the technologies either in the Soviet or post-Soviet period. As a result, Russian sawmilling is reported to be lagging at a minimum of 50 years.

The majority of Russian factories are equipped with saw frames that were phased out 15-20 years ago. Moreover, leading countries in the timber industry refuse to use them. Table 1, representing the change in the number of large Russian and Swedish sawmills equipped with these saw frames, range from 1973 to 2003, proving this fact. The number of such sawmills is uniform in Russia (108) and changed insignificantly in the last 2-3 years, whereas the number of "saw frame" factories reduced by almost 70 times in Sweden (279 to 4). According to experts, saw frame sawmilling is the most expensive method of timber sawing both from an energy standpoint (consumption of heat and electrical energy) and from the point of view of raw materials (huge amounts of waste with a small sawn timber yield).

The renewal and modernization of sawmill equipment is regularly discussed at every level - from sawmill smoking rooms and director-

general office's to the Presidential Executive Office. It seems everyone realizes what the necessary actions are: renewing technologies by supporting the domestic science in its development of modern frame saws and complete lines, etc, although the sometimes incompetent policies of authorities prevents the problem from being solved. Moreover, the almost completely ruined system of research institutes takes its devastating effect. There are almost no research institutes in the country that function evenly. Furthermore, many of the institutes are virtually in a state of bankruptcy. So, native sawmilling has no equipment being developed in Russia, while western technologies are too expensive for Russian enterprises, thanks to the state customs policy.

However, some efforts by Russia to design its own contemporary frame saws cannot be denied. The Ministry of the Timber Industry realized frame sawmilling had no future at the end of the 1970s, and in the beginning of the 1980s, some attempts were made to design a domestic contour band and milling machines in many sectoral research institutes including: VNIIDMash, CNIIMOD, CNIIME, CNIIF, VNIIDrev, Giprodrevprom, Giprodrev, SibNIILP, SverdNIILP, SevNIIP and many others. The designers tried to copy the then existing foreign frame saws while also trying to introduce original alternatives.

Alexander Grace, draftsman and director of the Central research institute of mechanical woodworking (CNIIMOD) offered his alternative to the contour band line in the beginning of the 1980s. The complex line for log sawing was tested at Arkhangelsk LDK № 1 and the Nevskaya Dubrovka sawmill in Leningrad in 1985-87. Its results are unknown.

Scientific publications also paid attention to the new developments. The original ideas of Grachev's contour band line were



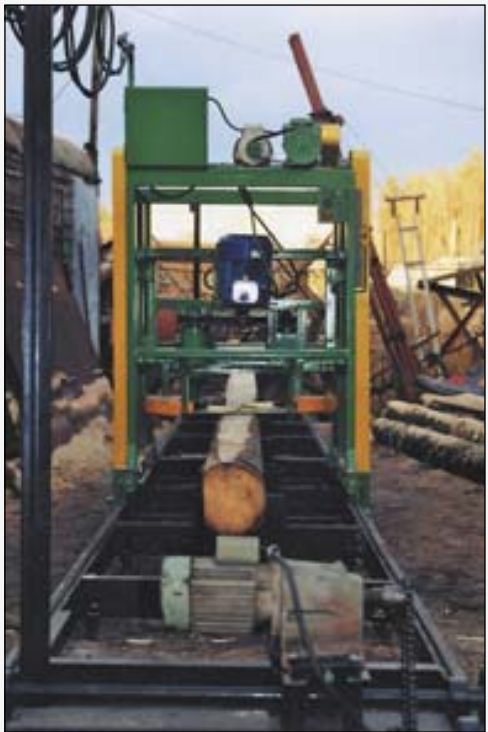
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**Table 1. Number of sawmills equipped with saw frames in Russia and Sweden, items**

Year	Russia	Sweden
1973	108	279
1979	108	193
1984	108	150
2002	108	4

highly estimated by Swedish scientists after publication. The line could have become the base for a competitive domestic machine, but the supporters of traditional frame sawing prevailed. As a result, the band saw cutting trend was cut down at CNIIMOD after Alexander Grachev moved to the Leningrad Lesotechnical academy and CNIIMOD turned back to the quite unproductive frame sawing study. Consequently, CNIIMOD was almost unequipped for the economical liberalization, barely making ends meet. Since 2003, when CNIIMOD was seized by a real estate agency, there has hardly been any sign from the enterprise – its building was turned into a business center. Something similar happened to the SevNIIP (The northern industrial research institute). Its scientific activities took a back seat to obtaining benefit from leasing. Quite similar processes are observed in most of the sectoral research institutes. The resulting inability of the native producers to offer any



competitive machines leads Russian sawmill operators to pay more attention to foreign producers.

**MODERNIZING IN A HIT-AND-MISS FASHION**

The large Russian sawmilling factories that modernized their equipment and technology can be counted on the fingers of two hands: they amount to less than ten enterprises. However, this modernization is unsystematic and includes no purpose-oriented program.

The modernization of the Onega LDK sawmilling shop, for example, resulted from a fire that destroyed the shop completely and not from a planned circumspect program. In fact, Onega LDK is the most branded and trustworthy name in Europe. So the construction of a new sawmilling shop equipped with modern machines and grade lines was a necessity for the St. Petersburg-based Orimi Group. The shop was rightfully considered the best in Russia when it was implemented four years ago. It was a unique shop at that time.

The unfavorable investment climate for domestic investors results in the unwillingness of Russian enterprises to invest in production development. While foreign enterprises are provided with tax remissions and all possible support, Russian companies receive no such generosity. Particularly, foreign companies are exempt from VAT, whereas Russian companies have to pay the duty in full.

Most woodworking enterprises possess old-fashioned production assets. Many foreign investors prefer to build a new enterprise rather than buy the existing one (even the biggest in the country, or in Europe). The cost of establishing sawmilling production is dozens of times less than compared with pulp and paper mill construction. The investors kill two birds with one stone - they don't have to pay for the outdated equipment and can spend on its modernization. Yet, construction from the ground up is more expensive than the purchase of an existing enterprise. It's a matter of time though, and it will be the most rational way to enter the Russian sawmilling industry.

Furthermore the depreciation of basic Russian sawmilling production assets, which constitutes

over 60%, dramatically reduces possible Russian sawn goods sales proceeds. Western partners don't want to pay a high price for the sawn timber produced at sawmills designed in the middle of the previous century. Their proposed price is lower than the profitability level of the industry enterprises.

The experience of building a new sawmilling shop at Arkhangelsk sawmill № 25 is the most telling illustration of relations between business and state during the modernization of sawmilling technologies. It's probably the first time in native history when a sawmill was able to increase production up to the European level. The saw line, equipped with modern facilities of the world's leading producers, such as Linck, Valon Kone, Lekops, Vollmer and Hekotek, was put into operation. The saw line production capacity amounts to 400,000 or 200,000 cubic metres of sawn timber per year. The volume of investments in sawmilling modernization came to €15 million – a very impressive sum for the Russian timber industry.

Not many sawmills similar to Arkhangelsk exist in Russia. Less than ten, actually, many of which are constructed at the expense of foreign investors, particularly Stora Enso and UPM. Sawmill № 25 (a member of the Titan group of companies) didn't plan to save on quality and was choosing the most suitable combinations of machines and extra equipment. The total cost of the shop (equipment, building and assembling) was estimated at €12 million. The State then intervened and made the enterprise pay more than €2 million in VAT and about €1.5 million in customs duties. So, the enterprise had to find an extra €3.5 million in addition to the equipment costs. How can we even speak about modernizing sawmilling technologies when such huge taxes and duties are imposed on the domestic investments?

Recently, national leaders and timbermen realized that the only chance for Russia to preserve its position in the world markets, competing with Scandinavian and Baltic producing countries, implies putting the discussed lines into operation. That's why the enterprises take on credits, seek out the warrantors, tighten their belts and work for the future, hoping their investments will be generously repaid.

Even the authorities get to operate a bit more



actively. The government has recently decided to lay a 0% customs duty for some woodprocessing and furniture equipment, however such amounts of duty apply only for 9 months. Does the government really believe the modernization of the enterprises' technology could be performed in such a short time?

**WHERE TO GET MONEY FOR MODERNIZING?**

Naturally, the modernization of sawmilling equipment requires money: Huge amounts of money. The sum of €15 million is significant even for the larger enterprises, such as sawmill № 25. Only large vertically integrated holding companies and oil and gas companies have their own funds in this amount, although they are slow to invest in the development of the timber industry and are more active in getting rid of "non-core assets" in other sectors, including the woodworking industry.

According to investment company experts, for the steady development of the industry, Russian LDK needs \$2–3 billion in investments annually. In 2004 the timber industry was granted less than \$1 billion in foreign investments at a time when the total amount of foreign investments came to \$40.5 billion, according to the Rosleshos reports. In comparison, annual production sales for all Russian sawmilling enterprises are estimated at as high as \$1 billion. Consequently, inside the sector today, one will find no resources for modernizing. Therefore, seeking other fundraising options is necessary.

The large volume of foreign investments is a result of the significant depreciation of basic





assets, which amounts to 80% in some industries of the timber complex (60% in sawmilling). Home credits are limited due to a tight money policy – as crediting rates amount to 20%. Only some enterprises (longstanding and trustworthy partners of Sberbank) manage to agree on 10-20% interest rates for a very short time. However, this money is not long-term – the maximum term for repayment of a credit is 5 years, when the project (especially expensive in the pulp and paper industry) payback term is rarely less than 7-10 years. The enterprise ends up paying almost double the cost of the equipment.

Why do foreign investors hesitate to invest in the Russian timber industry complex? Whereas

Sawn timber output and export, in 1985-2004 million cubic metres

Year	Output	Export
1985	80.0	7.6
1992	53.4	2.8
1993	40.9	4.6
1994	30.7	5.4
1995	26.5	4.9
1996	21.9	4.4
1997	19.5	4.6
1998	18.6	4.7
1999	17.9	6.4
2000	20.0	7.6
2001	19.8	7.6
2002	19.0	8.9
2003	20.2	10.5
2004	21.5	12.6

multiple answers are possible, the main one is the situation with the Timber Codex, which has been shaped by the State Duma and government for four years. Who will become the owner of forest resources? When this question is answered, the investment climate will clarify itself. Further, the low investment activity of foreign investors is caused by the following reasons:

1. The forest resources are usually leased for 3-5 years maximum, and in the most favourable circumstances, for 49 years. The newly formed timber enterprises and businessmen find such short terms optimal as they are highly mobile and are able to organize lumbering in practically any region. What's more, they are exempt from extra social obligations. Those interested in the long-term leasing of forest resources are the big timber industry enterprises with a rich history organized in the 1990s of being in charge of the social sphere of neighboring towns. Long-term leasing provides them with successful future operations. Companies that are frequently owned by huge processing companies, such as paper and pulp mills (PPM) and LDK, are in dire need of investments and equipment modernization.

Four links form a logical chain: a 5-year lease for timber industry enterprises; the owning timber mill is provided with raw material for 5 years only; the investor is prevented from investing funds in the timber mill's development, and the term for recoupment of investments exceeds the term of leasing. But suppose in 5 years the enterprise doesn't gain the forest resources at the auction? This means that the term of leasing should be longer than the term for recoupment of investment projects.

2. As for illegal timber harvesting: According to official reports, less than 1% of Russian timber is harvested wrongfully, although activists of the western environmental organization tend to report every fifth log in Russia as harvested in breach of the law. Can you imagine any investor putting money into such a criminalized country?

3. Lack of property legal protection: Recent battles between enterprises over the possession of pulp and paper companies (lead mainly by Kotlass, Arkhangelsk and Sokolsky PPM and Bratsky LPK) avert from the Russian timber industry complex. Sawmills are quite lucky as "unfriendly merger" companies aim at pulp and paper companies (the only constantly profitable

enterprises in the Russian timber industry complex) and skip sawmills. However, it looks as if big LDK will be next as all comparatively stable operating pulp and paper companies are shared because of the present owners' steady positions among both regional and federal authorities as well as among the factory workers.

Evidence of future unfriendly attacks on sawmills has revealed itself lately. It includes the stock piling of negative information on sawmills. In case illegal attacks take place, a decrease of investments in the Russian sawmilling may follow.

Foreign investors prefer to build a new enterprise from the ground up in order to prevent battles between enterprises, aiming to avoid any possible claims from former owners. What is more, the Finnish and Swedish company, Stora Enso, even intended to dissolve an agreement to construct an industrial complex in the Novgorod town of Nebolchi when it found some remains of the previous building on the construction site.

Recent conflicts between the enterprises about Russian pulp and paper companies add unattractiveness to the Russian timber industry. A sensible foreign investor hardly wishes to put his money into the development of a factory that has been involved in legal proceedings for several years. Investing is also unreasonable considering that the owner is uncertain right up until the end whether they will keep their factory or not – what if the sluggish judicial machine runs over the legal owner?

4. Low yield of the timber industry: It is well known that the maximum profitability of sawmilling enterprises can be reached only by maximum deep timber processing. Native sawmilling is mainly oriented in export and produces only products required abroad. It should be mentioned that products with low added value are salable abroad.

5. Lack of native scientific developments in sawmilling. Native sawmilling offers no production machines with a higher added value compared to average sawn timber, which creates a necessity for buying equipment abroad. Despite the fact that the government announced the cancellation of import customs duties and VAT for goods unique to Russia, the enterprises have to prove the uniqueness of foreign machines



with the help of experts. This prolongs the terms of delivery.

Conversely, in terms of loans, sawmill № 25 excluded Russian banks immediately. It focused on the westerners and found a reliable creditor in Austria. Raiffeisenbank Austria provided a credit of €15 billion for production modernization. The money was given only on the security of Arkhangelsk PPM, the leading European pulp and paper mill, whose board of directors is headed by doctor Heinz Zinner, an Austrian. On that ground only, the sawmill obtained the credit.

CUSTOMS TAKE AWAY

In my publication I've mentioned a general lack of modern competitive developments in sawmilling. It is doubtful that they will surface in the near future. So, the utilization of foreign machines and lines seems sensible, since the industry should be more developed these days. A horse of a different colour is that the government must also encourage developments

Regions – the largest sawn timber producers in Russia

Region	Share in Russia's sawn timber production	Sawn timber output in 2004
Arkhangelsk region	11%	2,200,000 m³
Karelia republic	3.4%	741,000 m³
Irkutsk region	7.4%	1,598,000 m³
Komi republic	3.5%	750,000 m³
Krasnoyarsk Territory	8.5%	1,821,000 m³
Vologda region	4.7%	1,002,000 m³



Russian sawn timber leading importers	
Japan	11%
Great Britain	10%
Egypt	10%
China	9%
Germany	7%
The Netherlands	7%
Leading sawn timber producing countries	
USA	22%
Canada	15%
Russia	5.5%
Brazil	5.5%
Germany	5%

and the construction of new sawing lines in compliance with world standards. Only after such developments and lines appear in Russia can native producers be protected from the import customs duties for sawmilling equipment. Things are often turned upside down in Russia.

Russia has none of its own machines. This fact has been accepted by the government. Nevertheless, the government invests no money into scientific developments and modern designs, yet succeeds in delaying the modernization of the sawmilling industry by laying duties. At present, equipment is imported not only at 18% VAT but also at a 10% customs duty, which increases the equipment cost almost by one third. There is also a “technological” duty amounting to one third of the equipment cost, which importing companies can only escape by providing a certificate stating that no such equipment is produced in Russia; that the equipment is unique for Russia.



The government ought to realize the advantages in stimulating the export of deeply processed timber products – paper, cardboards, medium density fibreboard plates, deal boards, etc. In fact the governmental policy makes round timber exports more profitable than that of deeply processed products. For instance, customs duties for sawn timber exports are 3% (but no less than 2.5 euro/ m³), for cellulose – 5%. As a result, the timber business is not very profitable nowadays and attracts no investors. If the export duties for round timber are increased at least up to 25% and export duties for deeply processed products are cancelled, the industry investment appeal will enhance.

It’s doubtful that the government realizes this. Export customs duties for deeply processed products (some kinds of cellulose, paper, and sawn timber) are gradually decreased. Export customs duties for round timber are planned to increase up to 10% while 0% in export customs duties are laid for some woodprocessing equipment. These steps are insufficient.

Moreover, the Ministry of Economic Development poses obstacles to more significant changes in the customs control sphere. The government, little by little, has begun to understand that the development of the timber industry depends significantly on the government and its role. A lot has been said about the possibility of the Russian timber industry benefiting from an increase in sum of \$100 billion. Production growth still stays within the range of inflation, even below the inflation rate, which reveals the quite unsatisfactory operation of the timber industry constitution.

RESUME

At the opening of the sawmilling shop of the sawmill 25, Vladimir Krupchak, the chairman of the State Duma forest resources subcommittee and former president of the Titan group of companies, said that it is such modern factories that are the future of the sawmilling industry in Russia. New equipment increased labour productivity and the salary level of the factory significantly. Still equipment modernization should be coordinated with social aspects. Increased labour productivity also leads to staff reduction. While hundreds of people provided the existing production volumes, after modernizing, only a fraction will be needed. The sawmills perform staff reduction. This is

probably the sole drawback of modernization. But the progress is inevitable – and all large Russian sawmilling enterprises will perform equipment and technology modernization sooner or later. Otherwise, there is no opportunity to develop our own business and hold positions.

I often use the phrase “technology modernization” in my article. Just so! Not only are we lagging in equipment and stuck with worn-out machines – we are lagging fundamentally. We could have sawn up to 90 m/sec speed, but in fact we saw 18 m/sec. We could have produced more euro deal boards – but we produce sawn timber instead. What to do? Apparently, we are to wait until people with priorities other than here-and-now-profit enter into the government. Almost all big sawmilling enterprises have got those sort of people.

Alexander GREVTSOV





# LONG-TRUMP HOLDERS LOOSE?

*An analytical look at wood-based panel production*

Enjoying a tremendous stockpile of low-grade wood unsuitable for the production of pulp and paper, sawn timber, plywood and millwork, Russia has a wonderful opportunity for the manufacturing of wood-based panels. However, it accounts for 5% in chipboard, 2.7% in MDF and 6.5% in wet fiberboard. Modern OSB panels are not produced at all. The export of chipboards and MDF is oriented only in CIS countries.

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## THERE IS NOTHING PERMANENT UNDER THE SUN

Global wood-based panel (except plywood) production reached 163mln m³ by 2005 (see Table); of which Russia accounts for 5.02mln m³ or 3.08%. The volume of fiberboards made by wet processing is estimated at 12mln m³, out of which only 7.5mln m³ are represented by hardboards, while the rest are semi-hard and softboards.

38 chipboard production lines, currently operating in Russia, were designed for the period before 1980; some of which have been exploited for more than 35 years. Most of the plants report high production costs and quality-related problems. The boards are noncompetitive in the world market largely due to their price and, to a lesser extent, quality.

Boards of competitive quality are produced by 20 enterprises with an aggregate annual capacity of 2,434,000 m³, whose production costs, however, are too high. This category of enterprising shall be called enterprises of Group I.

Group I operates production lines, using wire feeding and one and two-story presses, put into operation after 1980.

18 enterprises in Group II with an aggregate annual capacity of 1,617,000 m³ manufacture non-competitive boards in terms of both quality and cost. These are mainly SP-25 type production lines with multi-storied presses and aluminum pallet feeders put on stream during the period from 1962-1970.

Due to high production costs, the average price (VAT included) of finished Russian chipboards is 4700 rub/m³ (130 euros), while the West-European ones cost only 90–100 euros. This factor stands behind a zero export of chipboards; the import is about 400,000 m³ per year and growing.

All that is needed to ensure competitiveness and make the chipboard industry export-oriented is up-to-date equipment and technology. The main assets should be refurbished, though the process is time and money consuming. During the next 5-10 years required to create new facilities for

the production of competitive chipboards, SP-25 lines will be brought to a standstill. The Group I enterprises will keep on operating.

## WHEN IT COMES TO FIBERBOARDS...

The wet process fiberboards are still manufactured by 30 production lines out of 68 that performed earlier. Over the past several years, four of them were shut down: hardboard manufacturing at JSC Volzhsky LPK, softboards at JSC Nelidovsky DOK, JSC Arkhangelsky TsBK and JSC Selenginsky TsKK. CJSC Novoyeniseysky LHK launched a new line, manufactured in 1988, with a rated capacity of 8mln m² to produce 1220 mm wide hardboards. The construction of new plants is not yet included in the plan. The old facilities require the following upgrading:

- Reconstruction of the grinding line and installation of one high-capacity refining machine using the one-step process to produce fiber instead of three or four simultaneously operating hot grinding machines.
- Introduction of pulp grading. Only the coarse fiber fraction should be fed into the refiner for repeated grinding.
- Equipping the production line with improved chip washing systems.
- Installation of new forming machines or upgrading of existing ones to improve the drainage of the pulp.

Dynamics of global wood-based panel production capacities development (after Metso Panelboard Customer Magazine, №1, 2005)

Global Regions	2001		2002 mln m³	2004 mln m³	2005 (forecast)	
	Number of Plants	mln m³			Number of Plants	mln m³
Chipboards						
North America	64	13,891	14,192	13,242	57	13,792
EU countries	122	33,426	32,154	30,899	114	31,516
Other European countries	93	11,005	10,705	11,854	101	13,264
Other countries	454	23,650	23,222	25,468	447	27,172
Total:	733	81,972	80,273	81,463	719	85,844
Including Russia, mln m², % of the global volume	38	3,467 4,2%	3,467 4,3%	4,051 5,0%	40	4,161 4,8%
Medium Density Fiberboards (MDF)						
North America	61	5,063	5,063	5,848	68	5,392
Europe	26	11,522	11,922	12,622	27	14,335
China	129	5,422	7,320	10,995	259	15,364
South-Eastern Asia	59	2,602	2,761	2,852	70	3,195
North-Eastern Asia		1,724	1,724	2,007		2,047
South America		2,062	2,967	3,617		3,147
Australia		1,690	1,730	1,730		1,865
Other countries		476	606	706		766
Total:	275	30,561	34,093	42,58	424	46,111
Including Russia, mln m², % of the global volume	5*	0,304* 0,99%	0,358* 1,05%	1,176* 2,76%	11*	1,226* 2,66%
Oriented Strand Boards (OSB)						
North America	59	20,374	21,973	23,930	61	26,870
Europe	нет данных	2,015	3,100	3,500	11	4,053
South America		0	0,480	0,480	9	0,483
Total:	66	22,389	25,563	28,320	81	31,406

Note: \*Including thin fiberboards made by dry calender process referred to as MDF in foreign classifications.

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Wood-based panel production dynamics in Russia

Years	Production Line Number	Rated Output	Chipboard Production Volume	
			Actual	% against previous year
Chipboards, thsd m³				
1990	97	6163	5563	-
1998	43	3676	1568	105.2
2002	38	3467	2731.7	110.1
2003	39	3627	3176.1	116.3
2004	38	4051	3603	113.4
2005	39	4101 (expected)	3746	104
Fiberboards, mln m²				
1993	69	500	361.8	-
1998	41	347.6	193.1	97.8
2002	38	367.7	305.7	109.9
2003	37	370.7	320.6	104.6
2004	36	372.4	347	106.9

- Application of reduced or closed water supply systems.
- Installation of semi-simultaneous mechanisms for closing the heating pads, regulating the forming cycle duration by controlling movement of the lower press table in order to increase productivity by 5-10%.
- Transition to wire frame feeding and unloading of presses.
- Equipping plants with finishing facilities for paint coating and imitation print.

The listed measures will allow for the expansion of production by 25-30%, cutting energy and material consumption, ensuring panel quality and the profitability of the enterprise.

OFF THE STARTING BLOCKS

Recently, a number of plants have upgraded their production to improve the competitiveness of their products. Thus, to lower the panel costs and enhance their quality, 5 production lines SPB-100 of Rauma-Repola company were refurbished, installing more up-to-date dryers, forming machines and pre-forming conveyers, which increased capacities from 110,000–130,000

to 170,000–190,000 m³ per year. Five plants equipped with SP-25 production lines replaced plate forming and flake grading facilities, additional chippers for producing flakes, etc. Additional lines for the production of carbamide-furane resins were installed. Chipboard plants are now being reequipped with laminating facilities. The total laminating capacity by the end of 2004 was about 126mln m², which is a 24% increase in comparison with 2003. This year will see the launch of two chipboard production lines with one-story presses by Krasplitprom Ltd. in Krasnoyarsk (90,000 m³ per year) and by JSC MDOK in Vyshny Volochek of the Tver region (50,000 m³ per year).

Global chipboard production is oriented with large-duty equipment using continuous presses, flake and fiber preparation and plate forming systems, etc. Wood panel forming in continuous presses is made when transporting the pulp between the two steel endless bands to ensure the uniform physical and mechanical properties of the panels and within the batch. Chipboards may have a density variation ±10 kg/m³ of the rated values, grinding allowance ±0.3 mm; the consumption rate of dry binding agent is from 55 to 60 kg/m³ for chipboards and 75–78 kg/m³ for MDF. Total production costs of chipboards and MDF are reduced by 10-20% in comparison with periodical panel press forming. Continuous presses allow the creation of production lines with the output of 250,000 to 700,000 m³ per year, further lowering the costs.

The construction of wood-based panel plants equipped with continuous presses has finally started in Russia. Among these are plants manufacturing:

- MDF, 430,000 m³/yr, and chipboards, 300,000 m³/yr – Kronostar Ltd. (town of Sharya, Kostroma Region).
- Chipboards, 750,000 m³/yr (2,500 m³/day) and MDF, 200,000 m³/yr – Kronoshpan Ltd. (Yegoryevsk district, Moscow Region).
- MDF, 120,000 m³/yr – JSC Lesplitinvest (Priozersk, Leningrad Region).
- Chipboards, 350,000 m³/yr – German concern Pfleiderer (Novgood Region).

- Chipboards, 250,000 m³/yr – JSC Egger Drevproduct (Shuya, Ivanovo Region), CJSC Electrogorskmebel (Moscow Region).

Among the five chipboard plants being built, four plants have 100% foreign capital. The construction of foreign enterprises in Russia is explained by the desire of foreign companies to take root on the Russian market, taking advantage of favorable conditions. Some of these “conditions” are comparatively cheap low-grade wood and wood residues and low-cost energy and labor.

Since Russian business does not demonstrate interest in the construction of its own wood-based panel plants, the niche is occupied by foreign capital. Only one Russian enterprise – Electrogorskmebel Corporation – managed to raise funds to purchase a modern chipboard production line instead of the outdated one, which was used for 40 years.

ENCOURAGING FORECASTS

In 2005, the total domestic consumption of chipboards was 3,800,000 – 3,900,000 m³. A slight growth in the chipboard market is expected during the next 5-7 years. This is explained by a tendency to decrease chipboard share in furniture production. Moreover, a portion of imported furniture on the Russian market will remain high. Russia’s joining of the WTO will not radically change the situation. That’s why the new chipboard production lines to be launched in the second half of 2006 may grasp up to 50% of the market. The five above mentioned enterprises will begin working in 2006 and become the major competitors of existing Russian chipboard plants, which is very likely to entail temporary chipboard overproduction.



The expected surplus of chipboards in 2007 may lead to the slightly decreased prices of finished boards and consequent export. Lower prices for finished boards will be acceptable to the new chipboard plants and some of the existing ones, but will lead to the closing of most production lines manufactured in the 1960's. The decrease in laminated board prices is expected to be less (at present it is 170 rub/m<sup>2</sup> or 10,000-11,000 rub/m<sup>3</sup>), since the core panel accounts for 40-45% of the laminated chipboard production cost.

The market potential in terms of MDF is estimated at 600,000-700,000 m<sup>3</sup> per year. The actual demand for MDF by construction and furniture industries is 350,000-400,000 m<sup>3</sup>. Up to 2003, Russia had only one MDF plant with an output of 50,000 m<sup>3</sup>. In 2005, the total output reached 948,000 m<sup>3</sup>, which exceeds the internal demand by 1.5 times. This allows for an opportunity to abandon the import and develop foreign markets.

In terms of technology and equipment, the most up-to-date MDF production lines belong to Kronostar Ltd. (capacity 430,000 m<sup>3</sup>) and Kronoshpan Ltd. (capacity 200,000 m<sup>3</sup>). These lines, equipped with continuous presses, ensure minimized energy consumption during furniture production and the stable quality of MDF panels.

Only 20% of Russian furniture is made using MDF, while in western countries this number is approximately 70%. MDF panels are 2-2.5 times more expensive than chipboards and used, as a rule, for manufacturing decorative machine-cut facing elements, table tops with machined edges, etc.

Modern furniture is manufactured out of MDF and chipboards in a specified proportion. In North America and Western Europe, the MDF/chipboard ratio was estimated at 1:3, while in Russia, 1:10. Insufficient MDF use was connected with panel deficit and the unwillingness of some furniture plants to shift to new furniture designs. There is a hope that the furniture industry will apply more MDF panels to its production.

Another alternative use of MDF is the manufacturing of decorative wall panels and laminated parquet. The global production of laminated parquet from MDF grew from 350mln m<sup>2</sup> (2.8mln m<sup>3</sup>) in 2000 to 600mln m<sup>2</sup> (4.8mln m<sup>3</sup>) in 2004. In Russia, laminated parquet is produced only by Kronoshpan and Kronostar.

In 2005-2006, new construction projects of MDF continuous processing plants will be launched in Tomsk (150,000 m<sup>3</sup>/yr) and Anzhero-Sudzhensk (Kemerovo Region) (260,000 m<sup>3</sup>/yr).

### WAITING FOR THE FIRST OSB PLANTS

One of the most perceptive directions is the production of wood-based panels out of large flaked oriented strands. These panels, made of low-density wood, are designed for construction. To ensure environmental safety and atmospheric resistance, carbamide-melamine-formaldehyde and phenol-formaldehyde resins and biphenyl-MDI adhesives are applied as binding agents. North America is the leading producer and consumer of these products. The OSB production volume in North America in 2003 was approximately 21mln m<sup>3</sup>, or 89% of global production, of which 12.2mln m<sup>3</sup> was the produced in USA, and 8.8mln m<sup>3</sup> in Canada. These countries operate an aggregate 61 OSB production lines. The capacities are 90% loaded. In North America, most panels are produced from aspen using multi-story presses, in Europe, from spruce, using the continuous process.

OSB production requires healthy round timber with a thin-end diameter of at least 60 mm. This kind of production will be more effective in the aspen-rich European part of Russia. Harvesting ignores practically all aspen trees that remain in the forest, lowering its commercial value.

Economic feasibility can be reached if OSB plants are located in Eastern Siberia – closer to the Far Eastern ports serving as gateways for export to China, Japan, and North America. In this case, spruce and pine could be used as raw materials for panel production. The major limiting factor for OSB production in Russia is the absence of a developed domestic market. We import 20,000 m<sup>3</sup> of these panels every year; their prices, however, are 50-60% higher due to obligatory customs fees.

Kronostar (Kostroma Region) and Kronoshpan (Moscow region) declared their intention to build OSB plants with an annual output of 400,000 m<sup>3</sup> each. Three more OSB projects of various capacities are to be implemented in European Russia and two projects for Eastern Siberia are under consideration.

*Alexander SHALASHOV, Ph.D.,  
general director of CJSC VNIIDREV*

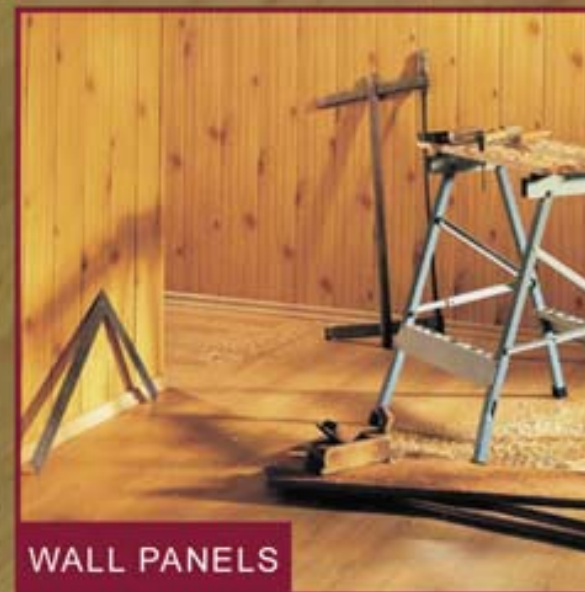
## THE BIGGEST MANUFACTURER OF WOOD-BASED PANELS IN RUSSIA



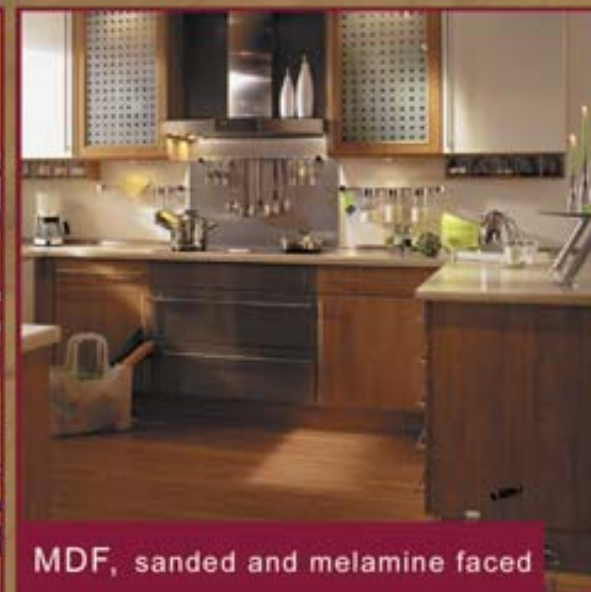
LAMINATE FLOORING



PARTICLE BOARDS,  
sanded and melamine faced



WALL PANELS



MDF, sanded and melamine faced

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# THE BIGGEST MANUFACTURER OF WOOD-BASED PANELS IN RUSSIA

**KRONOSTAR (Russia, Kostroma region) is the biggest investment project of wood-based panels manufacturing in Russia. The project was started in 2002. In 2005, KRONOSTAR became the biggest manufacturer of wood-based panels in Russia.**



**Mikhail Fradkov, Prime Minister of the Government of the RF, during his visit to the enterprise**



Today our product range is:

- MDF, sanded and melamine faced
- laminated flooring
- wall panels
- particle boards, sanded and melamine faced
- wet-process fiberboards

KRONOSTAR is a part of the Swiss Krono Group (Kronoholding AG). Swiss Krono Group is one of the largest manufacturers of wood-based panels in the world. The concern includes ten manufacturing firms in seven European countries (Switzerland, Germany, France, Poland, Hungary, Ukraine and Russia) and in the USA. The total annual output of the Kronoholding enterprises includes more than 7,500,000 m<sup>3</sup> of wood-based boards and panels.

- Since 2004, Kronostar has been using the most modern and high-capacity conveyer

press in the world to produce MDF. The press capacity is 430,000 m<sup>3</sup> of boards per year. The equipment is supplied by Siempelkamp (Germany).

- In 2004, the plant started producing laminate flooring based on HDF boards. The total monthly output of laminate flooring today is about 2 mln. m<sup>2</sup>. This makes the plant one of the largest producers of laminate flooring in the world.
- In 2007, Kronostar plans to begin an OSB boards' lot production. Until now this constructional material, established all over the world, has not been produced in Russia. The plant will produce OSB boards of all thicknesses from 8 to 28 mm on the conveyer press. OSB boards are in high demand in the construction and furniture industries.

By 2007, the total output of the plant will reach 1,300,000 m<sup>3</sup> of various wood-based panels per year.

The common requirement for wood is more than 1,5 mln. m<sup>3</sup> per year. KRONOSTAR owns timber enterprises providing for about 40% of the necessary raw materials, a substantial part of which is low-grade timber. The product satisfies the European standard for the emission of formaldehyde E1 and is healthy and secure. KRONOSTAR production is certified according to the international standard of environmental protection ISO 14001 and of the health protection standard OHSAS 18001. One fulfills the vicious system of sewage circulation (manufacturing water is not thrown away).

"In 2006, KRONOSTAR will extend its volume of particle boards up to 450,000 cubic meters, the volume of laminated floors up to 20 mln m<sup>3</sup>, and the volume of wall panels up to 12 mln m<sup>3</sup> per year, and is also contemplating widening its assortment and product range, particularly to increase the quantity of laminated particle board decors by 80% and to launch the output of table-boards and other products," according to General Director of KRONOSTAR, Heinrich Quanz.

In 2007, KRONOSTAR will become one of the biggest manufacturers of wood-based panels in the world. ■

**KRONOSTAR uses only the local raw materials, a substantial part of which is low-grade timber**



**The MDF line with a capacity of 430,000 m<sup>3</sup> per year is the main production line of the enterprise and the biggest worldwide**



**The KRONOSTAR project is developing rapidly. It is planned to start the production of OSB panels with a capacity of 400,000 m<sup>3</sup> per year in 2007**





# GLOBAL EDGE: 15 YEARS OF SUCCESS

The "Global Edge" Group of Companies [1] (established in 1991 and with a Registered Trade Mark since 1995) has unmistakably proven itself to be the leading supplier of woodworking machinery and equipment to the market of the Russian Federation. Here are the facts:

1. Over 54 % of Russian woodworking and furniture manufacturers' Top managers give preference [2] to "Global Edge" as their supplier, with the main reasons being:

- a) Highest technological level of equipment,
- b) Highest level of service and technical support,
- c) Best business reputation.

2. The business partners of "Global Edge" are over 40 leading manufacturing companies from 16 countries in Europe, the USA and Asia.

3. "Global Edge" has a team of over 200 employees that are educated, experienced and motivated to provide the best possible service to its customers, suppliers and partners.

4. In 15 years of operation "Global Edge" outfitted over 3,500 Russian companies, and equipped over 40,000 jobs from Kaliningrad to Sakhalin and from Murmansk to Makhachkala.

5. "Global Edge" offers powerful engineering services, such as: design of manufacturing facilities, turnkey installation, warranty service, know-how transfer, as well as economic analysis and business prognosis.

6. "Global Edge" has representative offices and warehouse points in all of the most important regional centers of the Russian Federation: St. Petersburg (North), Rostov-on-Don (South), Tyumen, Novosibirsk and Irkutsk (West and East Siberia), and Vladivostok (Far East).

7. The sales team consists of trained professionals who not only have Masters Degrees in engineering, electronics or business

management, but also have years of personal experience in their fields.

8. "Global Edge" has a professional team of logistics managers and custom brokers who ensure the fast and safe delivery of equipment from every manufacturing partner in the world.

9. Since 1998, "Global Edge" has held the industry's most advanced (currently 12,000 sq. meters) Technical Centre in Moscow, which includes:

- a) Operator's training facility (over 1,000 operators trained annually),
- b) Demonstration area (over 50 machines in operation),
- c) Technical support and service departments (undoubtedly, the best technical support team in the industry: twenty-seven graduate engineers with degrees in mechanics, electronics and software programming with many years of experience in woodworking and machinery servicing, installation and training. Most of the field technicians are proficient in the English language).
- d) Production area including:
  - abrasive materials' conversion plant ("Liner-Belt");
  - band saws manufacturing plant, and
  - woodworking tools service plant ("Tool Land");
- e) Warehouse area for machinery, spare parts and supplies.

10. The "Global Edge" team supplies customers with operation manuals and instructions, professionally translated into the Russian language, and carefully edited to include necessary additional pictures and explanations.

11. Through consistent marketing efforts "Global Edge" covers the principal fields of the industry:





i. e. woodworking, furniture and construction. The Group participates in major trade shows, such as "Lesdrevmash," "Woodex," "Technoles," "Woodbuild," "Holzhause," "EuroExpoFurniture," "Construction Week," "Windows, Doors and Facades," "Umids," "Ligna," and "Xylexpo." "Global Edge" advertises in the leading Russian woodworking, furniture and construction magazines.

12. The Group publishes its own as well as the industry's unique bimonthly 24-page corporate newsletter, "GE-News," which is directly mailed to 7,000 potential customers nationwide, distributed through regional representative offices and respected by nine leading Russian universities as teaching aids both in business and environmental protection fields.

13. The Group's Internet site, [www.globaledge.ru](http://www.globaledge.ru), is one of the top-rated Russian sites relating to woodworking equipment, and is considered by the industry's business community to be highly educational.

14. "Global Edge" leads a number of social programs and proudly sponsors car racing and air-rally teams.

15. "Global Edge" has been acknowledged as "The Best Russian Enterprise," [3] "The Entrepreneur of the Year," [4] "The Best Russian Equipment Supplier" [5] and "The Best Social Project of the Year." [6] "Global Edge" also holds 2006's "Silver Camerton" as the best press-service in Russia.

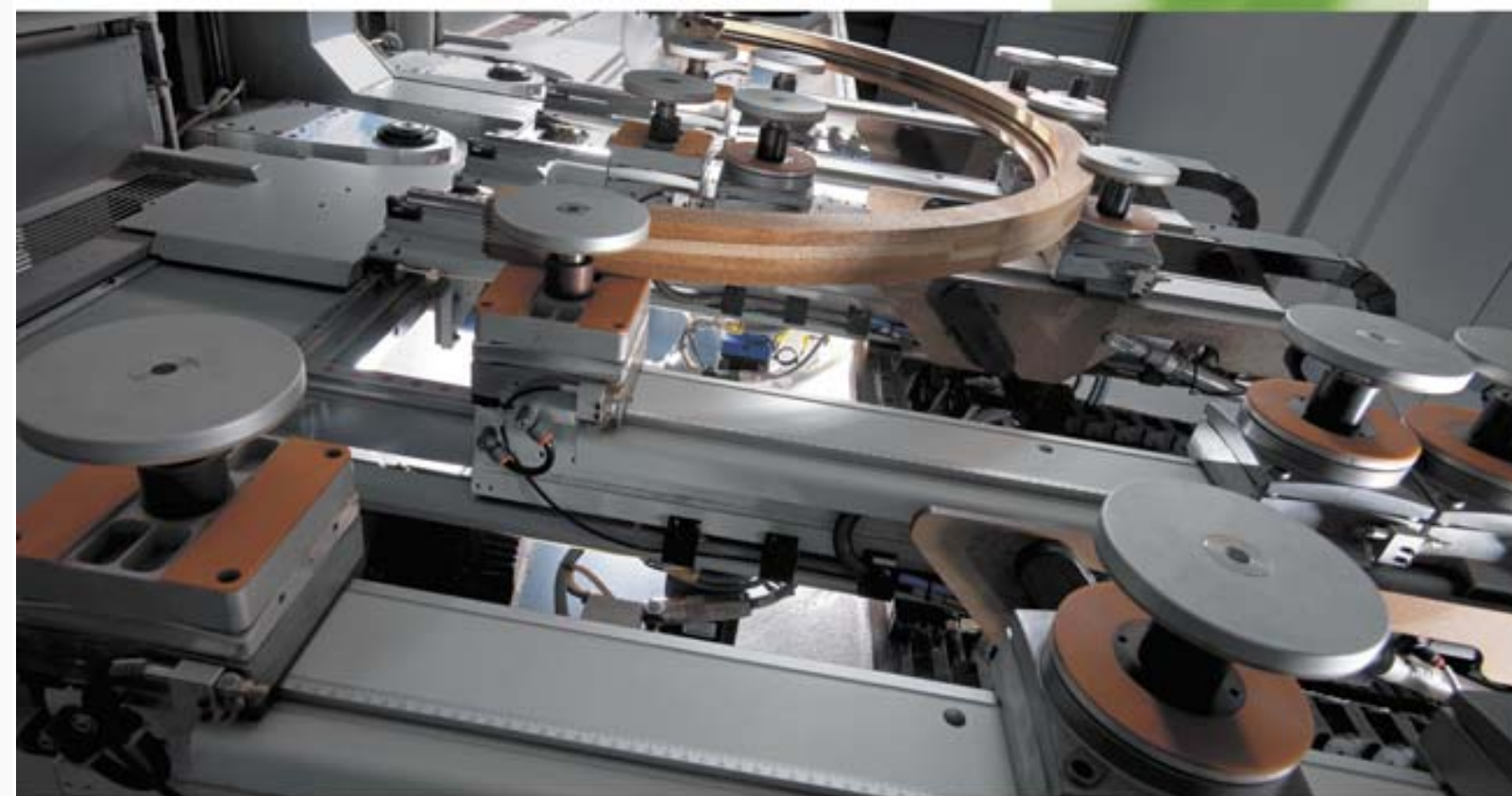
16. Several figures that show the activities of "Global Edge" in 2005:

- The Group gained over \$17 million in annual sales (which is a 20% growth compared with 2004, and 13 % of Russia's market of wood processing equipment [7]);
- 76% of the sales amount constituted high-tech turnkey factories based on the latest CNC machinery;
- 11,310 engineer hours spent on installation at customers' sites;
- every 2 days a container with machinery is unloaded at the Group's warehouse;
- "Liner Belt" manufactured over 216,000 meters of abrasive belts;
- "Tool Land" produced over 40,000 meters of band saws, and the estimated value of spare parts and materials stock reached \$2.5 million – the industry's largest;
- 200,000 direct mail letters have been distributed;
- 125,000 visitors entered the Group's Internet sites.

All the 16 points above ensure success for the Group's foreign and domestic partners and explain why you too may rely on "Global Edge."

- [1] Includes "GE-Service+," "Liner-Belt," Tool Land", "Milan," "Global Edge American Division," "Global Edge-Taiwan."
- [2] 2005 poll by the "Spindle" woodworking magazine.
- [3] 2004, 2005 The Russian Union of Manufacturers and Entrepreneurs
- [4] 2004, 2005 "Ernst and Young"
- [5] 2006, "Lesprom"
- [6] 2005, Russian Federation's Ministry of Natural Resources
- [7] 2005, An Independent Experts' Estimate

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# WOODEN HOUSE-BUILDING IN RUSSIA

**Nowadays the housing situation in Russia is reminiscent of 40 years ago. The housing deficit has become a burning issue over the few last years. Most houses have a maintenance term of 20-25 years while in reality they are exploited for twice as long. Each year, 20-25 million m<sup>2</sup> of housing become obsolete in Russia, and 250 million m<sup>2</sup> are in urgent need of major repairs, or replacement. Even in big cities with sufficient financing to develop housing and municipal services, about 25% of the communal network is totally depreciated. It should be pointed out that the housing deficit was inherited by Russia from Soviet times. In the beginning of 1990's there was a considerable drop in construction that made the problem worse. Even the current volume of available housing of 41-44 million m<sup>2</sup> is twice as less than 15 years ago. According to the official data of the Federal Agency of Construction, Housing and Municipal Services (Rosstroy) about 1,5 billion m<sup>2</sup> of available housing is needed to meet the present demand of the Russian population.**

The present average housing provision in Russia is 19,7 m<sup>2</sup> per 1 person. In comparison, the figure in Japan is 1,55 more than in Russia, in the USA it is 3,25 times, and in Norway in 3,7 times more.

The housing deficit problem is urged by a continuously growing number of middle-class representatives who are key consumers. In Russian statistics, the middle-class are those with an average income per person of 35–70 thousand RUR per month (ca 1000 - 3500 EURO) for the big cities, and 12 – 27 thousand RUR per month (ca 400 – 900 EURO) – for those living in the regions. In percentage, it is 9-22% of the total population of the country. In many highly developed countries this index stays at 70-80%, and there is belief that Russia will be in keeping with the world conjuncture.

Social-economic reforms in Russia originating about 10 years ago also have a significant

influence on the forming of the housing market: quality requirements for apartments, houses, and living conditions grew high, and consequently the price structure changed as well. The majority of the Russian population lives in towns and cities, and a little over a quarter reside in the countryside. At the same time, in big cities with a high density of population where most people live in multi-storey blocks of apartments, there is a great need for more comfortable, roomy, healthy and ecologically clean individual housing.

Most of the villagers live in individual mini-storey houses. However, their accommodation is no better than the townspeople's. According to the population census in 2002, over half of all private householders occupy buildings that were constructed between the 1950's and 1980's. At present, the number of newly built houses is way less, which is caused by a continuous crisis in agriculture that brought about an economic and demographic decline in the countryside

(the average villager gets older and younger generations choose to move to towns), and weak infrastructures. Prior to the market reforms in the country, the main investors in housing in the countryside were agricultural enterprises that motivated their employees, while with the beginning of perestroika, agricultural production started its decay and a number of unprofitable enterprises grew bigger. A decrease of production profitability in the field led to a reduction of investments in house-building, and as a result, the population itself has become the main customer. According to the data of the House-Building Association on farms, only 382 houses were built with the total area of 42,4 thousand m<sup>2</sup>. With the quality of amenities, country houses give way to town houses. Of 16,092,9 thousand m<sup>2</sup> of individual houses available in 2004, only 39,7% were completely supplied with engineering communications (50,8% in towns and cities, and 28,3% in the countryside).

With the initiation of the Russian President Vladimir Putin, comfortable housing provisions became a state objective. Apart from low rates of construction, a considerably negative factor is the high retail prices for living space.

In Moscow 1 m<sup>2</sup> costs over 2,000 USD, on average, in St. Petersburg it is 1,000 – 1,300 USD, and in the regions the price ranges between 500 – 800 USD, in town and cities, 150 – 300 USD in the countryside.

According to the statistics, up to 85% of Russians need to improve their living conditions, and only 10% of them have such a possibility.

Now the Russian Government is working on the elaboration of the national development program

of housing and municipal services. The solution to the present problem, as seen by the authorities, first of all, is the development of a mortgage system that aims at making housing affordable. The second step is restructuring the Russian construction industry. Currently, this business, in the opinion of many experts, stands out with its extreme non-transparency and low efficiency. It is believed that one of the promising directions of the development of the Russian construction industry is industrial wooden house building.

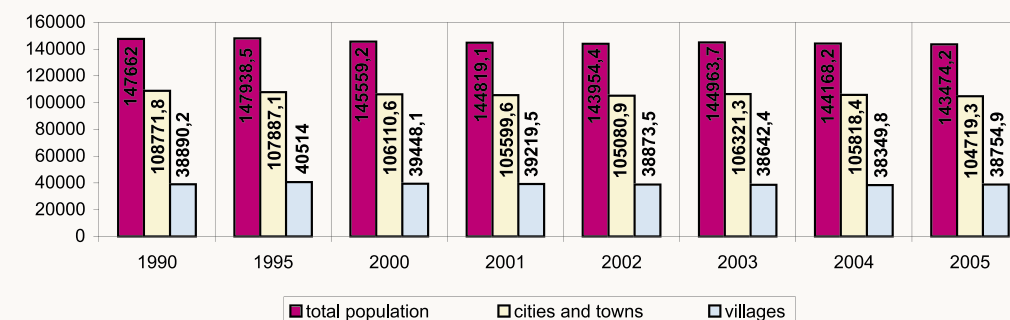
According to the population census, 20% of the people in the Russian Federation live in wooden houses (Picture 2). Most houses using wood as a main exterior material are individual real estate with a long history of exploitation (73% of the population live in houses built over 40 year ago, 23% - between 10 and 40 years ago, 4% - less than 10 years ago).

At the present time, construction volumes with application of the technologies of wooden house building remain considerably low – a little over 1,8 million m<sup>2</sup> per year, although an active growth in this field has been lately observed.

In the construction industries of Scandinavia, North America and Australia, for 1 m<sup>2</sup> of housing they use 0,5-0,7 m<sup>3</sup> of timber material, while in Russia – only 0,03 m<sup>3</sup>.

According to the data of the Wooden House-Building Association, the biggest volume of individual wooden house-building can be observed in the Central and Volga Federal Districts, however a percentage of wood use in the total volume of individual house-building is relatively low – 21,4 and 25,7% accordingly. This can be explained by the remoteness of these regions from the forest. At the same time,

**Picture 1. Population dynamics in the Russian Federation, thousand people**



Source: Association of Wooden House-Building



leaders in wooden house-building in the total volume of individual house-building are the Northwestern Federal District – 47%, Siberian FD – 49,5%, and Far-Eastern FD – 49,9%.

There are several main reasons why construction priorities in Russia will be given to wooden house-building in the future.

First, the public will become aware of the fact that wood is the most ecologically healthy construction material. Numerous studies proved that people feel more comfortable in a wooden house from a psychological point of view. Besides, wood as a construction material provides people with the maximum physical comfort, i.e. moisture-exchange with the environment and a high thermal capacity that allows one to economize on heating.

Second, in the 21st century the preference for house building will be given to the construction of buildings from recycled and secondary raw materials. Wooden mini-storey house building meets this demand.

Third, according to various estimations, Russia has about a quarter of the global forest coverage, which makes wood one of the most accessible construction materials. According to official data of the Federal Forestry Agency of the Russian Federation the total timber stock in Russia makes up 82 billion m<sup>3</sup>, and the annual allowable cut is about 520 million m<sup>3</sup>. Although the average exploited volume

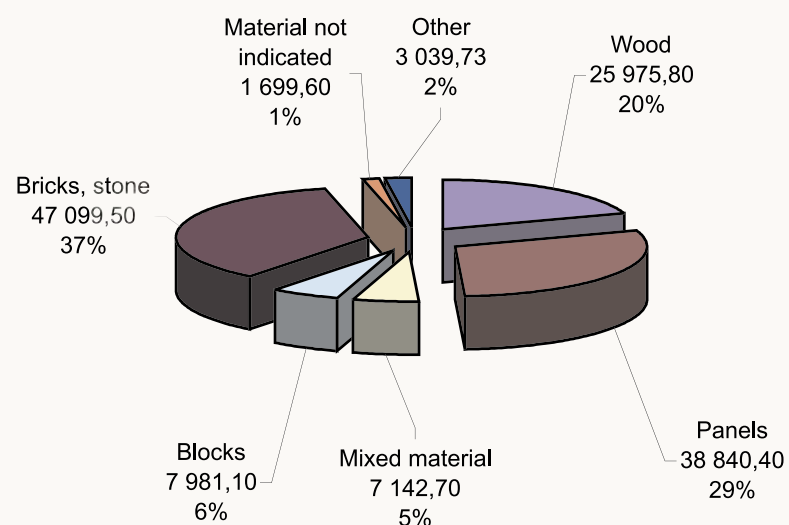
throughout Russia is less than 130 million m<sup>3</sup> or 22% of the allowable cut, approximately 80 million m<sup>3</sup> are processed within the country, and the non-processed surplus is exported. Taking into account active attempts of the state to stimulate logging and simultaneously limit the export of round wood, the accessibility of raw timber material is considerably increasing.

Fourth, wooden house building enables shorter construction terms as compared with reinforced concrete or brick buildings, and the cost price of such constructions can also be cheaper.

The development of a powerful wooden house-building industry on a new high-grade level is vital for the Russian economy. The economic growth of the previous years implies a demand for growth and, consequently, for the increase of wooden house building. However, in its current state, the Russian timber industry is not able to supply the needs with its own low-priced and high-quality production, mostly because of the weak technological level of the production capacities.

### PRINCIPLES OF WOODEN HOUSE-BUILDING

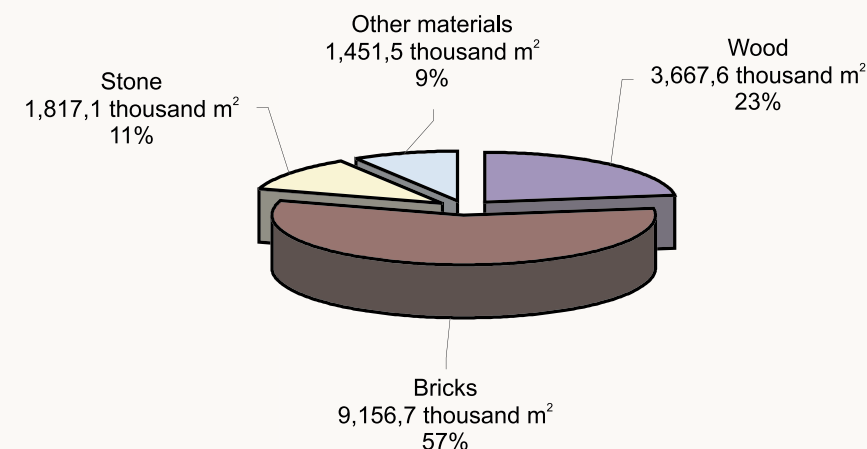
Frame construction is widespread in Japan; building with square logs is popular in Europe; log and frame construction – in the USA. It is difficult to identify a type of house building that is the most developed in Russia. At least,



**Picture 2. Distribution of the Russian population living in apartments and individual houses, by materials of house exterior.**

Source: Association of Wooden House-Building

**Picture 3. Distribution of individual house building in 2004, by exterior material.**



Source: Association of Wooden House-Building

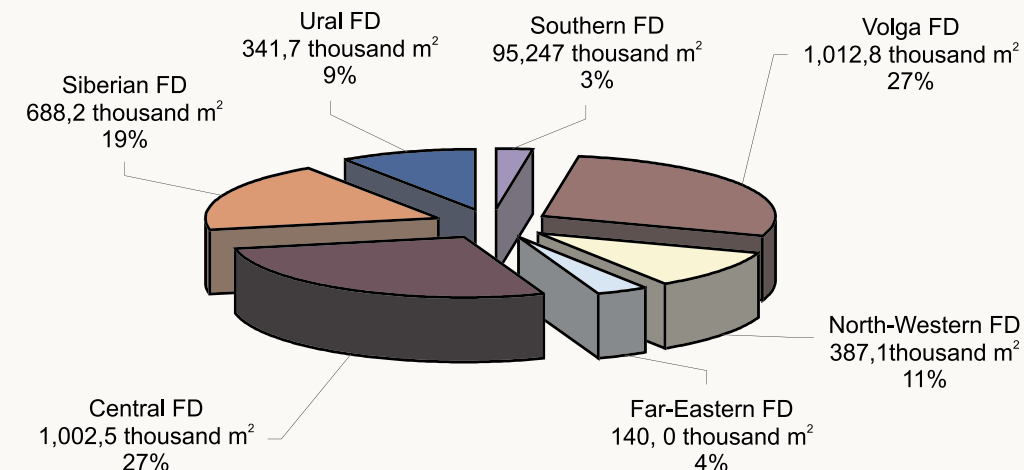
several major technologies that producers adhere to can be singled out:

- Manufacturing from solid wood (including round wood from manual cutting; cylinder logs and glued square logs)
- Manufacturing with panels;
- Frame house building.

The application of one or another technology is based on the social standing of the client, obscurity of a certain construction site, a formed mentality, and other factors. In terms of the status of a future householder, three main types of modern mini-storey house building can be defined.

The first category – prestigious and elite dwellings for citizens with high income. Such houses have no limitations in price, living space, comfort and other characteristics. Houses of prestige are mansions, villas and cottages. As a rule, the price for 1 m<sup>2</sup> of such types of dwellings is over 1500-3000 USD, which corresponds to the average European cost of middle-class houses. If in the beginning of the 1990's the average living space of such houses stood for about 500 m<sup>2</sup>, lately there has been a considerable diminution – down to 250 m<sup>2</sup>. Obviously, the reason for this is the realization of the actual criteria of comfort and maintenance costs. Houses built of solid wood prevail in this category; paneling or frame construction technologies are rarely applied.

**Picture 4. Distribution of individual house building in 2004, by the Federal Districts (FD) of the Russian Federation**



Source: Association of Wooden House-Building



A large number of construction companies specializing in such categories of wooden houses are currently working in the Russian market. This is why the elite sector of wooden house building is overflowed and companies very often encounter difficulties with portfolios of orders.

The second category is affordable, economical housing for clients with an average level of income. This category mainly includes two-storey houses (frequently with attics), cottages and estates. The cost of 1 m<sup>2</sup> of the total living space is within a wide range: from 300 to 800 USD. In this segment, on the contrary, a gradual increase in house space can be observed. Formerly, it used to be less than 100 m<sup>2</sup>, but presently the living space of such housing types can reach 150 m<sup>2</sup>.

The third and last category is so-called social or municipal housing provided at minimal prices. As a rule, these houses are built by budget funds and represent mini-storey block and section buildings. The cost for 1 m<sup>2</sup> is about 250 USD.

### FRAME AND PANEL CONSTRUCTION TECHNOLOGIES

The walls of a wooden house remain a sandwich. Frame technology carrying constructions are made of glued barks or square logs LVL, and paneling house walls themselves are carrying constructions. Cold-proof material is mineral wadding or any other material providing a high degree of heat-insulation. From outside and inside the wadding is covered by various tiling material, e.g. veneer, OSB or cement chipboard that can be painted, plastered, etc.

Due to the effective cold-proof material the wall of such a house is 200 mm thick, and its heat-insulation capacity is comparable to a brick wall. Even in severe cold the house retains its warmth, which helps save up to 50% on electric power for heating in comparison to a brick construction.

Panel houses in Russia are built by Russian, Finnish, German, Austrian and American technologies, mainly according to the country producer of the technological equipment used. But, as compared to foreign producers, there is a considerable gap in the application of

innovative technologies and equipment. In particular, it concerns the use of OSB in wooden construction, the production of which is not yet organized in Russia despite an abundance of suitable raw material.

### TECHNOLOGY OF CONSTRUCTION FROM SOLID WOOD

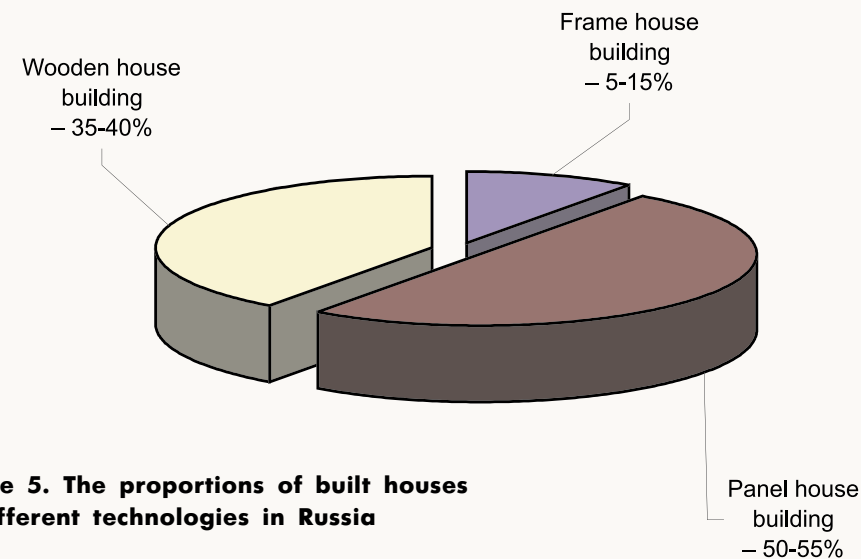
This technology implies house building with logs (including cylinder logs) and barks (profile, glued, etc.). Their main advantages are the maximal conservation of useful qualities of wood and the longest exploitation term among other wooden house-building technologies.

Construction of such houses can be carried out on industrial and individual scales – so-called “manual” technology, which is the most expensive. The Russian peculiarity that has to be kept in mind is a great number of so-called “jacks-of-all-trades” ready to build a log house rather inexpensively. As a rule, these are teams of 3-4 workers with a gasoline chainsaw, axes and a hammer as their main tools. In this case, the quality and price of the finished house structure strongly depends on the skills of the workers, and in practice, such house-building is carried out with violations of technologies, which further leads to the shorter durability of the whole house.

The use of glued bark has been especially popular lately. Differing from other technologies, it has considerable advantages: low shrinkage, high quality of the surface, size stability and durability of joints. Houses built according to this technology enjoy the shortest construction time. With this construction, technology requirements as to the quality of initial timber are less strict than those using the construction material of house-building technology from solid wood. This does not influence the quality of the finished construction.

According to the data of the Wooden House-Building Association, the proportions of built houses by different technologies in Russia are nearly the following:

Lately, many companies (especially Russian ones) have tried to differentiate business, for example in technology, i.e. within their own capacities to manufacture house constructions with different technologies, as well as with



**Picture 5. The proportions of built houses by different technologies in Russia**

*Source: Association of Wooden House-Building*

different quality levels and purposes. Judging by the expert prognosis for the next 10 years, the share of house building from solid wood will stay the same, and the frame and panel construction of wooden house building will become equal.

### EXISTING DEVELOPMENT PROBLEMS

The problems of wooden house building have been discussed for a long time. Many conferences, Internet forums, and articles in specialized journals have been organized. Now there is a great confidence in the identification of the key issues agreed by many in order to find solutions.

In brief, the house-building issue concerns three main problems – land, finances and technology. All questions related to the land, including its industrial preparation, should be settled by the state. The financial part of the problem is to be taken over by the banking system. As for proper technology – it will be decided by the business. It appears that not all solutions easy in theory are easily applied in practice. The key aspect is to have a clear view of the specific problems of each operation level of the industry – consumers, producers, regulating bodies – then suitable solutions will be found in no time. So, is it possible to emphasize the main points calling for management in the first place? We did our best to underline them.

**Technological Equipment:** In overview of the wood-processing problem, including wooden house building, it has to be marked that the industrial crisis has also affected the production

of wood-processing machinery. It is difficult to say which industry suffered the most. Therefore, technological machinery produced at the present moment in Russia, including house-building equipment, is wide open to criticism and under scrutiny with the West. Initial quality and effectiveness is low; service maintenance is not provided, or it is rudimentary. The exceptions are a few single Russian brands. By the way, not all of the equipment applied in house building is produced in Russia.

In this situation, the only decision possible is the import of foreign equipment, keeping in mind high customs tariffs and Value Added Tax, which makes a future investor concerned about financial indices at the stage of a business plan elaboration.

**Establishment of Engineering Networks:** This is another urgent problem. It is a critical item of expenditure, and regional authorities prefer to hand it over to investors, which makes the price of 1 m<sup>2</sup> more expensive, and, as a result, the interest of construction companies lowers.

This is the reason why there are few examples of mini-storey house building. Generally it concerns city-dwellers who already have housing and build country houses at their own expense, including water supply, sewage and heating systems. The country houses are built for living in during the summer, when the problem of public utilities is not acute, or just a limited number of people can afford solving this problem independently.

**Investment structure:** The major sources of financing wooden house manufacture are the



funds of companies; their share in the total amount of financing stands for about 80%. This problem is rooted in two causes. The first one is the imperfection of the credit system. Not only has it become unprofitable for most of the companies to take credits (an existing interest rate usually reaches 23% for small and medium enterprises for a 3-year term); it is also a difficult procedure to receive a credit. The second reason is the mere incompetence of businessmen. There are frequent cases when in pursuit of investments the future production fails in its capacities, equipment quality and other key aspects.

**Lack of completely formed Federal programs on housing and community services, particularly, in wooden house building:** A great number of supervisory bodies also hinder all worthwhile initiatives in this field.

**Infrastructure:** For example, are there many natives (living in St. Petersburg and especially in Moscow) who would agree to move to other regions to live and work there? Or to put it mildly, are there many young specialists ready to live outside the city limits? Along with the advantages of living in the countryside – cleaner environment, comfort, spaciousness – there exist many problems of a specific character: there is still a big gap between levels of social, medical, road, and energy infrastructures within the city limits and outside, even in such developed regions as Moscow and St. Petersburg. For fairness' sake it has to be remarked that the situation is getting better year after year.

**Lack of trust:** At first sight it may appear ridiculous, but it is rather difficult to make a person wishing to build a brick or a concrete house change his mind. All of the reasons concerning ecological aspects, tradition, positive energy, fire safety and others would come to nothing. It is hard to change public opinion, especially when incompetent workers build low-quality wooden houses.

### ADVANTAGES AND PERSPECTIVES OF WOODEN HOUSE-BUILDING

Perspectives are highly dependent on certain regions and their local administrations, nevertheless the main theses and preconditions can be formulated in order to promote the development of wooden house-building in short and long-term perspectives.

Human interests are above all, and it concerns housing as well: it should be modern, comfortable, and mainly –ecologically clean. Nothing can solve this problem better than a wooden house. They have begun the elaboration of programs on the construction of cottage villages for the permanent residence of the middle-class population. The sphere of application of such programs is the development of living conditions for populations of the regions and big cities. There is a necessity to develop village areas in the regions that require new work power, and, consequently, comfortable housing.

The opposite situation exists in overpopulated cities where there are practically no sites for construction, and every year it becomes more and more expensive and difficult to build houses. The lack of construction sites within the city limits leads to the broadening of the urban construction geography.

For example, in the Leningrad (St. Petersburg) region there is a need to attract over 100 thousand people in the near future to supply its growing economy with the work power and to provide employees with housing. Due to the Land Reform, land areas were allocated and are available that can and should be included in the construction process.

Recently the “vox populi” has been heard. Endless conferences, workshops and symposiums did their best, so state officials decided to start the regeneration of Russian timber, speeches of the President and ministers in this concern can be heard nearly every day. The state declaration must make a positive influence on the development of the timber industry with a range of 20 sub-industries, including wooden house building. It will promote board production that is considered the most promising in wood processing (caused by the fact that Russia has a great volume of low-grade timber unsuitable for veneer and plywood production, or wood sawing).

The forming of an economic base of industrial wood-building development is actually at its final stage. According to the strategic plans of the country's development for the year 2007, the Russian Ruble is to become hard currency. It is also planned that by this time the refinancing rate will drop to 5–6%. The Mortgage Law will be finally completed. Drafts

on subsidies to the interest rate of the credits taken by small and medium businesses are under elaboration, as well as a credit-leasing policy. An experimental project canceling customs duties on the import of technological equipment has already been launched for 9 months. Other measures, such as the return of Value Added Tax and taxation leniency during the construction period, will likely be taken. Thus, all necessary starting conditions for the organization of individual wood building will be in place.

The Russian construction industry is developing and accelerating a scope of available housing, however, this is not enough. With the development program of housing and municipal services, available housing should come to 80 million m<sup>2</sup> per year by 2010. The capacities that exist now are not able to manage this objective.

To meet the expected demand in the nearest future (both in the countryside and city outskirts) it is necessary to construct several dozen modern diversified house-building complexes capable of erecting any type of housing in a short time, and of high quality, at 1 million m<sup>2</sup> per year. This requires, first of all, the production of modern, ecologically clean materials that are widely spread in the

world. At present, over 10 plants in Europe produce more than 3 million cubic meters of OSB (shaving boards), while Russia has no such production so far.

Experts say that the market of wooden house building has always had positive dynamics, and a special growth has been noted over the last three years. During this period, wooden house building became more professional, construction companies working in this business earned a good reputation, and the clients started paying more attention to the quality of a house than to its price. Furthermore, the stakeholders have noticed that the competition environment in this field is still favorable. Directors of construction companies remark that the house-building market is rather chaotic and does not yet have prominent leaders. As one of the managers of a St. Petersburg wooden house-building company noted, “The market is big, and there is enough work for everyone.”

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*All photos: Wood Focus Finland*





# THE END OF URBANIZATION?

**Just half a century ago, Russians were eagerly moving to cities, leaving villages depopulated. In recent years, however, a reverse, yet still weak, trend has been noted, due to the deteriorating living standards in megapolises. Experts say that the de-urbanization process will entail the rapid development of timber house building in Russia. Moreover, of all timber construction technologies, glued wood houses are becoming No. 1. It is worth noting that a large part of such houses were made with equipment by Global Edge. In the last four years, this group of companies has supplied over forty sets of wooden house manufacturing equipment to Russian factories. We met with Mikhail Lifshitz, President of Global Edge, to talk about the prospects for the development of timber house construction and the spread of suburban living in Russia.**

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**ML:** The greatest problem faced by wooden house construction in this country today is the lack of specialists – architects, builders, and designers. Largely this is due to the fact that Russia has no traditions of timber house construction. The houses built in the past centuries were always practical and pragmatic, but absolutely inconvenient for living. They had a high ground

floor to avoid flooding, tinted windows to avoid cold, steep roofs to avoid snow accumulation, and totally non-existent utility lines. In Soviet times, it was preferred to forget about wooden housing, and mass multi-story block construction was widespread instead. Meanwhile, frame house building was developing in the United States at the same time, and the so-called trelliswork, in Europe. Wooden houses were becoming industrially constructible, and were getting “stuffed” with utility systems.

Today, timber house construction has been revived in Russia, and many “homegrown masterminds” are fascinated by futile efforts to duplicate houses from foreign catalogs admired

by the customer, or simply to re-draw brick houses as timber houses, rather than learn the technologies. This non-professional approach sometimes results in unpleasant consequences. I am sure that sooner or later, our builders will gain the knowledge on their own or by others’ mistakes. Currently, Russia is witnessing a rise in timber house building, and not only of up-to-date construction methods such as frame or panel technologies or glued timber houses, but also of log houses. Today, the productivity of the industry and of the demand for wooden house building is progressing at dazzling rates.

**What is the reason for this? The average Russian is still strongly tied to cities with multistory block flats, and their mentality is reluctant to change.**

**ML:** In today’s situation where the housing prices are skyrocketing and housing is turning to gold, so to speak, people will start leaving megapolises. In Moscow, you’d be lucky to buy a very ordinary three-room in a far-from-prosperous neighborhood for \$200,000. Is it worthwhile, when for the same money you can build a country house of 300 sq. m, complete with all the facilities, and with a front garden? I believe that the timber housing culture will be rooted in Russia little by little.

People’s longing for cities in the Soviet era is easily explainable. In our minds, “country,” always meant compulsive collective labor, a ramshackle barrack, and an outhouse toilet. On the other hand, city people living in blocks of flats had conveniences sincerely envied by rural people. Of course, some time will be needed to revoke the established clichés.

Note that in the West, the attitude towards urban and suburban life is quite different. A city flat is a residence for young people who don’t need much room, but who want to have fun; also, for elderly people to have things “within reach,” or for the well-to-do who can afford buying a decent mansion in the very center of a city. Families with children prefer not to be stuffed in a city apartment, and move to a country house, in search of a better quality of life.

**Despite the common opinion that a timber house cannot be expensive, its construction costs quite an amount. Can a “moderate-income” Russian afford this pleasure today – or, as you say, ensure a quality life out of town?**

**ML:** Everything depends on the type of house the customer wishes to build. The most expensive technology is a log house. Even in the West, only highly-paid people can afford such a house; the minimum cost of one square meter would be at least \$ 2,000. The point is that the material used by the builders is not industrially processible. Raw materials cost too much because you have to select logs of approximately the same diameter and fit them together. The sagging variation during the construction, and the exact height of floors, are difficult to calculate, let alone plumbing and wiring. The construction of a dressed log house requires one hundred percent manual labor and builders of the highest skill.

The first step towards processibility is a cylindered log house. After the factory operations, all of the logs have similar dimensions, but on the other hand, they are more prone to cracking and shrinkage than logs that are just dressed, and require a more serious chemical treatment. But this type of house involves manual construction too, therefore it will take a lot of time and money.

The most prospective house in the Russian environment is a glued wooden house. The material is very processible: it is easily dried,

planed, and glued, shows virtually no shrinkage, and can be processed with factory machines. All glued timber jobs are performed with maximum accuracy, which means that the philosophy of building is transformed into the philosophy of assembly. The deadlines for construction site jobs are getting much shorter, respectively. From my point of view, in today’s world, glued timber houses are the most reasonable solution to the housing problem in terms of overall costs.

US-type frame houses, although very attractive, will probably not be adapted to this country. The frame structure is not strong enough; it is assembled and disassembled like furniture, and requires great numbers of different accessories and finish items, which will have to be imported, and that is expensive and inconvenient.

European trelliswork houses have their advantages. They are frame houses of large-section timbers, with a quite solid structural design, good wall structure, and safe wind protection. They are completely manufactured in factories, and quite economical, however they haven’t found their application in Russia so far, with only a few known attempts. By the way, the first facility making European wooden trelliswork houses is to appear in the Moscow Oblast soon.

**Mikhail Valerievich, what does a timber house-making facility look like? In other words, what equipment is demanded by such manufacturers?**

**ML:** Oddly enough, multifunctional processing centers are the fashion today. A maker buying such a center hopes to make many houses with its aid. But “many” is hardly achievable. For all of its apparent power, processing centers show low productivity. Even if it performs ten operations, they follow in series and not simultaneously. If we are talking about a really industrial production, it would be much more profitable to install five to seven separate machines for each operation. Besides, processing center operation is especially vulnerable to the notorious human factor: any mistake would cost you very, very dearly. Such centers are only worth buying when the design comprises several hundred different components. They are pointless when making a house. Otherwise, you would utilize such an expensive unit at 10%, no more, and for a lot of similar jobs.

*Reported by Yvetta KRASNOGORSKAYA*

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# POSSIBILITIES AND THREATS FOR EUROPEAN BUSINESS IN THE RUSSIAN BIO-ENERGY SECTOR UNDER ITS CURRENT CONDITION

**Russia is gaining momentum in the production of fuel pellets. This country is gradually taking its place in the European market as a promising source of biofuel for private, as well as industrial consumers and district heating facilities. This development took more time than was expected. Exaggerated expectations ultimately damaged the trust of Russian suppliers. But how could one demand the 100% reliability of a branch that is only 5 years old? Russia has young market economy traditions, and this influences the bioenergy branch too. We have to admit that there are problems. However, they can and will be overcome. We will try to illustrate how these problems should be dealt with, and what European companies should expect from the Russian bioenergy sector.**

## INTRODUCTION

By "bio-energy," one usually means the methods of industrial energy production from different types of biomass: timber, crop, animal droppings, manure, other agricultural/animal waste and domestic waste.

Bio-energy is especially important for the Russian forestry sector. One of the most capacious and promising sources for ecologically clean biomass is wood-waste resulting from wood logging and processing. Many Russian woodworking enterprises are almost choking from the inevitably-growing waste flow including sawdust, cutting waste, bark, refuse wood, etc. Accumulating wastes are a serious environmental threat. To get rid of them we should incur significant expenditures, even those leading to the decrease of the overall profitability of woodworking enterprises. Naturally, it is forest harvesting and primary wood processing that generates the biggest

part of waste. Also, wood wastes, being properly utilized, can be of significant value as renewable pollution-free fuel.

In the strict sense, Russian bioenergy exists from time immemorial. Timber – as fuel wood – has been burnt for ages. However, firewood burning gives no high coefficient of efficiency. Biomass must be appropriately processed and turned into high-performance biofuel in order to properly use it as a source of energy. It is solid biofuel that is mentioned most frequently, although recently more attention has been paid to the development of technology for liquid motor biofuel production including biofuel production from wood-waste.

Today, two types of pressed bio-fuel are the most distributed. They are fuel pellets and fuel briquettes produced from wood pulp or different type of biomass. Wood fuel pellets present small cylindrical pressed wood items with a diameter of 4–12mm and a length of

20–500mm produced from dried leavings of the woodworking and sawmilling industry (sawdust, wood flour and dust, chips). Like pellets, briquettes are produced from ground dried timber. However, they are bigger, round, rectangular, or have a multitangular cross-section. Sometimes they have an aperture in the centre.

Fuel pellets belong to the most manufacturable type of fuel nowadays. They are of high (0,65–0,8) bulk density, slowly accumulate atmospheric moisture, are free-flowing, have low ash content and also provide a high coefficient of efficiency when generating heat and electric energy. They could be burnt automatically almost on an unlimited scale. Fuel pellets are utilized in different spheres varying from private stoves, boilers, and fireplaces in private houses to boiler houses and CHP plants.

Briquettes are usually of a higher density during transporting although their spheres of use are somewhat narrower. It is possible to use fuel briquettes non-automatically for fireplaces or at boiler houses where fuel is ground before it is put into the furnace. The European market reveals demand for both types of the solid fuel, however, the amount of fuel pellet consumption is much bigger.

Terms "biofuel" and "biofuel industry" used herein refer to the two types of solid biofuel – fuel pellets and briquettes, as described above.

## HISTORY OF THE BIOFUEL INDUSTRY. CONDITION, PROBLEMS AND PERSPECTIVES OF DEVELOPMENT

The fuel pellet market appeared in Russia in the very beginning of the XXI century. The first fuel pellet factory was established in the suburbs of Saint-Petersburg in 2001. It looked like simply innovational, high-risky business for enthusiasts then. The first factories for fuel pellet production from wood wastes were in fact experimental factories and were based on the modified OGM mixed feed lines that were widespread within the post of certain areas. The equipment was old-fashioned and unfit for wood granulation, and the task was very new for our country.

Despite the enthusiasm of the first pellet

factory owners, they were not ready to invest large funds into industry development. It was touch-and-go business with a vague future. However, from the outside, the bio-fuel business looked quite attractive and promising:

- energy carriers' deficit and rise in price threatens Western Europe
- biofuel produced from wood waste is one efficient type of renewable fuel
- wood waste volume in EU is limited and it is dropping. At the same time, huge amounts of equipment for primary and deep timber processing are imported in Russia, Belarus and the Ukraine annually. Deep timber processing is replacing round timber export and consequently the volume of wood wastes produced at the timber factories is growing
- wood wastes accumulating in our country generate a serious environmental threat

It might seem that bio-fuel produced from sawdust helps solve the mentioned problems, but it is not so simple.

It were mainly venture investors who were interested in the wood waste processing and fuel pellets production in 2002 and their business often didn't relate to woodprocessing. Such investors were often invited to participate in bio-fuel projects by the enthusiasts who created the first pellet factories.

Two tendencies were revealed simultaneously at this stage. On the one hand, investors' active interest drew the attention of media, bodies of government, economic structures, scientific organizations, different non-profit organizations and funds. Articles on bio-energy began to appear in specialized journals, at first in parts dedicated to new technologies. Suppliers of equipment for biomass pelletization have entered the market, especially since many of them, such as Sprout Matador and CPM have already been supplying equipment for other Russian industries, including mixed feed and sugar industries. On the other hand, projects for bio-fuel production are now provided with deeper and more considered investment analysis. Any new business bears an investment risk. High risk requires high profit margins. Venture investors enter an economical sector only if they expect intense growth and high profit margins. Still, it was soon realized that fuel



pellet production sometimes doesn't meet these conditions. The bio-fuel prime cost is more than zero, as wastes have to be at least transported to the production place, purified, ground and dried. The finished product is to be delivered to the suppliers.

As a result, despite great interest in bio-energy, no more than 10 factories had been put into operation by 2003, and the export volume of fuel pellets was scant. The volume of pellet exports was not exceeding 10,000 tons. Most of the first bio-fuel factories used domestic low-capacity equipment. Moreover, they were built for finished production export to Western Europe.

In autumn 2003, the first association of bio-fuel producers in Saint Petersburg was registered: the Russian bio-fuel association. It was the first one to set itself the task of turning the separated innovational production of wood pellets into a full-fledged industry with its own standards, infrastructure, and lobby, etc. First of all, the most urgent problem – the accumulation of ship consignments for fuel pellets in ports and their delivery to European consumers – was to be solved. At that time, there were no producers with a production capacity high enough for monthly shipments of ship consignments for fuel pellet export. Therefore, activity was very necessary for the survival and development of a new industry.

By 2004, interest in bio-fuel production from wood wastes and other types of biomass increased to an extent that it became clear: a whole industry is going to replace a group of enthusiasts. As it turned out, the industry is not perfect. A number of problems revealed

themselves as well as a divergence in the overview of both existing and potential Russian pellet producers, and of European producers, of each other.

Let us discuss some principal problems of development that were within the view of market participants and analysts.

### 1. Divergence in prices

At that moment, Russian entrepreneurs had a quite vague understanding of the structure and state of the European pellet market. The information on this topic was pretty uncoordinated and came to nothing more than statistics of different associations, of governmental and scientific bodies of Europe consuming biofuel. These statistics often involved average retail prices for wood pellets at a level of €180–200 per ton and higher. These figures were automatically carried into a bio-fuel factory feasibility study due to incorrect translations into Russian and because of selectively perceived information. Consequently, investment parameters of such feasibility studies were very attractive. In fact, it was soon found out that fuel pellets can cost €200 per ton only in retail chains. This price includes costs of consignment division, packing, marketing and advertising in the target market, while it is almost twice as little in the wholesale market.

On the other hand, many European consumers being influenced by stereotypes that Russia is a country of cheap labour and free resources also expected to get necessary fuel at lowered prices. Especially since they saw a few operating factories in Russia and discussed only unclear perspectives of future contracts.

While in 2002–03, the Dutch, Swedish and British were glad to sign declarations of intentions concerning bio-fuel supplies from Russia, in 2004 they were much choosier about them, as none of the signed declarations have been implemented.

What's more, the bio-fuel market in Europe is young and subject to significant fluctuations of supply and price volumes. As a result, prices to be oriented while drawing up business plans can change greatly at moment of factory launch.

### 2. Logistical problems

Despite logistical benefits of wood pellets, including a high bulk density, homogeneous consistency, high solidity, etc – its transport over long distances is a difficult task.

Firstly, the problem involves the character of the demand. European traders and large consumers, as a result of the specific character of their businesses, prefer to work with suppliers on long-term contracts for monthly shipments of large (ship) pellet consignments. Almost no consumer is ready to work with fuel packed in 650-kilogram big bags popular in Russia, which makes cargo receipt and on-site processing quite long and expensive.

Consequently, there is a problem with the delivery of the produced pellet from factory to port and its trans-shipment. There are several variants to solving the problem and all of them require either investing in optional equipment or expenditures on expensive consumable materials.

Creation of special-purpose terminals for pelletized bio-fuel trans-shipment at sea ports of, for example, the Baltic pool could be an ideal decision. Nevertheless, wharf walls and other port facilities in big ports of Saint Petersburg are in deficit right now – they are insufficient even for the trans-shipment of conventional goods, such as, metals, timber and minerals. That is why there is no telling about construction of such terminals before a significant freight flow “for perspective” is provided. On the other hand, many experts rightfully believe that the successful development of bio-fuel export production depends much on the special trans-shipment facilities that ensure fuel pellet export is more economical.

Unfortunately, unsolved transport problems made many pellet factories projects unprofitable in different regions of the country and decreased the profitability level of “afloat” factories significantly.

### 3. Quality

The quality of fuel pellets produced in Russia presents another problem.

The western standards for pellet quality have strict requirements. They were worked out taking into account possibilities of European pellet producers, which more often use dry and purified wastes from deep processed timber and the furniture industry. Most Russian producers also rely on wastes from the primary processing of timber with natural moisture content and less homogeneous wastes. It is much harder to ensure that pellets from such material comply with the standards. Raw material has to be sorted, debarked, ground and dried, which leads to the technology chain complication and increase in bio-fuel costs for manufacture.

Besides compliance with standards (which is not always required) consumers mostly want to receive homogeneous consignments of pellets – preferably produced at the same factory from the same raw material – but unfortunately it is still a problem. Even in the summer of 2004, almost all Russian pellet producers were not able to ensure the regular supply of fuel pellets in volume of at least 2–3 tons per month and to guarantee such volumes under contract due to different reasons. In other words, under the current conditions, such volumes can only be provided by shipment of combined consignments from several producers. It is nearly impossible to secure the cargo homogeneity in such conditions – taking into consideration the fact that there is no completed technological practice and system of solid bio-fuel testing and certification. This limits the potential market for Russian pellets in Europe.

### 4. Equipment

Development of export-oriented fuel pellet production is also hindered by technical obstacles.

The technology of pelletization is set up in Europe, while it often malfunctions in Russia. As mentioned above, mainly moist material



is used for pellet production in Russia. The material is to be purified, ground and dried. All this makes the technology chain longer and more complicated. There is a lack in technology implementation practice involving the preparation and drying of raw materials both in Russian and abroad. Together with problems of energy supply and other elements of the industrial infrastructure, this makes each pellet factory a unique and extremely difficult project. Moreover, investors and owners of the created factories are slow to listen to recommendations of equipment designers and suppliers. Consequently, they often have to reconstruct already built enterprises.

### 5. Export market dependence

Bio-fuel factory development is hindered by the fact that they are strictly export-oriented. There was a primary stereotype that Russia has no market for refined bio-fuel (pellet and briquettes) and it will not appear soon. Export activity always involves additional risks of fluctuation in the exchange, technical, language and intercultural barriers, of goods transported over long distances, etc.

Evidently, solutions to all of these problems are near. We need to form infrastructures and to increase the scale of production. Actually, it was the understanding of system problems that stimulated the bio-energy sector to shift to the modern stage. This stage can be called a stage of bioenergy industry formation in Russia.

At the moment, at least since the beginning of 2005, bio-energy has formed as an independent industry including several hundreds of enterprises that consider the industry to be one of their main business targets. The industry involves the following:

- existing factories and factories under construction,
- trade companies developing efficient channels for finished goods sale,
- transport and shipment companies offering different logistical decisions for bio-fuel producers and purchasers,
- primary and accessory equipment suppliers,
- economic structures offering different financing schedules for bio-energy projects,

- consultants and designers, specialized in bio-energy, etc,
- raw material and finished product quality experts,

Moreover, informational infrastructures of the industry have begun to form, which involve the following:

- information centres and systems dedicated to bio-energy,
- a number of regional, Russian and international bio-energy arrangements,
- first annual sectoral reference book, "Wood Fuel Pellet 2005" recently issued by Bio-fuel portal WOOD-PELLETS COM and Russian Northwestern Timber confederation. At the end of 2005, the first issue of specialized sectoral journal "Bioenergy" was published. This is one more attribute of the independent industry.

At the moment activities are being performed to create Russian standards for solid bio-fuel. Certain efforts are made both locally and federally to lobby new industry interests in legislative and executive authorities.

### Summary

Despite these problems, interest in fuel pellet production continues to gain momentum. Real perspectives have surfaced for solving system problems of the new industry.

There already exist a number of construction projects of special-purpose terminals for fuel pellet export and trans-shipment. The most serious Russian transport market players have started to pay attention to the bio-fuel business. Construction conceptions now more often include simultaneously generated facilities for transporting and for finished goods trans-shipment on sea transports.

Fuel pellet producers have begun to pay serious attention to questions of choosing raw material sources and also of proper equipment integration in order to produce stably high-quality bio-fuel. We expect a number of enterprises to appear in the near future with production capacities high enough for monthly shipments of no less than 2 thousand tons of pellets, its quality complying with the most widespread European standards and requirements.

Designers, technologists and factory managers have been accumulating the experience necessary for the proper organization of the bio-fuel industry in Russia. We wish that repeatedly made technological mistakes will help deepen the understanding of bottlenecks, typical for the majority of pellet factories built in our country and these factories will preferably start pellet production on industrial scales.

Moreover, there is the growing dispute about a possibility of wood pellet use for fuel within Russia. Two to three years ago observers believed that pellet burning by Russian consumers was a long way off. Now a number of bio-fuel producers successfully sell their products in the domestic market. Multiple specialized boiler equipment for the automated burning of fuel pellets is being imported in Russia. Domestic producers of boilers and burners for pellets have arisen. The producers implement their own designs as well as manufacture equipment under leading European manufacturers' licenses.

Fuel pellet burning is indeed economically sound in many cases. This concerns at least municipal boiler houses in insufficiently developed gas infrastructures. Calorific value and domestic market price of a wood pellet are comparable to that of furnace coal. Wood pellet burning can be automated much easier. Bio-fuel burning generates little smoke and harmful emissions. Pellets are much more simple and safe to store and burn than black oil and other oil products. Unit thermal cost is much cheaper for pellets than for diesel fuel. What's more, pellet burning efficiency is much higher than that of moist chips and firewood.

All of the above mentioned facts, together with the forthcoming implementation of mechanisms for the Kyoto protocol, will facilitate the intense development of wood fuel's internal market. After the market is organized some of the most complicated problems hindering bio-fuel production growth will go on the back burner and be solved as the industry extends. The industry will be growing independently from foreign consumers' demand.

As per our estimate, during the recent 3–4 years, the bio-fuel industry has been invested with at least € 50 million. This investment process involved many companies and entrepreneurs independent of one another. It is they who will form a new industry backbone and who

are primarily interested in the industry's stable development and growth, ensuring the fastest payback and intense development of their business.

## MODERN CONDITION OF THE INDUSTRY

### Supply

Today, Russian producers of fuel pellets from Kaliningrad to the Urals and from Arkhangelsk to Rostov on Don produce 20,000 tons of fuel pellets monthly. It is 35–40,000 tons of solid fuel monthly, including Belarusian and Ukrainian factories and fuel briquettes. These are quite high figures, however they are much less than the mounted equipment's overall capacity.

The general amount of Russian factories to produce fuel pellets is more than 30. Their actual average output is 700 tons per month. There are at least twenty factories scheduled to be launched and to reach the planned production capacity by the end of 2006. According to our preliminary estimate, the total productivity of the Russian bio-fuel industry can amount to some 100,000 tons of fuel pellets and briquettes monthly by the second quarter of 2007.

The majority of existing bio-fuel factories and factories under construction are situated in the European part of the country. Their density is lesser than further marine regions – the Saint Petersburg and Leningrad region's, together with the Rostov region and Krasnodar kray. Such geographical distribution of production powers results from the costs for finished goods transported to the European consumers, on the one hand, and from the volume of biomass resources – wood wastes and agricultural wastes, on the other. Sometimes, an abundance and cheapness of raw material provides for potentially beneficial fuel pellet factories that are situated far from sea ports.

### Demand

It is still mainly European buyers that demand Russian fuel pellets. They are generally traders and large electric companies. Russian traders have been more active recently, competing for an opportunity to accumulate pellets produced by different factories and ship them to foreign consumers.

It is significant that today's demand for Russian



pellet exceeds supply by no less than 10 times and this stimulates investors to organize new pellet factories. There is no reason to think that the situation will change by 2007, even providing the predicted production volume growth.

Russian pellets are mainly exported through the Baltic seaports: Saint Petersburg, Liepaya, Ventspils, Klaipeda, Tallinn and others. Bio-fuel is partly shipped to Europe through the black seaports. Bio-fuel of the best quality is delivered to Europe by motor transport.

Customs statistics for 2005 show a fuel pellet export volume of up to 60,000 tons. The main export directions are Scandinavia, Finland, Great Britain, Germany and Italy. We can expect significant increases in export volumes in 2006 if the main target markets persist.

### CHOOSING OPTIMAL LOGISTICS DECISIONS FOR FUEL PELLET EXPORT-ORIENTED PRODUCTION

The most difficult issue of the export-oriented production of fuel pellets is the produced pellet transportation to the foreign consumers.

High bulk density permitting bio-fuel's easy transport for long distances is one of the most crucial benefits of the pelletized biofuel. Another significant feature of the fuel pellet is its homogeneous consistency that permits the automation of loading and burning.

Nevertheless, in Russian practice the mentioned benefits provide hardships, especially when exporting.

Efficient processing of free-flowing products require use of specialized equipment and experience and skills that technologists of bio-fuel factories don't possess, as they are used to operating timber and woodworking products. This leads to a necessity to integrate bunkers, devices for pellet packing in big bags or paper bags into production lines. The finished product must be delivered to consumers or seaports, which usually are remote from bio-fuel factories. Consequently, we need transports protecting pellets from atmospheric precipitations, physical damage and providing maximum easy and quick product packing and unpacking.

Efficiency of transport and logistic operations are the key profitability factors for a product with a retail price rarely increasing €200 per ton (a little more than 1.5 cubic metres) and with a selling price of €60–80 per a ton at a factory. Costs for pellet delivery from producers to consumers can amount to 50% of the cost of manufacture! The annual economy of €1 per ton for a large producer provides him a ten-thousand euro benefit and makes only 3–4% of the logistic expenditures.

There are different variants to solving this problem. Their choice depends on the situation of the particular bio-fuel producer and on product markets strategically selected by the producer.

### TYPES OF PACKAGE

There are different types of fuel pellets packaging depending on the way they will be transported and utilized.

#### In bulk

Fuel pellet shipment in bulk is the most attractive for large European buyers – boiler houses, CHP plants and large traders. This variant provides the most flexible processing of the received goods. Pellets received in bulk can be packed in company packages or sent to the final consumers by specialized transport. Besides pellets, shipments in bulk can help economize on ship freight charges. Although fuel pellet shipment from Russia in bulk is greatly hindered due to a number of reasons:

- 1) Russian ports lack specialized facilities for bio-fuel systematic trans-shipment (bulk warehouses at a wharf wall, transport lines for efficient loading of pellets in the ship, terminals for quick unloading of cars, etc) Perspectives to construct such terminals are quite vague taking into account the existing deficit of port facilities.
- 2) Most of the existing bio-fuel factories are not equipped for big volumes of pellets in bulk shipment. Finished goods are to be delivered to port by motor transport or box cars, which naturally increases transport costs.
- 3) Unfortunately only several dozen operating bio-fuel producers will be able to ship consignments monthly by the beginning

of 2006.

#### Big bags

Fuel pellets, like many other free-flowing products, are often packed in propylene bags – the so-called big bags. The content of the most widespread big bag is 1 cubic metre, that is, providing the standard bulk density of the product is 0.65, they store about 650 kg of pellets. Such packaging is convenient for transportation, protecting the product from physical damage and providing use of primitive technologies (crane, autoloader) for loading.

Big bags, from the point of view of pellet delivery to Europe, have such drawbacks as consumers' costs for goods processing at the recipient terminal, and costs for used big bags utilization. Considering the high labour cost in Europe, pellet buyers often prefer to get rid of big bags in Russia. For example, big bag cutting in bulk carrier bilge is one of the most popular variants of pellet trans-shipment in the port of Saint Petersburg.

#### Paper or plastic bags

Fuel pellets in retail packaging occupies a certain, however not large, sector in the European market of solid bio-fuel. It is usually 10–20kg of paper or plastic bags that can be sold through retail channels. For wholesale, such bags are usually put on trays and delivered in containers or by freight transport as general cargo.

Often it is extra quality pellets for private consumers that are packed into bags and intended for burning in special furnaces and fireplaces, or for barbecue – instead of conventional Russian wood coal. Such bio-fuel is usually more expensive and it is delivered to Western Europe by motor transport.

### CHOOSING A TYPE OF TRANSPORT

#### Water transport

Sea transport is the most economical way to deliver fuel pellets for long distances. Pellets can be loaded on ships in bulk, in big bags or in retail packages, depending on the buyer's demands and the logistical opportunities of the factory.

Speaking of bio-fuel export in the lump, the majority of buyers and serious consumers in Western Europe (we can also judge by dozens of requests) prefer to receive pellets in bulk by regular ship consignments of 2–6 tons per month.

Large buyers usually have special-purpose terminals and warehouse complexes in European ports providing minimum expenditures and maximum flexibility for the logistic activities at their end of the chain. In this case, the received pellet is unloaded to specialized warehouses, where the product is divided and packed, if necessary, in big bags or 10–20 kilogram retail packages with proprietary labels, in which the product is sent to the trading network or to final consumers. The significant part of the pellet is delivered to consumers in bulk by special transport. The described operations don't require many workers, whose labor is quite expensive in Europe.

The product can be delivered by sea transport on trays as general cargo in case the buyer in Western Europe is able to receive pellets in big bags or in retail packages. This makes logistics within Russia simple and inexpensive. However, in this case, pellet consignments are small, which is not very beneficial to European importers.

There is a possibility to use inner waterways, decreasing transportation costs, provided a factory is situated near an accessible river or lake. The main problem is that the majority of waterways freeze in winter – the best season for the bio-fuel market

#### Motor transport

Motor transport is the most expensive yet simplest and most flexible way to deliver pellets to consumers. Pellets are usually delivered by motor transport for short distances. No specialized equipment is required to load pellets into bags, or big bags into box cars. Autoloaders simplify operations with big bags or cargo on trays. Motor transport is not dependent on railways and waterways.

This type of transport is more often used for pellet delivery to small consumers including private consumers within a radius of several hundred kilometers. Factories situated far from railways and waterways or other types of distant



transport deliver finished goods to railway stations or ports.

In some cases the pellet can be delivered over long distances even for export and the profitability is maintained. This is especially true when dealing with the pellets of best quality. It is sometimes even cheaper to deliver pellets in Europe by motor transport than by sea transport or by railway. However, this way usually employs parallel trips and it would be difficult to deliver large pellet consignments to European consumers.

Rail transport

Railway transport is more profitable for pellet delivery in packages or in bulk within the Russian Federation. Costs of delivery are lower than when motor transport is used.

Pellets are delivered in box cars in bags and in big bags as well as in specialized hopper-cars for free-flowing products.

However, rail transport has its drawbacks. Firstly, the presence of spur-tracks and often of access to rolling stock limits the opportunity to use railways. Secondly, box cars packed with cargo or big bags takes too much time. And grain carriers loaded through the upper hatches require special equipment – silos, bunkers with moving floors and transporters for lifting pellets.

Logistical chain

According to our opinion, business can exist for a long time only by being profitable for all its participants. That is why we believe that one should ensure optimization of the whole logistical chain from the very beginning, from the raw material receiving and palletizing line at the factory up to the boiler house furnace or fireplace in the private hose somewhere in Sweden, Germany or (why not?) Russia.

Logistical chains will definitely include several operations. The primary cost of bio-fuel delivered to consumers and consequently the overall mass of profits gained by all the chain participants depends on who performs these operations, how and in what order he does them.

During optimizing logistics one should take into account at least the following:

- how and in what form does the final consumer want to receive biofuel?
- what methods of pellet delivery does the bio-fuel factory have?
- how do transport costs correlate with each of the methods?
- how much finished product can be delivered using every method?
- what opportunities for pellet receipt do the bio-fuel buyers have?
- do the final consumers need products packed in retained packages or big bags?
- where can pellets be packed with at minimum cost complying with all requirements of the buyer? Is it possible to do at the factory or at a site for loading on the main transport?
- which place is more beneficial for the accumulation and storage of pellet ship consignments in case they are shipped by sea transport? at the factory or port? or in the warehouse of the foreign trader purchasing bio-fuel from several factories?

You can choose several alternatives depending on your answers to the questions. You can calculate combined costs for every variant.

Let us investigate a simple example:

Let a bio-fuel factory with a monthly output of 200 tons of fuel pellets have spur-tracks, be situated in the Northwest of Russia and plan to ship pellets for consumers by sea through the port of Saint Petersburg.

In such a case here is the following logistical chain:

Factory !Sea port !European buyer/consumer ! boiler house/power plant of consumer.

Each stage (arrow) has a number of variants described in the table.

You can choose an optimum decision after you consider different combinations of the above mentioned variants and calculate their prime costs involving direct transport costs, existing limits and necessary investments in equipment and infrastructure. You can similarly analyze other methods of pellet delivery to consumers by motor transport, for example.



Variant	Peculiarities/characteristics and costs	Necessary conditions/investments
Pellet delivery from factory to the port		
Big bag shipment by motor transport	Cost of big bags (about \$10 per ton of pellets). Cost of voyage on the basis of 20-25 tons of product for one voyage	No additional investments are required. Loading can be performed by a standard loader.
Big bag shipment by rail transport	Cost of big bags (about \$10 per ton of pellets) Railway tariff	Spur-track is required
Shipment in bulk by rail transport	According to our data, not performed in Russia yet	Specialized motor transport is prevented Equipment for transport loading through the upper hatches (silo, mechanical or pneumatic transport preventing damaging of the pellets) is required.
Shipment in bulk by rail transport (hoppers - grain carriers)	Due to efficient utilization of the hopper cars area railway tariff can be cheaper than it is when the box cars and big bags are used.	Spur-track, access to rolling stock and equipment for car loading through the upper hatches is needed
Pellet pre-packing at a factory in 10-20 kg bags and shipment in retail package	Cost of package Cost of voyage based on 20-25 tons of product for one voyage. Extra expenses are possibly recovered by higher selling price of pellets packed in compliance with the requirements of the consumers.	Packing equipment Autoloader
Cargo processing in port		
Pellets trans-shipment in big bags or retail package on trays	The cheapest and the easiest way of trans-shipment. Approximate cost of trans-shipment in the port of Saint Petersburg is USA \$10 per one gross ton. It is the most economical variant in case a buyer is able to receive pellets in big bags in bulk. Costs due to long accumulation of the ship consignment within the port area can be incurred when pellets are delivered by motor transport.	No special conditions are required. Can be performed by any stevedore company of the port.
Trans-shipment of pellets delivered in big bags from a factory and big bags unpacking to the bulk carrier bilge	Trans-shipment demands high labor costs and takes much time. The approximate cost of trans-shipment in the port of Saint-Petersburg is \$14 per gross ton. Big bags are destroyed during the trans-shipment and are to be utilized afterwards. When pellets are delivered by motor transport costs can be incurred due to long accumulation of the ship consignment within the port area.	No special conditions are required. Can be performed by the majority of stevedore companies of the port.
Trans-shipment of pellets delivered in bulk from a factory by railway transport in hopper cars.	With the help of the pontoon crane. It is the most economical method of pellets trans-shipment nowadays. Cost of trans-shipment in the port of Saint-Petersburg is USA \$10 per a gross ton providing there is a proper plan. Rejecting big bags ensures the additional economy.	Large lifting capacity crane equipment, spur-track, and opportunity for simultaneous loading big consignments from factories are required.
	Through the special-purpose terminal. At present there is no special-purpose terminal for fuel pellet trans-shipment in Russia. Several companies have announced their work on such projects independently of one another. Existing loading terminals are difficult to use due to a number of reasons and currently loads by other export freight flows, which is the main reason. It is potentially the most efficient and economical variant.	It requires an area within a port with a wharf wall and special terminal equipment, including at least: - device for lower unload of hoppers, - automated warehouse, - transporters for quick loading of pellets in the ship.
Receipt of cargo at the receiving port		
Receipt of pellets in bulk	It is the most widespread method, providing minimum expenditures and maximum flexibility to the pellet recipient. Large electric power stations in Western Europe possess their own trans-shipment facilities for receipt of fuel in bulk. Pellet receipt traders unload pellets to their warehouses, where the goods are sorted and packed, if necessary, in big bags or retail packages. Then the goods are sent to the final consumers or to the retail chains.	Specialized equipment for unloading is required. However, it is present in the European ports
Receipt of pellets in big bags	Pellets are unloaded in the common way. Big bags are as usual unpacked after unload and are to be utilized, which also leads to certain expenditures. Unloading actions are quite labor intensive and take much time if a consignment is large. On big bags unpacking the finished goods are processed in a way similar to that of goods received in bulk.	No special conditions.
Receipt of pellets in retail package	Pellets are unloaded in the common way. Then a consignment is divided and delivered to the retail chains or the consumers. This variant is potentially beneficial, while it is worth-while only if it is retail market oriented	The variant is usually utilized when a preliminary order for pellet production and packing in compliance with the specifications is made in Russia



Even despite the comments we made in the tables above, we can not claim a priori that a variant is optimal in general. Such decisions should be based on the analysis of the situation, investment and production opportunities of certain companies. Say, in one case, pellet packing in paper bags is cheaper in Russia and in a different situation it is too complicated. In one case it is beneficial to unpack big bags in a Russian port and in another case it is cheaper for the buyer.

Of course, it is possible to perform such analysis if both parties – a seller and a buyer – “show-down” and show their costs structure in order to decrease primary costs of production delivered to consumers. It is the only way to maximize the overall mass of profit and provide mutually beneficial and long cooperation.

Today there are about 40 operating producers of solid biofuel in Russia. The average monthly production volume per producer draws up approximately 500 tons – meaning about 30% of their average nominal capacity. With experience accumulated, many of the factories will improve their efficiency to – say – 50% (about 33,000 tons monthly). 10-20 more factories are expected to open up before the end of 2006. Some of them are going to be larger and more efficient than anything constructed in the last 5 years with the underrated forecast of 60–80,000 tons of pellets produced in Russia monthly during 2007 with an annual production of up to 1 mln tons. Maybe more. We have little reason to expect a significant portion of this amount to be used in the domestic market<sup>1</sup>:

2005 – 60,000 tons  
2006 – 300,000 tons  
2007 – 1,000,000 tons

Incredible growth rate? With at least 100 million Euro flown into the sector from 2001 to 2006 it seems more believable. This gives European biofuel consumers, traders and investors some food for thought. There are many opportunities as well as threats for European biofuel market players in regard to the Russian bioenergy sector, which we will examine now.

### SOURCING BIOFUEL FROM RUSSIA:

<sup>1</sup> This paragraph is based upon the results of the research performed by experts of WOOD-PELLETS.COM. For details, please visit: <http://www.wood-pellets.com>

### PROBLEMS AND SOLUTIONS

Each of the Russian biofuel producers faces at least 10 buyers in Western Europe. There are about 10 companies willing to accumulate biofuel and sell it to larger consumers abroad. Each of the traders could buy all the pellets produced in Russia. The demand for Russian pellets today exceeds the supply by 10. This market situation seems to be favorable for new producers and complicated for European consumers. Traders cannot count on high profit margins for their services.

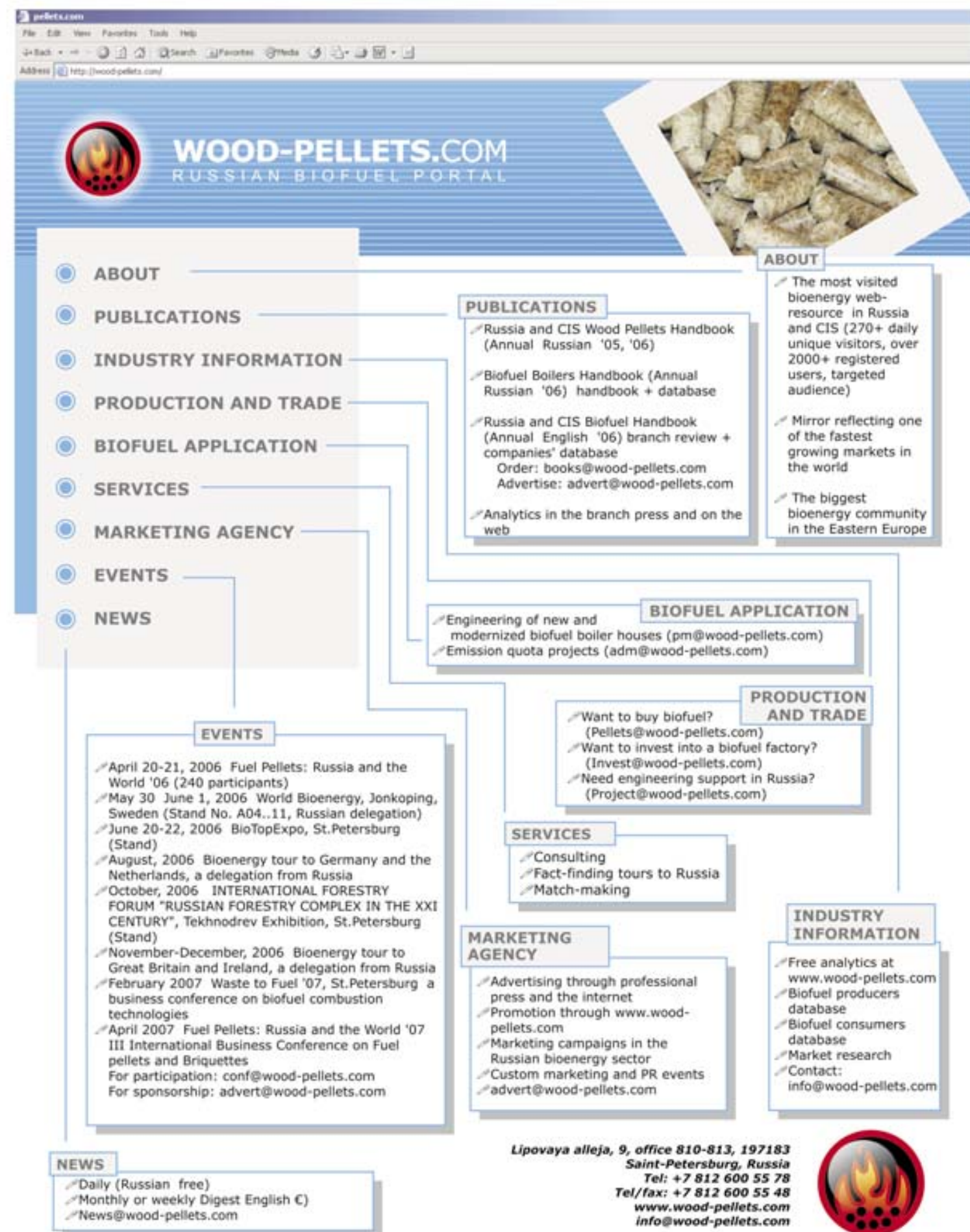
We have to point out that the situation is changing rapidly due to enormous growth rates. It may lead to further price fluctuations not only regarding Russian biofuel, but also in the whole European biofuel market, as long as Russia becomes a serious player. The growing volume of pellet production may lead to lower prices for a period, which will inevitably lead to an increase in consumption and thus, higher prices. And so on.

The Russian pellets market is rather disorganized. It lacks transparency. Everybody is asking for a market price. But there is no ‘market price’ for pellets in Russia. Everybody tries to sell as expensively as possible or to buy as cheaply as possible. There is no exchange, cartel or an association that systematically monitors and publishes the current price level and can be trusted by most market players.

European biofuel consumers and traders will have to cope with this if they want to build up a reliable source of biofuel in Russia.

One more problem is the logistics side. Without specialized seaport reloading facilities for bulk pellets, transportation of the product to Western Europe will cost a fortune. What a European buyer pays for pellets on the USA basis accounts for about 50% of the price. An investor, who dares building the first terminal that would accept bulk pellets from different producers and reload them onto ships in one of the Russian seaports, has a good chance to gain control over a large portion of the market. Such a terminal would allow decreases in transportation costs up to 30-50%!

To secure stable volumes of biofuel and an





acceptable price level, European consumers will have to control more links to the bio-fuel value chain. This can be achieved:

- Through personal or controllable trade companies in Russia, which should gather the necessary volumes of the product of needed quality inside Russia.
- Through investment into bio-fuel production located as close to the raw materials (biomass) as possible.

These two approaches are described in more detail below.

### PURCHASING REPRESENTATION BY AN AGENT IN RUSSIA

To successfully compete against other buyers, one has to be in a position to control the purchasing process. This can be done personally or through a reliable agent. In this case, it would be possible to offer producers an individual approach and the best possible purchasing conditions. For instance:

- payment upon receiving the product at the port
- partial pre-payment
- assistance in solving logistics tasks
- purchasing on ex-works basis

An agent will also be able to make contracts under the local jurisdiction and better control the fulfillment of these contracts. It would also help to manage costs better and exclude unnecessary intermediaries. Furthermore, packing/reloading facilities should be considered.

This approach is certainly only feasible with large volumes.

Smaller buyers should rather address independent traders than producers of bio-fuel directly. The price advantage of purchasing directly from factories would likely be spoiled by complicated logistics, changing suppliers, etc.

### INVESTING IN BIO-FUEL PRODUCTION

Statistics show that only in Northwest Russia are there resources for the production of 16 million tons of pellets annually. The bulk

of these resources are not being used today. Two important reasons for that are:

- a lack and expensiveness of investment resources in the domestic market
- a wish to secure the project by attracting a bio-fuel consumer as an investor or a partner in a joint-venture – to secure the sales side and attract cheaper credits from Europe.

This creates the perfect opportunity to invest money into one of the fastest growing markets in the world. Preferences given by the Russian Federation as well as regional authorities for environment-related projects and investors provide for more and more favorable conditions and investment security.

### OTHER OPPORTUNITIES IN THE RUSSIAN BIO-ENERGY SECTOR

The growing bio-energy industry also offers perfect opportunities for suppliers of equipment, and financial and consulting organizations. The new branch needs technology and financial resources, as well as expertise. These resources mainly come from the West.


For example: over 35 contracts were signed and paid in 2002-2006 for complete biomass pelleting lines to be imported from Western Europe, and about the same number for briquetting presses, not to mention domestic plants and presses imported from the Baltic States.

The market for modern boiler-house equipment and solutions is also very promising.

Of course, manufacturers have to pursue consequent marketing policies to promote their solutions – efficient but expensive compared to domestic. Therefore, they need to establish their own representations or use local marketing professionals. Partnership with local engineering companies is also very important. Besides that, the market does not require much investment into sales development, beyond participation in one or two correctly targeted exhibitions or conferences, placing localized information on the Internet and in relevant professional magazines.

*Anton OVSIANKO*





ОТКРЫТОЕ АКЦИОНЕРНОЕ ОБЩЕСТВО  
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**VOLOGDALESPROM CORPORATION -  
WOOD PELLETS FROM VOLOGDA**

The Vologdalesprom Corporation is one of the biggest logging enterprises in Vologda Oblast (North-West Russia). Our company has been one of the first to start the production of solid biofuel in the area. In May 2005, we put a factory in Vologda into operation, which currently produces 300 tons of wood pellets monthly. The product has been certified by Vapo OY laboratory (Finland) to comply with the DIN 51731 standard. The quality is being controlled by the factory's technical monitoring department. One more pelleting plant capable of producing 50,000 tons of pellets annually (2 Sprout Matador presses) will soon be commissioned in Velikiy Ustyug (Vologda Oblast).

Our corporation intends to establish 3 more pelleting factories to process the continuous flow of wood waste and apply existing distribution channels, experience and personnel in the most efficient way. The regional authorities understand the need to develop pellet production in Vologda Oblast and supports all our initiatives. Biofuel business will help the region improve the efficiency of forestry as well as to eliminate excess wood waste generated at Vologda sawmills and woodworking factories.

As a pellet producer, we are also interested in the development of the internal market – biofuel consumers located close to our production facilities. Therefore we hope that the realization of Kyoto Protocol mechanisms will facilitate the use of biofuel in Russia.



**Lesprom Ltd.**  
Vologda Oblast, Tcherepovets

**PRODUCTION OF WOOD PELLETS**

- ◆ Our wood pellets factory was built in 2004 – one of the first in Russia
- ◆ Total production capacity: 1000 tons of pellets monthly
- ◆ Production plant: Amandus Kahl
- ◆ Diameter: 8 mm
- ◆ Raw material: softwood waste
- ◆ Packaging: big bags 600-800 kg
- ◆ Certification: INCOLAB SERVICES RASSIA S.C.

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# THE RUSSIAN PULP AND PAPER INDUSTRY: SITUATIONS, PROBLEMS AND PERSPECTIVES

The timber complex plays an important role in Russia's economy. Its share in the total industrial production volume is about 3,8% and it brings 4% of the total currency revenue from exports.

Production volumes of the main kinds of timber products in 2005 are shown in Table 1.

The highest rates can be observed in the production of deep wood-processing (wood particleboard, fiberboard, plywood). No such growth is evident in pulp and paper production.

Traditionally, the key timber productions of Russian exports are low-priced goods. Round wood and sawn timber make up about 60%, market pulp – 9%, newsprint – 8%.

The pulp and paper industry, being an integral part of the timber industrial complex, started its development in the 1960's – 70's upon the

adoption of Decree # 478 of April 7, 1960 of the Central Committee of the Communist Party and the Council of Ministers of the Soviet Union "On liquidation measures of the gap in the pulp and paper industry." Within the frame of the Decree the biggest enterprises were realized up until around 1980, e. g. Kotlas Pulp and Paper Mill, Syktyvkar and Bratsk Timber Complexes, Baikal Pulp and Paper Mill, Amur, Perm and Selenginsky Pulp and Cardboard Mills, and the construction of the Ust-Ilimsk Pulp Mill began. Operating plants – Arkhangelsky, Balakhninsky, Kondopozhsky, Segezhsy, Solikamsky – and most of the paper, board mills and processing plants had been significantly modernized and enlarged. Much attention was given to the construction of companies specializing in machinery and equipment production for the pulp and paper industry: Petrozavodsk and Izhevsk, heavy engineering plants, and reconstruction of the Krasnokamsk Plant (the only one in Russia producing iron nets), and the Sverdlovsk Plant of pulp grinders, in order

**Table 1. Production volume of main sorts of timber in 2005**

Production	2005	2005 in % to 2004
Timber removal, million cub.m	105	94.0
Commercial timber, million cub.m	93.7	101.6
Sawn wood, million cub.m	20.8	98.2
Plywood, million cub.m	2.6	113.6
Fiberboard, million sq.m	378	110.5
Particleboard, million sq.m	4.0	111.2
Market cellulose, million tons	2.4	100.4
Paper, million tons	4.0	101.7
Pasteboard, million tons	3.1	104.5
Newspaper, billion issues	17.1	98.3
Magazines, billion issues	2.5	75.6

to launch the production of synthetic nets and ceramic grinders. This enabled the lowering of imports of equipment and bulk purchases of molding and drying nets and grinders.

With the adopted Decree a broad development of research and experimental works in scientific institutions and laboratories of the pulp and paper plants were considered. On the grounds of the Central Research Institute, an All-Russia Research Institute of Paper was founded. Later, it was followed by Mariysky, Astrakhan, and the Siberian Research Institute of Pulp and Paperboard. Test installations were built at the Bratsk Timber Plant, Baikal, Kotlas and Krasnoyarsk Pulp and Paper Mills. High educational institutions: The Forestry Engineering Academy, The Leningrad Technological Institute of the Pulp and Paper Industry, and Siberian Technological and Arkhangelsk Forest Engineering Institutes were involved in the training of personnel for new enterprises in the field.

8.6 billion rubles of the country's capital investments (before monetary reform) were allocated for the development of the pulp and paper industry during the period of 1961–1980. Thus, the establishment and expansion of new and existing plants were based on the application of progressive technologies and tools, mainly imported, which led to the growth and technological level of the industry. The results of this development were the most

evident in 1988–1989 when production volumes of pulp and paper reached their maximum. At that time the main focus was put on mass production with low added value. Later on there began a crisis, which ended in 1998. The share of the pulp and paper industry in the world market is not that big, it makes up for 3% in pulp production, and 2% in paper production.

At present, Russia is 8th in the world production of commercial cellulose and 13th in paper and cardboard production.

In money terms, the production volume of the pulp and paper industry in Russia came to 4.89 billion USD or 1,24% of the total production volume and 2% of global pulp and paper production. It should be noted that in developed countries the share of the pulp and paper industry makes up 12–15%. In 2005, the production growth amounted to 3,3% owing to output increases of market pulp – by 0,4%, of paper – by 1,7%, of cardboard – by 4,5%.

In 2005, pulp production volumes of the Russian plants remained practically on the same level as in 2004 (increment from cooking pulp was +0,2%, from commercial cellulose – +0,4%). Paper production increased by 1,7%, including newsprint (+1,5%) and texture paper (+10,1%). Simultaneously, there was a decrease in the production of offset (-3,5%), writing and notepaper (-13,2%), and enamel paper

**Table 2. Pulp and paper production in 2005.**

Production	Measurement unit	2005	2004	2005 in % to 2004
Pulp cooking	thousand tons	5934	5922	100.2
Commercial cellulose	thousand tons	2419	2410	100.4
Paper	thousand tons	3969	3903	101.7
Newsprint	thousand tons	2008	1978	101.5
Offset paper	thousand tons	452	469	96.5
Writing and notebook paper	thousand tons	66.8	770	86.8
Enamel paper	thousand tons	1.15	1.61	71.4
Print paper	thousand tons	6.9	11.9	58.0
Textured paper	million sq.m	126.2	114.6	110.1
Cardboard	thousand tons	3055	2924	104.5
Packaging pasteboard (including corrugated paper)	thousand tons	2248	2126	105.7
Paper bags	million items	526	487	108.1
Cardboard boxes	million sq.m	1939	1732	112.0
Paper and cardboard containers	thousand tons	124.3	98.3	126.4

Source: State Statistics



(-28,5%). Cardboard production grew by 4,5% in 2005, chiefly due to container boards and corrugated paper (+5,7%). The manufacture of paper bags increased by 8,1% and paper and board containers – by 26,4%.

There is a great demand for high-quality paper – writing, print, enamel, laminated, decorative, sanitary-hygienic paper goods, etc. The growing need for containers and packaging is met by Russian producers by a maximum load of existing capacities, while the lack of capacities for the production of other paper types implies a necessity to meet the demands by way of import.

For the last four years the import of pulp and paper production has grown by 2,3 times and came to 1,74 billion USD in 2004. Pulp and paper exports, the main share of which are made up by commercial cellulose, newsprint and container board, increased only 1,2 times, up to 1,92 billion USD. Consequently, import growth is about two times ahead of the export growth rate.

In 2005, approximately 100 enterprises operated in the Russian Federation, including:

- 3 timber complexes producing pulp and paper, sawn wood, plywood and chipboards;
- 23 pulp and paper mills, pulp and cardboard

plants producing fiber semi-manufactures, paper and cardboard from raw materials and market pulp supplying other mills;

- 3 pulp mills producing commercial cellulose to supply other plants;
- 38 paper mills producing various types of paper from ready fiber semi-finished products, including waste paper.
- 26 cardboard plants.

Usually processing works of various paper and cardboard production are also a part of a pulp and paper mill. The total number of processing works in Russia, including those integrated into pulp and paper mills and others is distributed the following way:

- production of paper and bleached goods – 74;
- sanitary-hygienic paper goods – 21;
- container manufacturing – 100;
- wallpaper manufacturing – 32.

Unfortunately, there is no exact information on the number of currently operating enterprises, since a range of small companies has started the

Table 3. Biggest pulp and paper producers

Biggest producers, 2004	Total thousand tons	Market pulp thousand tons	Paper (all kinds) thousand tons	Cardboard (all kinds) thousand tons
Ilym Pulp Enterprise	2 379	1 422	250	707
Kotlas Pulp and Paper Mill	861	330	250	281
Pulp and Cardboard Plant (Bratsk)	683	483	0	215
Ust-Ilim Timber Complex	609	609	0	0
St.Petersburg Cardboard Polygraphic Plant (Ilim Pulp Corporation)	211	0	0	211
Mondi Business Paper – Syktyvkar	758	0	566	192
Archangelsk Pulp and Paper Mill	750	229	82	439
OJSC “Kondopoga”	703	0	703	0
OJSC “Pulp and Paper Mill Volga”	565	0	565	0
Solikamskumprom	478	0	478	0
OJSC “Svetogorsk”	391	16	286	86
Sombalsk Pulp and Paper Mill	232	228	4	0
Serezhsk Pulp and Paper Mill	199	0	159	40
Naberezhnochelninsky Cardboard and Paper Mill	178	0	49	129
Baikal Pulp and Paper Mill	172	166	2	3

production of packaging and sanitary-hygienic goods. Among pulp and paper mills, the general production level is determined by the 14 biggest plants that make up 85% of the production capacities of pulp production (cooking), 90% of mechanic pulpwood, 76% of paper and 48% of cardboard.

The biggest producers in the pulp and paper industry are the following – (Table 3).

A range of mills and plants belong to international companies, e. g. Open Joint-Stock Company “Svetogorsk” to International Paper, OSJC “Mondi Business Paper – Syktyvkar” to Mondi Group, control packets of shares of OJSC “Arkhangelsk Pulp and Paper Mill” is owned by Pulp Mill Holding (Austria).

More details on types of production are given below:

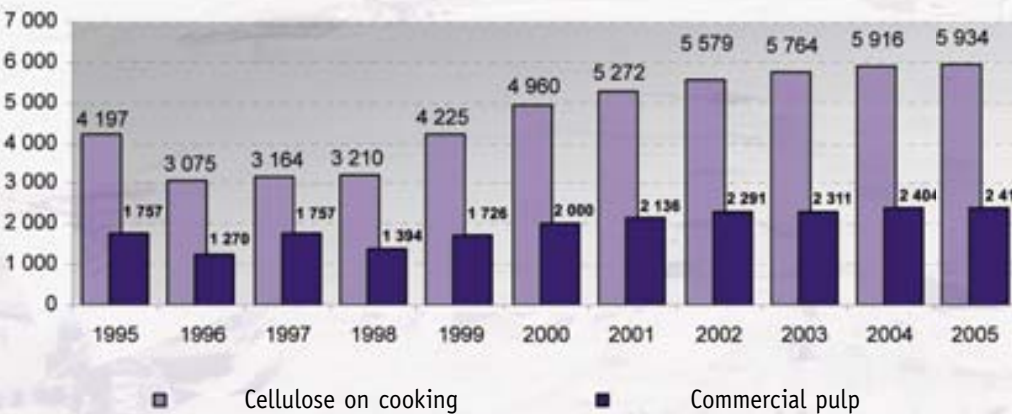
PULP PRODUCTION

In 2005, pulp cooking came to 5934 thousand tons, only 0,2% more than in 2004. A continuing decline of the production growth rate is evident (Picture 1).

Russian producers have encountered the impossibility of further accelerating production growth at the given stage. The investments of

the previous years ensured support of the main types of production. However, the level of these investments supplied only the reproduction of depreciated capital assets. Currently, worn-out (depreciated, out-dated) equipment for pulp production has exceeded 90%, and the load of production capacities has gone beyond 85%.

An indispensable condition for dynamic development of the pulp industry is the modernization of operating machinery, as well as putting into operation new production capacities. In this situation, the stated plans of some regions of the Far East to establish cooperation with Chinese businessmen might be welcomed. In the end of May 2004 the Tomsk Region and Province Kheyluntszyan signed a memorandum on the construction of a pulp and paper mill in the town of Asino. A catalogue of investment projects in the forest industry was also presented to the Irkutsk regional administration. There is a plan to construct a joint Russian-Chinese pulp and paper mill in the Chita Region as well. A number of investment projects are being planned (or are under implementation) by Russian pulp producers. Thus, the modernization program of the Ust-Ilimsk Pulp Mill, set for 2004–2006, is planning investments of up to 30 million USD. The goal of the program is to achieve the production of bleached pulp of up to 700 thousand tons per year. The Solombalsky Pulp and Paper Mill considered and approved a program of technical development of the company for 2005–2010. Major actions according to this program are: modernization of Recovery Unit #1 (purchase of a new electric filter), that will help lower sulfate emission, the purchase of equipment for



Picture 1. Pulp production in 1995–2005, per thousand tons



pulp washing on the base of a two-roll press to reduce fuel burning, fresh water use, and to lower wastage to the biological cleaning station.

The Northwestern Timber Company and the Canadian Corporation GL&V ratified a vendor contract of equipment for the reconstruction of washing and sorting of non-bleached pulp and bleached cellulose of the Nemansk Pulp and Paper Mill. After reconstruction the mill will increase pulp cooking for 43 thousand

tons or 53,7%. Reconstruction of the pulp production of the Mill will provide an increase of the cooking pulp yield from 80 thousand to 123 thousand tons. The value of the reconstruction project is over 30 million USD Investments to Mondi Business Paper – Syktyvkar amounted to 40 million EUR in 2005. The main focus in 2005 was given to two projects: Transition to the non-chlorine (ECF) bleach of softwood cellulose (20 million EUR) and modernization of the recovery unit #4Y (8 million EUR). In January 2005, Open

Table 4. Pulp cooking production by Russian companies, thousand tons

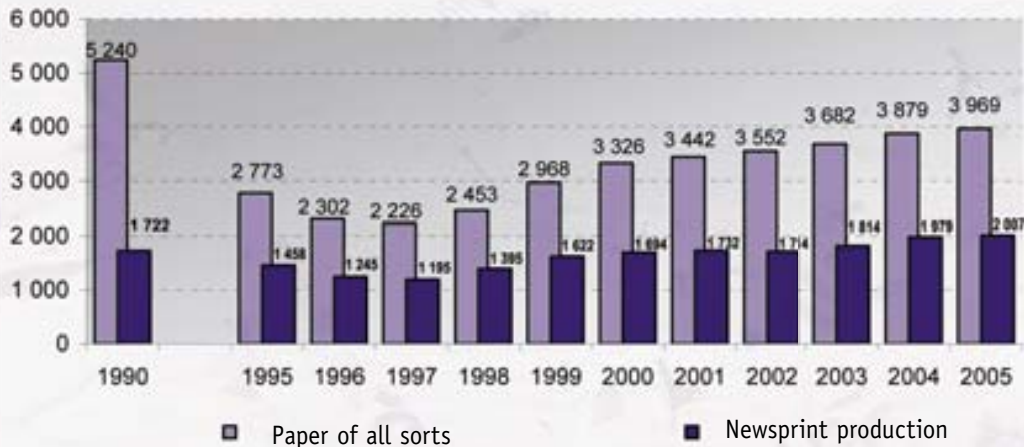
Company	Region	2005	2004	2003	2005 in % to 2004
Kotas Pulp and Paper Mill	Arkhangelsk Region	999.4	952.5	900.3	104.9
Arkhangelsk Pulp and Paper Mill	Arkhangelsk Region	826.6	788.2	770.8	104.9
Bratsk Pulp and Cardboard Mill	Irkutsk Region	758.6	755.3	737.2	100.4
Ust-Ilym Timber Complex	Irkutsk Region	713.9	678.8	650	105.2
Mondi Business Paper - Syktyvkar	Komi Republic	545.0	546.3	505.7	99.8
Solombalsky Pulp and Paper Mill	Arkhangelsk Region	210.8	233.1	212.9	90.4
Segezhsky Pulp and Paper Mill	Republic of Karelia	288.1	211.9	243.2	136.0
Joint-Stock Company Kondopoga	Republic of Karelia	102.2	111.4	105.4	91.7
Mariysky Pulp and Paper Mill	Republic of Mari-El	104.3	100	87.5	104.3
Eniseysky Pulp and Paper Mill	Krasnoyarsky Krai	78.3	92.3	90.8	84.8
Pitkaryanta Pulp Mill	Republic of Karelia	76.8	90.2	80.8	85.1
Selenginsky Pulp and Cardboard Plant	Buryat Republic	90.3	86.8	85.8	104.0
Joint-Stock Company "Tsep Russ"	Kaliningrad Region	56.3	83	80.7	67.8
Solikamskumprom	Perm Region	67.5	67	81.7	100.7
Joint-Stock Company "Vyborg Cellulose"	Leningrad Region	60.5	60	56	100.8
Sokolsky Pulp and Paper Mill	Volodga Region	36.2	30.3	41.9	119.5
Kartontara (Maykop)	Adygei Republic	21.3	17.1	19.9	124.6
Poligrappkarton	Nizhny Novgorod Region	6.8	10.2	14.8	66.7

Table 5. Market cellulose production by Russian companies, thousand tons

Company	Region	2005	2004	2003	2005 in % to 2004
Ust-Ilym Timber Complex	Irkutsk Region	656.9	621.5	602.6	105.7
Bratsk Pulp and Cardboard Mill	Irkutsk Region	495.7	498	484.4	99.5
Kotas Pulp and Paper Mill	Arkhangelsk Region	351.1	330.2	311.1	106.3
Arkhangelsk Pulp and Paper Mill	Arkhangelsk Region	227.9	229.4	216.9	99.3
Solombalsky Pulp and Paper Mill	Arkhangelsk Region	225.7	228.1	206.9	98.9
Baikal Pulp and Paper Mill	Irkutsk Region	142.4	165.8	171.4	85.9
Pitkaryanta Pulp Mill	Republic of Karelia	82.3	89.8	80.4	91.6
Joint-Stock Company "Tsep Russ"	Kaliningrad Region	49.9	72.6	69.1	68.7
Mariysky Pulp and Paper Mill	Republic of Mari-El	32.9	25.9	14.7	127.0
Joint-Stock Company "Vyborg Cellulose"	Leningrad Region	10.2	17.6	16.4	58.0
Mondi Business Paper - Syktyvkar	Komi Republic	9.4	10.2	9.3	92.2

Source: Lesprom Industry Consulting

Picture 2. Paper production in 1995 – 2005, per thousand tons.



Joint-Stock Company “Kotlas Pulp and Paper Mill” and Andritz Company – a producer and supplier of pulp and paper industrial machinery signed a vendor contract on the evaporator station. The contract is valued at 14 million 600 thousand EUR According to the Ilim Pulp strategy the Kotlas Pulp and Paper Mill is to be seriously modernized. Over 30 million USD is planned for the construction of a new evaporation station, half of which is invested by the Ilim Pulp Corporation; the remaining amount will be credited by the World Bank and drawn from the funds of the Kotlas Mill. At the same time it should be remarked that in recent years frequent declarations about investments in the construction of pulp and paper plants have been made, however not a single new mill has been built.

The Arkhangelsk and Irkutsk Regions became the leaders in cooking cellulose production in 2005. Over 60% of the total pulp production in Russia and 85,5% of commercial cellulose are accounted for by these two regions.

PAPER PRODUCTION

In 2005, paper production increased from 1,7% to 3969 thousand tons, in comparison with the growth by 5,4% in 2004; including newsprint production growth by 1,5%, as compared to the 9,1% increase in 2004.

Picture 2 shows a slowdown in paper production, which is the result of a decrease in pulp production and a high degree of the exploitation

of production capacities at the plants.

The decrease in paper production was caused by the drop in printing and publishing (by 2.8%). This is mainly connected with the reduced circulation of periodicals. Advertisement growth in mass media has influenced consumers to refuse to buy periodicals. The application of modern means of communication (Internet, cellular phones) is also significant. In 2005, the publication of newspapers came to 98,3%, of magazines – 75,6%.

NEWSPRINT PRODUCTION

As for paper production in general, the growth rate of newsprint output was reduced as compared with 2004. In 2005, companies produced 2,008 thousand tons of newsprint, which is 1,5% more than in the previous year, while in 2004 production growth was 9,1%. Newsprint in Russia is an export-oriented product. The physical volume of exported newsprint grew by 4,7% in comparison to the previous year and reached 1319,3 thousand tons or 606,1 million USD Apart from hardwood pulp exporters, a lockout in Finland was also an advantage to newsprint exporters. During the lockout, many Finnish publishing houses, including large ones, had to increase the import of newsprint from Russia because of a deficit in their own production. It can be expected that paper prices will continue to grow, and an increasing demand will exceed the existing capacities of paper mills, which are currently maximized.

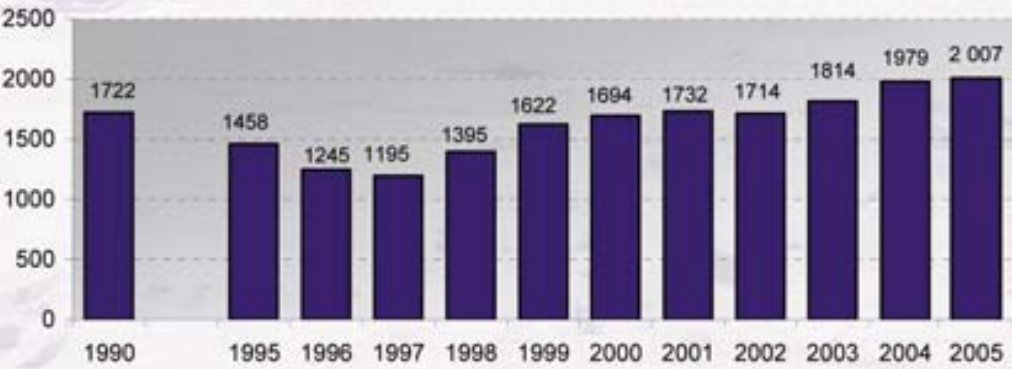


Despite this, Russian producers are continuing implementation of the programs toward equipment modernization. For example, in May 2005 the Kondopoga and Petrozavodskmash companies signed a vendor contract for 4 grinders for pulpwood production of 98 million RUR This will allow the improvement of technical maintenance of the paper machines. The delivery of the first two machines is planned for the beginning of 2006. By the

Table 6. Paper production by companies in 2005, per thousand tons

Company	Region	2005	2004	2003	2005 in % to 2004
Joint-Stock Company "Kondopoga"	Republic of Karelia	713.7	703.45	584.2	101.5
Mondi Business Paper - Syktyvkar	Komi Republic	545	566	512.9	96.3
Joint-Stock Company "Volga"	Nizhny Novgorod	570.6	565.11	555.5	101.0
Solikamskumprom	Perm Region	479.1	477.53	450.8	100.3
Kotas Pulp and Paper Mill	Arkhangelsk Region	255	251.12	249.5	101.5
Segezhsky Pulp and Paper Mill	Republic of Karelia	222.7	158.71	176.1	140.0
Arkhangelsk Pulp and Paper Mill	Arkhangelsk Region	81.3	82.07	80.1	99.1
Naberezhnochelninsky Cardboard and Paper Mill	Republic of Tatarstan	51.08	49.1	47.1	104.0
Eniseysky Pulp and Paper Mill	Krasnoyarsky Krai	32.6	36.19	36.2	90.1
Sokolsky Pulp and Paper Mill	Volodga Region	21.5	31.56	42.4	68.1
Joint-Stock Company "Mayak"	Penza Region	30.4	30.82	29.5	98.6
Kamennogorsk Paper Mill	Leningrad Region	32.85	27.23	24.6	120.6
Mariysky Pulp and Paper Mill	Republic of Mari-El	26.55	24.14	26.3	110.0
Troitskaya Paper Mill	Kaluga Region	10.3	19.64	26.5	52.4
Kondrovskaya Paper Company	Kaluga Region	19.3	17.46	15.4	110.5
Rostovbumaga	Rostov Region	13.46	12.19	10.8	110.4
Velgiyskaya Paper Mill	Novgorod Region	12	11.78	11.6	101.9
Alexandrovskaya Paper Mill	Kostroma Region	6.1	6.3	5	96.8
Selenginsky Pulp and Cardboard Plant	Buryat Republic	6.1	5.72	6.3	106.6
Polotnyanozavodskaya Paper Mill	Kaluga Region	5.18	4.99	5	103.8
Kamenskaya Paper Mill	Tver Region	1.9	4.07	5.4	46.7
Solombalsky Pulp and Paper Mill	Arkhangelsk Region	4.3	3.58	3.7	120.1
Alatyrskaya Paper Mill	Chuvash Republic	4.25	3.57	3.7	119.0
Baikal Pulp and Paper Mill	Irkutsk Region	2.38	2.48	3.5	96.0
Technicheskaya bumaga	Yaroslavl Region	0.85	1.61	1.6	52.8
Cardboard and Paper Plant	Republic of Bashkortostan	0.2	0.69	0.7	29.0
Joint-Stock Company "Proletary"	Bryansk Region	0.83	0.6	0.4	138.3

Source: Lesprom Industry Consulting



Picture 3. Newsprint production in 1995–2005, per thousand tons

end of 2006, Open Joint-Stock Company "Volga" plans to invest about 2 million EUR toward the modernization of Paper Machine #5 in order to increase the production speed from 900 to 950 m/min, which will enable the augmentation of a general production volume of the pulp and paper mill by 5–6 thousand tons. The company's management is also at the final stage of negotiations to enter a contract to modernize Paper Machine #8, a total value of 20 million EUR For the end of spring – beginning of summer, a technical inspection of the paper machine is planned, which will cost 400 thousand EUR, followed by a modernization contract for 2007, which is expected to be signed by autumn of 2006. The Volga Company is considering entering into a modernization contract with one of the two companies – Metso Paper (Finland) and Voit (Austria). At the first stage of the paper machine's reconstruction, it is planned to increase production speed from 1400 m/min (project capacity) to 1450 m/min. At present Paper Machine #8 produces paper at the speed of 1370 m/min. The volume of investments in the first reconstruction phase is 10 million EUR In the second phase, the speed will reach 1650 m/min. The volume of investments will come to 12 million EUR On the whole, reconstruction of the Paper Machine will provide an increase in paper production volume by 30 thousand tons per year.

The share of Russia in the world market of newsprint makes up for 5 %.

Newsprint is the major mass production of deep processing for export. In 2004, of 1.979 million tons of produced newsprint, about 1.26 million tons were exported (64%) in the amount of 500 million USD In 2005, newsprint

export was expected to reach 1.314 million tons, reaching 66 % of the production volume, and taking into consideration a favorable price situation, going beyond 600 million UDS of the newsprint export. The leading importers of Russian newsprint are companies from India (244 thousand tons), Germany and Turkey (150 thousand tons each), Great Britain (90 thousand tons), and the Ukraine (77 thousand tons). Newsprint imports to Russia have not exceeded 2-4 thousand tons for over 6 years.

CARDBOARD PRODUCTION

The results of 2005 reveal that cardboard production in Russia amounted to 3,055 thousand tons and increased by 4,5 % in comparison with 2004. At the same time, container-board production grew to 2,248 thousand tons (105,7% to the indices of 2004). Despite the fact that cardboard production growth has slowed down, this segment, along with paper bag manufacturing, is a leader with a high growth rate in pulp and paper industry.

In the context of the continuous growth of demand for containers and packaging materials, the load of cardboard production capacities has exceeded 90%. At the given stage, acceleration of the production rate is only possible by launching new production capacities. Most of the investment projects declared in 2005 concern the production of corrugated board, which is a product in high demand. The Stora Enso Combination stated that it is necessary to expand the production of corrugated boards in Russia. The two mills built earlier do not cope with orders. Investments toward the construction of a new plant are estimated at 60-70 million EUR.

Table 7. Newsprint production by companies in 2005, per thousand tons

Company	Region	2005	2004	2003	2005 in % to 2004
Joint-Stock Company "Kondopoga"	Republic of Karelia	701.2	693.2	573.6	101.2
Joint-Stock Company "Volga"	Nizhny Novgorod	555.4	553.7	541.4	100.3
Solikamskumprom	Perm Region	472.9	469	441.6	100.8
Mondi Business Paper - Syktyvkar	Komi Republic	180.0	171.8	174.8	104.8
Kamsly Pulp and Paper Mill	Perm Region	63.0	53.2	47.6	118.4
Eniseysky Pulp and Paper Mill	Krasnoyarsky Krai	31.6	34.7	34.6	91.0
Sokolsky Pulp and Paper Mill	Volodga Region	3.37	3.6	-	93.6

Source: Lesprom Industry Consulting

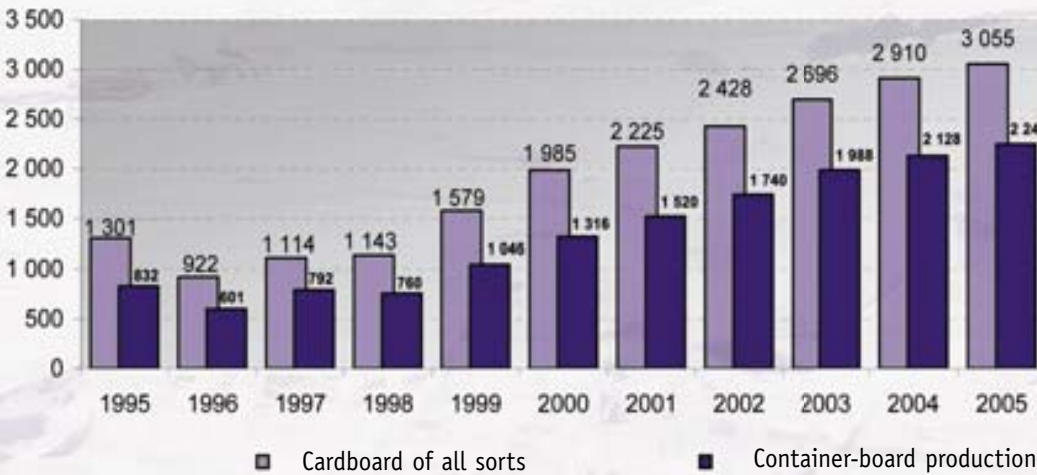


Table 8. Cardboard production by the biggest companies, per thousand tons

Company	Region	2005	2004	2003	2005 in % to 2004
Arkhangelsk Pulp and Paper Mill	Arkhangelsk Region	475.3	439.2	434.4	108.2
Kotlas Pulp and Paper Mill	Arkhangelsk Region	310	287.83	271	107.7
Bratsk Pulp and Cardboard Mill	Irkutsk Region	212	213.78	195.8	99.2
St.Petersburg Cardboard Polygraphic Plant (Ilim Pulp Corporation)	St.Petersburg	205.9	211.17	213.5	97.5
Mondi Business Paper - Syktyvkar	Komi Republic	197.4	193.6	179.9	102.0
Naberezhnochelninsky Cardboard and Paper Mill	Republic of Tatarstan	136.4	129.1	116.9	105.7
Perm Pulp and Paper Mill	Perm Region	135.9	116.76	105.4	116.4
Selenginsky Pulp and Cardboard Plant	Republic of Buryatia	84.6	79.35	77.8	106.6
Eniseysky Pulp and Paper Mill	Krasnoyarsky Krai	66.3	76.02	74.6	87.2
Mariysky Pulp and Paper Mill	Republic of Maiy-El	67.9	58.07	49.8	116.9
Kartontara (Maykop)	Republic of Adygeya	54.4	51.88	52	104.9
Segezhsy Pulp and Paper Mill	Republic of Karelia	49.2	41.16	58	119.5
Ryazansky Cardboard and Ruberoid Plant	Rayzan Region	40.92	40.98	44.1	99.9
Kamenskaya Paper Mill	Tver Region	45.5	40.77	37.1	111.6
Altairovlya	Altai Krai	39.73	34.31	33	115.8
Kuybyshevkvrolya	Samara Region	16.76	17.08	17.50	98.1
Kondrovskaya Paper Company	Kaluga Region	8.4	4.062	4.3	206.8
Syktyvkarskiye Bumizdeliya	Komi Republic	0.6	3	3.3	20.0
Joint-Stock Company "Tsep Russ"	Kaliningrad Region	1.9	2.58	2.7	73.6

The International Paper Company is considering the manufacture of a plant for corrugated boards in Russia. An interdepartmental commission on the arrangement of productive forces in the St. Petersburg region has agreed upon establishing a plant for manufacturing containers of corrugated boards, the value of which is 6,6 million USD The plant's capacity is expected to be 72 million m² per year. The period of construction is 1 year.

AssiDoman (Sweden) has invested an additional 16 million USD toward the development of corrugated cardboard production in the St. Petersburg Region. The plant started its operation in 1998. The investment volume was 23 million USD Currently, the plant produces 82 million m² per year. By launching a second production line, the production volume will come to 120 million m² per year.



Picture 4. Cardboard production in 1995–2005, per thousand tons

In October 2005, a “Gotek” company (Kursk Region) put the first production line of corrugated board containers into operation in the Tula Region. Its value is 7 million EUR. The total project value is about 40 million EUR. The first line will specialize in manufacturing transport packing cases of corrugated board with a multi-colored flexography. The construction of the plant started in December 2004, and in 2006 it is planned to launch a second production line. The project capacity will account for 180 million m² of corrugated boards per year.

Closed Joint-Stock Company “GOTEK-print” (part of the GOTEK company, Kursk Region) has put into operation a Swiss line for the corrugation and combing of paper. The new line integrates both a corrugation unit and a combing machine into one production cycle, which makes the terms of order execution considerably shorter, and as a result, reduces production costs. The minimization of costs allows optimal prices for the company’s clients. The production line produces high-quality micro-corrugated board of B, E and F profiles with a maximum speed of 150 meters per minute. Corrugation is carried out by the Modul Facer line unit. A revival project from the Amursk Pulp and Board Plant (Khabarovsk Krai) attracted American investors. The Ministry of the Timber Industry of the Khabarovsk Krai held a meeting with a delegation of experts from the Boston Consulting Group who carried out a project analysis for their clients. The Amursk Pulp and Board Plant was built at the end of the 1950’s, and in the beginning of the 1990’s terminated its existence because of privatization and

the unwillingness of new owners to sustain energy consuming production.

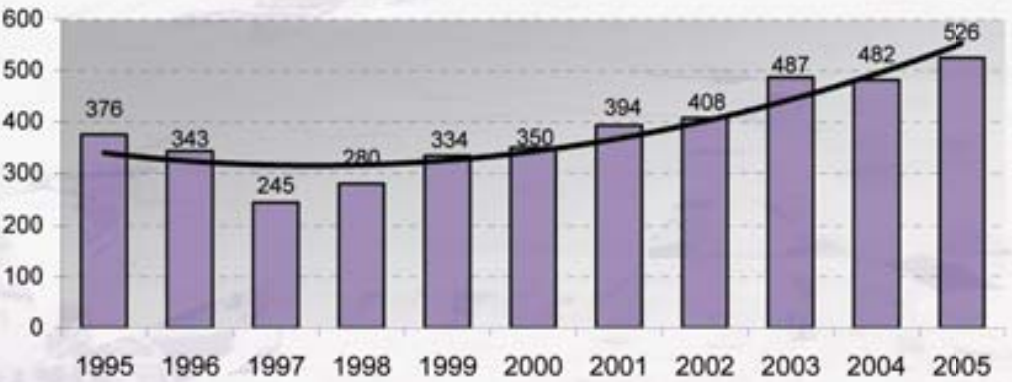
The “Panse” company of St. Petersburg began the production of new packaging of corrugated board by a German technology that will cut packaging prices by 30%. In 2004, the company invested about 135 thousand USD, and the production volume made up 6 million m². In 2005, it was planned to invest 330 thousand USD The thickness of the corrugated board is over 1 mm. It is expected that the new technology will enable the “Panse” company to increase production volume by 40%.

Limited Liability Company “Aeroportstroy polyus” plans to build a cardboard and paper packaging plant in the Lomonosovsky district of the St. Petersburg Region. The total area including warehouses will be 35,5 thousand m². Investments toward construction are estimated at 5 million USD The projected capacity of the plant is 200 thousand tons of cardboard containers per year. The deadline for putting the plant into operation is 2007.

The main raw material for board production (test-liner and fluting) is wastepaper pulp. The productivity of production units ranges from 5 to 250 tons per 24 hours.

PAPER BAG PRODUCTION

Production of paper bags in 2005 reached 526 million, which is 108,1% of the figures of 2004. Paper bag production is the most quickly developed segment of the pulp and paper industry. Acceleration of this production is tied up with a continuous growth of demand



Picture 5. Production of paper bags in 1995–2005, per million items



for packaging materials, mostly from cement producers. The biggest bag production in Russia is the Open Joint-Stock Company "Segezhsky Pulp and Paper Mill." In 2005, the Mill increased its output volume to 20,9%, or 311,7 million paper bags. The company's share in the total aggregate output of paper bags in Russia is 59%.

### SANITARY-HYGIENIC PAPER PRODUCTION

There are only two mills in Russia using pure pulp for these types of products. Toilet paper produced by other Russian mills is made 70% from wastepaper.

**Table 9. Production of paper bags by the biggest companies, million items**

Company	Region	2005	2004	2003	2005 in % to 2004
Segezhsky Pulp and Paper Mill	Republic of Karelia	311.7	257.81	269	120.9
Kotlas Pulp and Paper Mill	Arkhangelsk Region	83.9	116.89	117.3	71.8
Novolyalinsky Pulp and Paper Mill	Yekaterinburg Region	53.8	55.2	54.6	97.5
Selenginsky Pulp and Cardboard Mill	Buryat Republic	15.9	16.7	16	95.2
Maiysky Pulp and Paper Mill	Republic of Mari-El	6.3	3.43	3.2	183

**Table 10. Toilet paper production by the biggest companies, million rolls**

Company/Region	2005	2004	2005 in % to 2004
"SCA Hygiene Products Russia"	343,71	317,50	108,26
Naberezhnochelninsky Cardboard and Paper Mill	287,32	275,79	104,18
Syktvykar Tissue Group	74,41	81,77	91,0
Syasky Pulp and Paper Mill	63,99	52,60	121,65
Joint-Stock Company "Georgia Pacific"	40,77	41,26	98,81
Kaluga Region	40,59	46,87	86,60
Rostov Region	34,96	40,27	86,81
Karachayevo-Cherkessk Republic	19,40	19,20	101,04
Krasnodar Krai	28,98	28,98	100,00
Sverdlov Region	18,58	20,92	88,81
Primorsky Krai	9,26	10,57	87,89
Vologda Region	12,99	16,05	80,93
Kirov Region	10,83	11,96	90,55
Tver Region	16,20	15,19	106,65
Nizhny Novgorod Region	7,95	10,85	73,27
Saratov Region	7,77	7,63	101,83
Altai Krai	5,02	3,58	140,2
Novgorod Region	5,94	9,57	62,07
Kemerovo Region	4,04	3,57	113,17
Irkutsk Region	3,68	3,68	100,0
Bryansk Region	25,18	21,92	114,87
Kaliningrad Region	2,45	6,23	39,33
Novosibirsk Region	3,79	3,42	110,82

### MECHANICAL WOOD PULP PRODUCTION

The production of mechanical or wood pulp is not widely developed in the Russian plants, since this semi-manufacture requires a high rate of specific consumption of energy – 3000 kW/h per 1 ton, and has a low grade and stability of whiteness in a bleached state, and sewage that is difficult to clean. Production volumes of this semi-finished product do not exceed 2 million tons, of which 60% is manufactured from pulpwood by grinders, and 40% from chips by crushing disc mills (TMM, XTMM). At present, operating plants have practically no reserves of

capacities. Russian pulp and paper companies have been long oriented in the mobilization of reserves of the existing technological equipment that was purchased 25-30 years ago. The loading of pulp and paper capacities, starting from 1999, has been increasing by 3-5% per year. In 2005, an actual load of the main technological equipment by the key types of production was over 85%.

The extent of production machinery depreciation in the field is over 90%. During the last 20 years, the stock of paper and board-making machines has not been renewed. More than 90% of pulp grinders have been operating for over 20 years and reached a state of considerable physical depreciation. The load of production capacities at the biggest industrial plants is the following: Kotlas Pulp and Paper Mill – 102%, Pulp and Board Plant – 104%, Ust-Ilim Pulp Mill – 103 %, Syktvykar Timber Complex – 99%. The pulp and paper industry is characterized by a considerable number of small enterprises equipped with outdated machinery, limiting the demand of production. Most enterprises use energy-consuming and obsolete technologies from an environmental point of view with a high consumption of raw timber material, chemicals, energy resources and water.

There are no favorable conditions for the considerable involvement of raw paper material into recycling. The coefficient of wastepaper collection comes to 12% in Russia, which is way less than in Europe (57,3%) and the States (50%). Annual investments in the pulp and paper industry range from 250 to 400 million USD, which makes up about 35% of all the investments to the timber complex and less than 1% of the general investment volume in the country. These are chiefly the funds of companies (75%) and credits from the Russian banks (24%). The State takes practically no part in this process. It is explicable that because of limited free resources at pulp and paper mills, it is preferable to implement relatively inexpensive (under 50 million USD) projects with a medium period of payback. Moreover, in a number of cases available resources in the industry are transferred by stakeholders to other economic fields because of low investment attractiveness. Of the general investment volume, about 75-80% of funds are used for technical re-equipment. Due to this fact, big and medium pulp and paper

mills could "delay" the aging of main assets, increase production volumes, and apply more progressive technologies while realizing investment programs. However, the scope of investments in the pulp and paper industry does not supply the needs for regeneration and development. Should the investment level be under 1 billion USD per year, the depreciation extent of the main equipment in the pulp and paper industry will be critical: 95-100 % by 2008. If the growth rate of loads of pulp and paper capacities stays at 3-5% per year, the depreciation of machinery will increase, investments will remain at the level of the previous years (up to 300 million USD per year) and the production load might reach 95-100%. Thus, having no additional investments for new production capacities, the Russian pulp and paper mills will encounter the impossibility for further development after 2008.

It is not easy to find investors for the pulp and paper industry: interest is low because of internal and external reasons. The internal reasons refer to the condition of basic assets. In spite of annual capital investments of 300-350 million USD over the last five years, only 5% of Russian pulp and paper machinery meets the requirements of economic efficiency and environmental security.

The exploitation of obsolete, depreciated machinery causes the application of outdated energy and resource-consuming technologies that, in turn, bring about low labor efficiency. "At present, Russia produces 30 thousand USD of pulp and paper per one employee in the industry, which is 3–4 times lower than in Europe, Japan and Canada," says Vladimir Tchujko, Chairman of the Board of the RAO "Bumprom." Another internal problem of the industry is the permanent increase of production costs caused by the growth of energy prices, energy resources, raw materials, and transportation. "We have already overtaken and in some cases even left behind Western producers, regardless of having lesser technical equipment and efficient technologies," says Vasily Preminin, CEO of the Segezhsky Pulp and Paper Mill. According to Anton Loyter, in the past year, a price situation both in the foreign and home markets of pulp and paper production did not allow for the compensation of increased costs by the growth of prices. Prices for almost all types of paper and board production are lagging behind inflation rates in



the Russian Federation. As a result, according to the information presented in the magazine "Conjuncture of Commodity Markets," the average profit in the timber complex dropped from 11,7% in 2003 down to 7,9% in the first 6 months of 2004.

It should be pointed out that the tariffs of natural monopolies grow faster than the prices of timber producers, which has a negative impact on profits of timber enterprises and consequently on the acceleration of investments. The growth dynamic of the prices of natural monopolies (December 2002 to December 2001) was the following: energy – 139,9%, gas industry – 123,3%, railroad transport – 119,5%. At the same time the prices of timber companies made up 106,5%.

External factors also have a great impact on investment interest. Namely, the notorious "forest wars." Unfortunately, an agreement that Ilim Pulp and "Bazovy Element" came to after a protracted opposition didn't become the event of the year for the pulp and paper industry. Wars for property continue. Now, structures affiliated with the "Bazovy Element" are interested in 2 other industrial giants – Arkhangelsk Pulp and Paper Mill and Volga Timber Complex. "Ugly episodes and attempts to involve part of the personnel along with legal forces do not add to the investment attractiveness of the industry," Vasily Preminin comments. Another negative aspect is weak forest and investment legislation's failure to provide investors with necessary guarantees. The inefficient elaboration of the Draft Forest Code of the Russian Federation, lack of a state program of forest road construction, extremely low exploitation of the annual cut and, consequently, worsening of raw materials are only part of an endless list. As the experts say, the stagnation and decline of the industry are equal to failure. If no opportunities for advancement are found, Russian companies will surrender markets of export. The home market, stably expanding by 4–5% per year, gradually draws back export flows of pulp and paper production. In the beginning of 2000, some Russian producers quit many West European markets. This process may continue – simultaneously with a demand growth within the country.

To trade pulp and paper production at the home market is more profitable: Russian prices are the same or higher than in the

foreign markets, while transportation costs are considerably lower. Besides, selling within the country is easy. "In the world markets Russian pulp and cardboard give way to the Scandinavian leaders by the production quality, and to the young market players – South America and Asia – by the sales volumes," Anton Loyter explains. The Russian pulp and paper mills are little by little losing their positions in the market of China. They have not caught up with the development of capacities to meet the growth of demand. It is obvious that the insufficient supply from Russia is compensated by other sources. At present, domestic pulp and paper mills have no serious influence on the global industry: their share in the world's volume of paper production is 2% (versus 12–15% in countries with a developed pulp and paper industry). In the worst-case scenario, Russian companies will take risk becoming local players. However, concentration in the home markets would not save the Russian mills from competition with foreign producers. The segment of high-priced (high-technological) paper production in the Russian market is already occupied by European and American producers. The demand is gradually growing, but a counteroffer from home producers is absent. Single attempts to enter this segment have very modest results. For instance, the Open Joint-Stock Company "Vyborgskaya Cellulose," after a paper-making machine reconstruction was the first in the country to start producing enamel paper for books and magazines in 2004. But by a range of indicators (opacity, softness) this production gives way to the Western analogues. The realization of more serious projects requires investments at a higher level.

Thus, the development of the Russian timber complex is restricted by the following factors:

- Insufficient competitiveness of many types of production, lack of modern high-tech machinery and modern technologies at most enterprises;
- Low development level of production capacities at a high exploitation rate (up to 90% in the pulp and paper industry);
- High capital output ratio (the construction value of one plant is ca 1 billion USD);

- Long terms of construction (8 years) and payback periods of capital investments in pulp and paper mills;
- Low investment interest caused by the quality of production.
- Depletion of timber resources in areas with a developed infrastructure and road network along with the lack of considerable reforestation, which brings the necessity to transfer logging operations to more severe nature-producing conditions;
- Absence of a national forest policy and efficient Forest Code in the Russian Federation;
- No active state support for construction projects in the pulp and paper industry.

Separately among restrictive factors are the following:

- There are no producers of modern and competitive machinery in Russia. The "Petrozavodskmash" plant, despite its big production experience, uses 25% of its capacities.
- Insufficient involvement of planning institutions in industrial development. Among five planning institutions (GIPROBUM, SibGIPROBUM, MosGIMPROBUM, ArkhGIPROBUM, Harris-Group) only the latter, due to its mobility, cooperated with almost all of the companies.
- Industrial science, represented by three research institutions (All-Russia Research Institute of Paper, Central Research Institute of Paper and Siberian Research Institute of Pulp and Board) have to a great extent lost their potential and have no influence on the development of the pulp and paper industry because of a lack of state support and big industrial orders.
- Staff training does not meet the modern requirements of production. Existing institutions of higher education give students a basic knowledge extracted from 20–40-year-old sources. Contemporary

manuals in Russian are not published, and the "Technology of Pulp and Paper Production" (new edition of the Papermaker's Reference Book) published now by the All-Russia Research Institute of Paper, contains frequently outdated and sometimes incorrect information. The State provides minimal support to educational institutions. As a result, there is practically no laboratory equipment at the universities, no opportunity to instruct students in practical training and no possibility for professors to have practical studies or participate in an international workshop abroad.

These negative factors notwithstanding, an intensive growth of the manufacture of corrugated boards and cardboard boxes related to increasing demands of the food industry has surfaced.

Demand growth in the home market for container and packaging cardboard influences production growth, which is supposed to be secured by a full load of operating capacities, as well as by the exploitation of recycling wastepaper capacities at a number of enterprises.

Some mills have started the production of corrugated paper; among them are the Open Joint Stock Company "Mariysky Pulp and Paper Mill," "Mayak," "Okulovsky Bumazhnik," and "Elikon."

Lately, special attention has been given to the condition and development of the timber complex. The Russian Forest Code has been actively discussed. A Draft Resolution of the Government of the Russian Federation on development of the timber industrial complex and the Federal Program "Development of Deep Wood Processing and New Forest Areas" are under way, as are preparations of proposals on improving tariff policies in relation to timber production, and also proposals on the correction of customs-duty rates for imported equipment and machinery that provide the best existing technologies at forest companies.

In accordance with this program the production volumes by 2015 should reach:

- commercial pulp – 3400–4100 thousand tons, increment by 1,4–1,7 times,



- paper of all sorts – 6300-7100 thousand tons, increment by 1,6-1,7 times,
- cardboard – 5150-5750 thousand tons, increment by 1,6-1,8 times.

These figures were processed using the predicted growth rate of volumes of pulp and paper consumption by about 6%. They took into consideration the construction of capacities producing goods with a high added value in order to increase replacements of imports, i.e. enamel paper and board, high-quality office paper, sanitary-hygienic paper goods, various types of paper and board, multi-colored packaging with plastic, water-proof coating, wallpaper and notebooks.

Accelerating production volumes is expected after the modernization and reconstruction of existing works.

To accomplish this program by 2015 there is a need for investments of 12.5 billion USD for the reconstruction and modernization of operating plants.

Minimal necessary investments in the pulp and paper industry should be no less than 1.0-1.1 billion USD per year.

The prognosis of the world pulp and paper industry development is that Russia, China and India will develop their industries with an annual increment of about 5,3%. The expected growth of certain types of pulp and paper in comparison with India and China is shown in Picture 16.

It should be pointed out that there are still low prices for raw materials, electric power and salary costs in Russia. This makes the country attractive for foreign investors.

## OVERVIEW OF MAJOR EVENTS AND PLANS FOR THE DEVELOPMENT OF THE PULP AND PAPER INDUSTRY

**The Volga Pulp and Paper Mill** (Nizhniy Novgorod Region) is in the process of launching a ground wood operation and has completed preparatory construction and installations of the pulp beating line in cooperation with the Metso Paper Company (Finland). They have purchased and delivered a complete set of

import machinery in the amount of 7 million EUR, with Russian equipment and materials totaling (2.5 million EUR). The project is to be executed by March 2006. Putting this unit into operation will enable an annual profit of 10 million USD. The aggregate investment volume is over 11 million EUR, 60% of which are company funds, with 40% credited by the Volgo-Vyatsky Savings Bank of the Russian Federation. Modernization of the ground wood operation will enable the Volga Pulp and Paper Mill to increase production of white ground wood (for paper production) from 680 to 780 tons per 24 hours.

By the end of 2006, the Volga Company also plans to invest about 2 million EUR toward the modernization of Papermaking Machine # 5 in order to accelerate the speed of production from 900 to 950 m/min, which will enable an increase of the total production volume by 5-6 thousand tons.

**The Open Joint-Stock Company "Kotlas Pulp and Paper Mill"** (The Arkhangelsk Region, part of the Ilim Pulp) has plans to construct a new plant for cooking neutral sulfite pulp. The winner of the tender is Metso Paper (Finland). The value of the project is approximately 25 million EUR. The construction of the new plant with a production capacity of 900 tons per 24 hours is part of the acceleration of the production of fluting at the Kotlas Mill. The plant is to be equipped with a modern system for the continuous cooking of neutral sulfite semi-chemical pulp. The opening is planned for April 2008. Within the frames of the project on fluting production increase a modernization of Papermaking Machine # 1 is scheduled, with a productivity growth up to 400 tons per 24 hours. Modernization will be carried out in phases, the

### Kotlas Pulp and Paper Mill



first of which will begin in September 2006, and the last by October 2008. By the second quarter of 2007 construction of an evaporation station for board and paper production at the Kotlas Mill should be completed. The value of the construction is beyond 30 million USD. This activity is held within an investment program. Launching this station will help lower the negative impact on the environment, reduce contaminating emissions in the atmosphere by 626 tons per year and sewage to the surface waters by 54.1 thousand tons per year. The lowering of organic fuel consumption will lead to a reduction of greenhouse gas emission for more than 80 thousand tons per year. A vendor contract for an evaporation complex was signed with the Andritz Company (Austria) in January 2005.

**At the Ust-Ilimsk Pulp Mill** (Irkutsk Region, part of the Ilim Pulp) in autumn of 2005 the second stage of production modernization began. The result of the project's implementation should be the increased productive capacity of the plant in marketable bleached pulp production of up to 700 thousand tons per year. The project is under way within the long-term program on production volume increase, improvement of production quality and conservation of the environment. This program undergoes two phases of modernization and reconstruction of the complex. The first phase of reconstruction entails an increase in bleached pulp output of up to 630 thousand tons per year at the plant's projected capacity of 500 thousand tons. Investments at this stage total about 19 million USD. The first phases started in 2004 and were to be completed in the beginning of 2006. The second stage of reconstruction is planned for 3 years. The amount of investments for this phase come to 45 million USD. The project entails further automation of production processes and partial replacement of machinery at the main technological lines of pulp production. An important part of phase two includes specific measures on the reduction of emissions. It is expected that the overall reduction will come to 3175,96 tons per year, and 123,45 tons per year of hard waste.

**OJSC "Segezhsky Pulp and Paper Mill"** (Republic of Karelia) began installation of a paper bag production line in November 2005, with a project value of over 200 million RUR. Line assembly is being carried out in the consumer packaging operation by the Alt-M



### Ust-Ilimsky Timber Complex

Company (Republic of Karelia); chief installation by Windmoller & Hoscher (Germany). The new line will provide paper bags with plastic layers. The capacity of the line will total 300 paper bags per minute. By the end of February 2006 the equipment will be put into exploitation.

The Segezhsky Pulp and Paper Mill is considering the feasibility of constructing a mill for commercial bleached pulp production.

**The Kamennogorsk Offset Paper Mill** (St. Petersburg Region, part of the Northwestern Timber Complex Group) erected a new wastepaper recycling plant, the value of which is over 10 million EUR. Productive capacity of the plant is about 80 tons of air-dry mass per 24 hours. The payback period of the project is estimated at 5 years.

On October 21, 2005 in the Tula Region the Gotek Company (Kursk Region) launched the first line of the mill to produce corrugated board containers, the value of which is 7 million EUR. The total value of the project is about 40 million EUR. The first line of the mill

### Segezhsky Pulp and Paper Mill





will specialize in manufacturing corrugated board boxes with a multi-colored flexography. In 2006, it is planned to put a second line into operation. The planned capacity of the mill will total 180 million m<sup>2</sup> of corrugated production per year. Construction of the new mill is a part of the geographic expansion of the Goteck Group.

By autumn of 2006, **OJSC "Mondi Business Paper – Syktyvkar"** (Komi Republic) plans to implement a transition to the non-chlorine bleach of cellulose. In August 2006, the plant will launch a production line for non-chlorine bleaching of softwood pulp (23 million EUR). This transition will exclude emissions to the atmosphere, allow the improvement of environmental and conservation concerns, ensure the competitiveness of the company's production in foreign markets and strengthen general safety at the production site. In 2005, the company allocated 59 million EUR for the modernization of its operation. For 2006, it is planned to invest 48.5 million EUR, 28 million EUR for environmental protection, 7.4 million EUR for the modernization of papermaking machines, and 23 million EUR for the non-chlorine bleaching of pulp. Furthermore, the Mondi – Anglo-American Corporation owners are considering possibilities to increase pulp production capacities by three times. The scope of investments for this project is supposed to come to 1 billion USD for 3 years.

**Larry's Pulp Company** (Norway) supposes to make an investment of about 400 million EUR toward the construction of a pulp mill in the Pskov Region. Construction works will begin in 2006 and be completed in 2007. This is the biggest amount of foreign investment in

#### **OJSC "Mondi Business Paper – Syktyvkar"**



the region in years. It is supposed to be the most high-tech enterprise in the Northwest of Russia.

**By 2010 OJSC "Solikamskumprom"** (Perm Region) intends to invest about 270 million EUR toward expanding its production capacities and to double the volume of finished products manufacture by 2010 up to 14 billion RUR per year. The investment project is to be implemented in two phases. At the first phase (realization deadline is 2007) the investment amount will make up 3.2 billion RUR of funds and credits; 0.7 billion RUR is already expended. At phase 1 the production volume of finished products is to be increased up to 600 thousand tons per year or up to 8.6 billion RUR, logging volume – up to 1.5 million m<sup>3</sup> per year. At phase 2 it is planned to allocate approximately 200 million EUR. The production volume is expected to grow by 850 thousand tons or 14 billion RUR per year, logging – up to 2.5 million m<sup>3</sup> per year.

**OJSC "Svetogorsk"** (St. Petersburg Region) accomplished the modernization of Papermaking Machine #4; the invested amount stood for 50 million USD. This activity was carried out within the first phase of an investment program that is aimed at the acceleration of production capacities of the Svetogorsk Company and is part of a strategy of International Paper on sales development beyond North America and its expansion into the Russian market. The Svetogorsk Company has launched a board-coating unit for food packaging needs. The next stage of the investment program entails the construction of a plant producing bleached chemical-thermo-mechanical ground wood with an annual capacity of 200 000 tons. The plant is to start its operation in 2007. The total amount spent on modernization in 2005 was 100 million USD.

**OJSC "Mayak"** started construction of a new papermaking machine for paper production for furniture manufacturing with an output increase of 35,000 tons per year by 2007. By 2010, the company plans to install another papermaking machine with a total capacity of 75,000 tons per year.

**The St. Petersburg Paper Mill of Gosznak** began production of ink-jet paper and made a decision to modernize a coating unit in 2007.

In mid 2006, **the Nemansky Pulp and Paper Mill** will launch a new (second-hand) papermaking machine, the capacity of which is 60,000 tons of writing paper per year.

**The Arkhangelsk Pulp and Paper Mill** developed a program of production modernization for the next 10 years with a total value of 337 million EUR. The project includes: construction of a new line of semi-chemical pulp productions, a production capacity of 1000 tons per day, acceleration of the first board machine up to 800 m/min, and the second cardboard making machine up to 600 m/min. According to the long-term development program of the company until 2012, of the aggregate value of 100 million EUR, it is expected to increase output of pulp at the two lines up to 1 million tons per year and of container-board up to 550 thousand tons per year.

In the Altai Krai a new pulp and paper production – a mill of sanitary-hygienic production – was built. The mill has capacities to produce 25 tons per 24 hours including paper napkins, towels, handkerchiefs and toilet paper. The produce is to be manufactured from 100% pulp.

## CONCLUSIONS

Russia has great potential for strengthening its position in the world timber complex, including the pulp and paper industry.

The tendency of export volume decrease testifies that there is a potential in the home market.

An overwhelming share in external trade is taken by low-added value products.

A growing demand for high-added value production in the home market will bring conditions for the development of such productions in Russian and, as a final result, for the export of such products from Russia.

In the meantime available timber resources, home demand growth and proximity to the most fast developing market (China) determine the tendency of global industrial rotation and will bring timber stakeholders to Russia.

*Sergey PUZIREV*



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# PARTNERSHIP AND CONSOLIDATION — THE WAY OF THE RUSSIAN FORESTRY INDUSTRIAL COMPLEX

**Globalization is a process that has no sector limitations and thus it is relevant for the forestry industrial sector as well as for metallurgy or oil industries. Tendencies are explicitly stated – taking into account the permanently increasing margin in the Pulp and Paper sector, low costs become the determinants of competitiveness. Those who are able to produce goods of required quality with minimum expenses finally will be the winners in this protracted battle for leadership, at times even for survival. Considering the capital intensity of the sector and the fact that return on investments is above 10 years, only huge vertically-integrated structures can bear such increasing competition.**

The Russian forestry industrial complex doesn't yet contribute a lot to the production of forest products globally, though it has opportunities. At the same time, we can clearly observe a crisis in the countries – classic producers of timber goods – Canada, the USA and Finland. Production of pulp and board is shifting to the countries with low costs, basically to South America and South-Eastern Asia. This process doesn't apply to Russia yet – not a single Pulp and Paper facility with participation of foreign capital has been constructed here. It is typical that only those projects are implemented that imply the creation of production facilities:

mechanical wood processing requiring no serious expenses, or the construction of mills for the production of corrugated packaging. Meanwhile, Russia, possessing huge resources of unexploited forests, comparatively low costs for personnel and relatively low expenses, plus very convenient geographical location, is able to become a leader in the global forestry industrial complex. This market that annually increases its volume of consumption, becomes more and more attractive for foreign strategic investors. Such companies as International Paper, Mondi, Stora Enso, UPM and others, successfully function here. The largest Russian company that has declared its plans

to be a company of world level and is ready to compete with the global Pulp and Paper Sector, is Ilim Pulp Corporation – the leader of the Russian forestry industry. The Corporation is negotiating with a number of leading western companies on strategic partnership and the implementation of mutual investment programs.

## YESTERDAY, TODAY AND TOMORROW

Ilim Pulp was registered in St. Petersburg on April 30, 1992. Originally an exporter of pulp-and-paper products, over the last fourteen years Ilim Pulp has emerged as the industry leader and one of Russia's fastest-growing companies.

In the beginning, Ilim Pulp specialized in the distribution of the Ust-Ilimsk and Kotlas mills' products. In 1988–1994, as economic restructuring began in Russia, the forest industry found itself in decline, with output falling by over 60%. Aware that business stability and efficiency depended on the consolidation of production processes, Ilim Pulp adopted a policy of building a single, vertically-integrated company comprising logging, distribution and marketing, and everything in between.

Nowadays the company controls the largest Russian pulp and paper producers – Kotlas Pulp and Paper Mill, Bratsk Pulp and Containerboard Mill, Ust-Ilimsk Pulp Mill, and St. Petersburg Cartonboard and Printing Mill. Ilim Pulp also includes Kommunar Paper Mill, the corrugated box plant, Ilim Gofopak, and centralized service companies with a network of regional affiliates. The 38 logging enterprises of Ilim Pulp annually harvest over 7,5 mln cu m of wood in the Arkhangelsk and Irkutsk Regions, in the Komi Republic and in the Krasnoyarsk Region.

In 2005, the mills of the corporation produced 2.46 mln tons of pulp and paper products, including 1.47 mln tons of market pulp. This is 4.5% more than before, and one third of the total volume of PP products of the country. The behavior of growth in mechanical converting is also obvious: the volumes of OSB output have risen by 23% (up to 38.5 mln m<sup>2</sup>), and solid wood products – by 5% (up to 8.4 thousand cubic meters), production of lumber has come up by 4% (up to 475.8 thousand cubic m), and the output of plywood remains at the same level (137.8 thousand cubic m).



The company's products are exported to more than 50 countries in Europe, the Middle East and South-East Asia. The strategic markets of the corporation are Russia and China, which use 30% and 35% of all Ilim Pulp supplies, respectively. The corporation enterprises manufacture over 60% of market pulp and 50% of box board of the total amount produced in Russia. In the Chinese market the corporation is the largest supplier of pulp and paper products, which for the period of 10 years has increased its supplies from 50 thousand tons up to the record 905 thousand tons in 2005. Ilim pulp provides 17% of softwood bleached pulp and 20% of kraft-liner in China. In order to keep the leadership in the strategic market, Ilim Pulp has developed a large-scale investment program for its Siberian assets that cover product supplies to China. Aggregate investments of Ilim Pulp into Pulp and Paper sector development in the region will be comprised of \$750 mln by 2011.







2 years ago, to increase the efficiency and competitiveness of its enterprises, Ilim Pulp started moving from the geography-based management model to management by product lines. In addition, Ilim Pulp has established a number of service companies and a series of centralized transportation and procurement service providers. This reorganization has allowed the company to optimize its business processes and minimize costs in both core operations and supporting services. Operational assets of Ilim Pulp are structured by product business lines in correspondence with the company's main activities, and namely "Solid Wood Products," "Pulp and Containerboard" and "Packaging."

### UP-TO-DATE TECHNOLOGIES IN THE FOREST

Ilim Pulp is one of the largest holders of forest leases in the global industry and consistently applies international forest management

standards. Sustainable and rational forest management practices form the basis of the company's activity in the forestry and logging business. The corporation takes reforestation measures in the total area of clear cuts, which accounts for 33,000 ha. Introduction of advanced technologies and state-of-the-art logging equipment is the main target of the corporate investment policy for the forestry sector.

The company has developed and implemented a number of initiatives to enhance the efficiency of forestry and logging business and combat illegal loggings. Application of modern multifunctional machines with computerized log accounting systems allows control of the volume and yield of short logs and contributes to the overall efficiency of integrated logging. With 78 John Deere-Timberjack machines, Ilim Pulp is the strongest fleet of logging equipment in Russia. In the Northwestern region, the Company operates the Lesovoz satellite system, controlling truck deliveries. For timber acceptance purposes the company uses a laser scanning system, Photoscan, which allows measurement of the amount of timber delivered by each truck with fine precision.

Ilim Pulp is a leader in voluntary forest certification in the Russian industry. IlimSibLes and ULiL hold a forest management certificate (FSC) for the total of 2.646 million hectares of forest leases. IlimSeverLes has completed chain-of-custody certification.

As an industry expert, the company is actively involved in the development of Russia's Forestry Code and takes part in the "Europe and North Asia Forest Law Enforcement and Governance" (ENA FLEG) ministerial process.

### PROMISING SEGMENT

The Solid Wood Products business line consolidates wood processing plants of Ilim Pulp manufacturing lumber, fiberboard and plywood.

The development strategy for Solid Wood Products focuses on increased capacity, enhanced product quality and expansion of the product range in value-added converted products, such as glued products and structural elements. Ilim Pulp is considering an opportunity to develop into the sector of wooden house construction

as a logical step in further development of its Solid Wood Products business line.

The company aims to capture a leading position in the local market for solid wood products. Investment plans include installation of state-of-the-art equipment and a fundamental change in process technologies.

Currently, Ilim Pulp has solid wood products operations in East Siberia, which include Ust-Ilimsk Saw and Wood Processing Mill, Ilim Bratsk Wood Processing Mill (Ilim Bratsk DOK), Ilim Bratsk Wood Processing Mill (Ilim Bratsk LDZ), and in the Northwest – IlimSever Drev.

### THE MAIN BUSINESS

Traditionally, the main business of the company is the production of pulp and paper. Market pulp and boards of all types make 50% and 21% of all Ilim Pulp sales.

Kotlas Pulp & Paper Mill – the largest manufacturing facility in the Russian pulp and paper industry – is situated in the Arkhangelsk Region, Bratsk Pulp & Containerboard Mill and Ust-Ilimsk Pulp Mill are based in East Siberia.

The core products of the Pulp & Containerboard business line are pulp, containerboard and various paper grades. Pulp grades include bleached softwood and hardwood kraft pulp, unbleached softwood kraft pulp (flash-dried) and dissolving pulp. Containerboard and paper grades include kraftliner, corrugated medium, sack kraft and offset paper.

Ilim Pulp was the first company in Russia to produce elemental chlorine-free (ECF) bleached pulp.

### THE HIGHEST LEVEL

"Packaging" represents the highest level of the Company's vertically integrated structure and consolidates downstream converting facilities. The packaging business line has been formed on the basis of the St. Petersburg Cartonboard and Printing Mill, and corrugated box plant Ilim-Gofropak and Kommunar Paper Mill, with the following product range: coated and uncoated boxboard, gypsum linerboard, corrugated sheet and corrugated containers, folding cartons, packaging paper for confectionery products, and packaging paper for medical products. Due



to waste-based operations at St. Petersburg Cartonboard and Printing Mill, Ilim Pulp annually saves about 4 million healthy trees

The comprehensive corporate investment program is focused on the development of the local corrugated packaging segment. Ilim Pulp has intends to invest more than \$300 mln into the development of its packaging division and by 2009 it plans to obtain 5 mills for corrugated products in the European part of Russia. This will allow the company an increase of up to 25% in the market of high quality corrugated products.

### ECOLOGICAL RESPONSIBILITY

As an environmentally responsible company, Ilim Pulp pays the utmost attention to environmental protection issues.

Ilim Pulp has adopted an Environmental Policy, which defines the corporate guidelines for environmental safety and protection matters. The corporate policy is focused on the rational and sustainable use of forest and





water resources, and introduction of energy and resource saving technologies. Ilim Pulp consistently assesses environmental risks associated with the introduction of every new technology, production line, and all equipment. The company focuses, in the first place, on gradual improvements of the main production technology in order to reduce the environmental impact and, secondly, on improvement of waste treatment technologies and facilities.

The company openly informs all interested parties about the corporate environmental policy and environmental projects going forward, as well as any events related to environmental impact.

Ilim Pulp is building up an efficient environmental management system across all of the company's businesses through the implementation of international standards ISO 14001.

The corporation annually invests over USD\$10 million into environmental projects. The Company is actively involved in the Best Available Technologies project, which aims at developing and implementing advanced environmentally appropriate technologies in production and decreasing ecological stress.

Ilim Pulp is part of the WWF Corporate Club and a full member of the Association of Environmentally Responsible Forest Companies of Russia. Operating subsidiaries of Ilim Pulp have scored high ratings in the comprehensive environmental assessment made by the Expert Rating Agency (Expert RA).

## SOCIAL RESPONSIBILITY

For Ilim Pulp, social responsibility means not only premium quality product output, tax payment and adherence to law, but also the provision of social stability in the regions where the company operates and maintenance of high ethical standards in business control.

Ilim Pulp has adopted the Social Responsibility Policy, a document that defines basic principles the company obeys in relation to state authorities, public non-profit organizations and citizens of the regions where the company operates.

The company aims to support small and medium businesses in the regions in order to mitigate dependency of the community on the township-forming enterprise and develop competitive markets for commodities and services.

The corporation implements welfare programs, including support to orphanages, and educational and medical institutions. The company promotes healthy life-styles and offers sponsorship to professional sport clubs.

Ilim Pulp publishes social reports on a regular basis. The reports are done in compliance with Global Reporting Initiative standards.

Ilim Pulp – The Garant fund has been established for the purpose of effective control of external social programs. The fund has affiliated funds in Koryazhma, Bratsk and Ust-Ilimsk. Partnership agreements with local authorities have become common practice for structuring the social initiatives of Ilim Pulp.

Investment into the personal development of employees under the Corporate University Initiative, occupational health and professional training represent the unconventional priorities of Ilim Pulp.

**With Ilim Pulp, people know that the corporation is set to become a world class company.**

Photo: Ilim Pulp

# INVESTMENT CRISIS

**The pulp and paper industry has almost exhausted its inner development potential. If we do not raise foreign investments within the next few years, the industry will stagnate.**

The year of 2004 can be considered quite beneficial for the Russian pulp and paper industry (PPI). The yearly production growth amounted to 5.4% according to statistics. This complies with the development dynamics (5.5%) of the prior period. PPI's lagging behind the whole RF industry production growth rates is quite insignificant (6.1% per year) and the industry persists within the country's average rates.

However, industry participants are not satisfied with the middle position – in fact, they are concerned. Optimists expect a 5% increase in output that will remain for a year or two, while pessimists predict that growth rates will decrease between 1-3% in the near future. Still, both agree that widening potential through the cosmetic modernizing of existing capacities has almost been exhausted. There is a need for industry modernization, introducing new lines and machines and for the construction of new factories. This problem is hard to solve as the industry has low investment appeal and pulp and paper plants have no sufficient internal funds.

The PPI will have a hard time unless we can find a way out in the next several years. Native players will lose some of the western markets and start to experience pressure from foreign producers within the Russian area. The future depends a lot on the governmental policy concerning the timber complex.

## EXHAUSTED POTENTIAL

After significant production rates dropped in the 1990's, the PPI enterprises did their best to return to their abandoned positions. All large and medium-sized industrial complexes have reconstructed and modernized their production plants, repaired conventional technologies and partially implemented new technologies.

Some projects are being executed or are planned for 2005. Segezha PPM, for example, continues to reconstruct and modernize equipment along the execution workflow, including the modernization of pulp cooking machines. Mondi Business Paper Syktyvkarsky LPK signed a contract with Finnish Andritz Power for the delivery of equipment for sodium regeneration boiler reconstruction in the current year. The Sverogorsk mill is going to finish papermachine reconstruction, which will increase its output by summer. Ilim Pulp also continues to execute its large-scale investment program.

Most plant capacity modernization measures are continuing to be performed at the expense of the industry's inner reserves. According to Bumprom, internal funds make up 86% of the investment volume in the timber complex (LPK) and debts amount to only 14%. It is obvious that quite cheap projects (amounting up to \$50 billion) with a medium payback period are preferred as PPC lacks available funds. In a number of cases, existing resources were redirected by shareholders to other economic spheres due to the industry's low attractiveness for investors.

The possibilities of morally and physically obsolete plant capacities being upgraded by moderate investments are progressively less. "By 2004, most pulp and paper enterprises reached production volumes close to the maximum for the existing capacities. The industry's inner potential has almost been exhausted," says Anton Loiter, Arkhangelsk Pulp and Paper Mill's (APPM) marketing and sales director. The largest enterprises of the industry - Kotlas PPM, Solikamskbumprom, Kondopoga, Volga - already work to the breaking point of their work load. Medium enterprises are also approaching their maximum capacity.





Further industry development depends on the expansion of existing capacities or preferably the construction of new enterprises. However, enterprise construction from the very beginning on its own account is unfeasible. The projects are very expensive and their pay-back periods are long. Only a few players can afford to purchase new lines. Nikita Leonov, business management director of Ilim Pulp says, "It is probably only Kotlas PPM and the St. Petersburg Cartonboard and Printing Mill who are able to execute the capacity expansion program on their own. All of the other mills, along with most of the enterprises of the industry, will need to raise funds at some level."

### WEB OF PROBLEMS

It is not easy to find outside investors for the PPI. The industry has low investment attractiveness due to several reasons that can be relatively divided into intrinsic and external. The first include the state of capital assets. Despite investments at a rate of \$300-350 billion per year during the recent five years, only 5% of the primary equipment in the Russian PPI complies with economical efficiency and is environmentally friendly.

The old-fashioned, worn-out equipment operation leads to the use of out-of-date energy and resource-intensive technologies, which is in turn the reason for low labour productivity. As Vladimir Chuiko, the chairperson of RAO Bumprom, points out, "Currently Russia produces pulp and paper goods amounting to \$30 thousand per one

industry worker. These rates are 3-4 times lower than those of Europe, Japan and Canada."

Another internal problem of the industry is the permanent growth of production costs owing to rising prices for energy carriers, raw products and transportation. "Our costs are comparable with and sometimes more than those of western manufacturers, and we don't have the equipment and technology as they do." – mentions the General Director of Segezha PPC, Vasily Preminin. At the same time, according to Anton Loiter, in the past year the situation allowed no compensation for cost increases on both the foreign and domestic markets of pulp and paper production. Moreover, by the end of the year market prices for many items were lower than in the beginning of the year. As a result, profitability in the timber complex dropped from 11.7% in the first half-year of 2003 to 7.9% in the first half-year of 2004, Market Environment magazine reports.

External factors also exert significant influence on industry investment appeal. First, they include the notorious "War in the Woods." Unfortunately, the agreement concluded between Ilim Pulp and Bazovy Element after their long confrontation hasn't become the biggest story of the year for PPI. Wars over the property continue. Now another two giants of the industry - Arkhangelsk PPM and Volga Mill, are drawing the attention of "BazEl" affiliated structures. "Stories of drawing into the conflict not only legal forces but part of the labour collective spoil the industry's investment appeal," comments Vasily Preminin.



Another drawback is that weak forestry legislation provides no guarantees for the investor. The long-term unsuccessful development of the RF Forest Code project, no state program for forest road building, the low development of the periodic yield resulting in the raw material problem's escalation – this is just the beginning.

### CREDITABILITY CRISIS

Such inner and outer obstacles not only frighten potential investors but also prevent the accessibility to foreign credits. "Today the Russian PPC is not able to obtain a multibillion-dollar western credit at a rate of 5-6% per annum. Even if such companies as Ilim Pulp, whose production is mainly export-oriented, take a loan on western export credit it will cost some 7.5% per annum and the periods will be no more than 4-5 years. Under such credit conditions, all investment project rates will start to drop. We have to set limits for the amounts and project pay-back periods" argues Nikita Leonov.

The seeking out of foreign partners would be quite sensible from the point of view of industry development. However, the PPI participants are skeptical about this possibility. As one of them diplomatically defined, "Our freedom of movement is very limited due to the political situation. The only possible way to raise foreign funds for the industry is to invite financial investors. As usual, this is the money of foreign and Russian banks, borrowed for major projects," Nikita Leonov says.

Russian credits are expensive and "short," deferring to whatever the schedule is for the cooperation of finance institutions with businesses. There is almost no hope that large-scale projects will be executed in the PPI over the next few years.

### DON'T STOP

Experts estimate that the industry stagnation and "slipping" is equivalent to defeat. If we don't find an opportunity to move forward, the enterprises will start "giving up" export markets. Steadily expanding by 4-5% per year, the inner market will gradually take over PPI export flows. In the beginning of the 2000's, some large Russian manufacturers abandoned countries in Western Europe. This process may continue.

Pulp and paper production sale within the country is more profitable – Russian prices are not lower and sometimes higher than prices in the foreign markets, while transportation costs are much more modest. In addition, it's easier to sell products within the country. Anton Loiter says, "In the world markets, Russian cellulose and cardboards are second in quality compared with the industry-leading Scandinavian producers and second in world market sales volumes compared with younger players, such as South American and Asian producers." Russian PPM's gradually lose their shares (which are still very significant) in the market of China. They are not able to develop their capacities at a speed appropriate for the growth of demand. Naturally, the Chinese compensate the lack of Russian supplies with supplies from other sources.

Nowadays, the native PPC has no significant influence on the world's pulp and paper industry: their share in the world paper goods output is no more than 2% (in comparison with 12-15% for countries with a developed PPI). If the events unfold according to the pessimistic scenarios, Russian PPM's will run the risk of becoming local players. However, if the forces are concentrated in the inner market, Russian enterprises won't be saved from business competition with foreign manufacturers.

Now paper production's high-price (high-quality) segment in the Russian market is occupied by European and American players. The demand for paper production grows, but there has been no counteroffer from domestic manufacturers. Some attempts to enter into the segment have had poor results. For example, AOA Vyborgskaya cellulose was the first in the country to start producing clay-overlay paper for books and magazines, after the enterprise reconstructed its papermachine. However, some attributes (opacity, smoothness) of this product are secondary compared to the foreign analogues.

Prevention of the industry's stagnation and rollback to the position before a default depends on how soon governmental policy toward the timber industry complex and pulp and paper industry enterprises will be determined. Finally, only authorities are able to ensure the attractive investment climate in the country and in particular, the industry.

*By Elena DENISENKO*



# THE TIMBER INDUSTRY IN THE LENINGRAD REGION

**The Leningrad Region is located in the Northwest Federal District (NWFD) of Russia, which is extremely rich in forest resources and comparable to the resource bases of most European countries. Socioeconomic and other indicators verify that the Leningrad Region is one of the most advanced subjects not only in the NWFD, but in the whole country. The region is referred to as a miniature replicant of Russia. It is a unique area with all types of production and means of transport. The enterprises (including more than 500 large entities) represent all industries, generating 4% of Russian electricity, 8% of oil products, 19% of pulp, 4% of cement and 9% of paper.**

The region enjoys all types of transportation infrastructures: automobile, railways, inland waterways and sea transports, two airports and two oil pipelines. The high sophistication of the transport infrastructure is accounted for above all by the proximity of the second largest city – Saint-Petersburg – which is the main Baltic port of Russia.

The Leningrad Region is characterized by a high transport density judging by Russian standards. For instance, on average, one thousand square kilometers in Russia have 5.3 square kilometers of railroads, while in the north and west – 18.3, and in the Leningrad Region – 31 square kilometers. The same ratio is observed in automobile roads and waterways. The high level of transport infrastructure development is largely determined by the near-border location of the region. The advantageous geographical position of the region allowed the establishment of strong economic ties and channels for contacting the traditional foreign markets.

The region has more than 1,800 lakes; Europe's largest Ladoga Lake, with an area of 18.135 thousand square kilometers among them. The total length of rivers flowing through the region is about 50 thousand square kilometers. The largest of them are the Neva, Svir, Volkhov and

Vuoksa rivers. The Leningrad Region is classified as a region with severe climatic conditions. Its area is rich in wetlands and characterized by a low population density.

53% of the territory of the region is covered with forests.

Having large supplies of natural resources, a highly qualified labor force and a quickly developing legislative framework, the Leningrad Region is involved in active foreign economic activities and trade. It demonstrates a high rate of economic development; the timber industry traditionally holds the second or third place among other local industries in terms of industrial output growth. According to different sources, its output varies from 13 to 20% of the total industrial output.

## RESOURCE BASE

Investmentwise, the developed resource base is a significant advantage to the Leningrad Region. It includes large deposits of mineral resources: over 80 deposits are being developed and new resource types have been explored. However, timber still retains the status of the major resource type.

The total area of the regional forest fund is

6.1mln ha, including 4.7mln ha of forested areas.

The cut, which will not affect forest management and the environmental balance of regional forests, is 12.5mln m<sup>3</sup>. The annual final cut allowed by the forest inventory (AAC) is 9.5mln m<sup>3</sup>. The volume of intermediate use from care, salvage or other cuttings is 3mln m<sup>3</sup>.

The annual allowable cut in regional forests previously owned by agricultural organizations and now designed for harvest is 2,316.1thsd m<sup>3</sup> (18.5%).

About 42% of the regional forest fund area are forests for special purposes – forests of Group I. The rest of the area is referred to as Group II and aimed for multiple forest resource use. The average species composition verifies the high quality of the forest fund: pine – 37%, spruce – 29%, birch – 26%, aspen and others – 8%. A trend toward the expansion of deciduous stands is observed though now that conifers are dominating. The spread of hardwoods, especially aspen, is speeding up. Generations of mature hardwood species are hindering the regeneration of spruce, lowering the productivity of forests and prolonging the rotation period.

Forests in the Leningrad Region have long been used in violation of scientifically justified rules. The most productive forests were intensively clear-cut. In some districts, the maximum allowable timber harvest volumes were exceeded; highly productive coniferous stands suffered most. This resulted in the large scale succession of wood species. At present, many districts have accumulated huge stocks of mature hardwood. This raw material type has a narrow market in Russia and is aimed specifically for export.

The absence of a market for aspen and alder and a stable demand for conifers and birch is a common problem of the whole Northwest region of Russia. Low-grade non-demanded timber is left lying on the cutovers as its extraction doesn't pay off. Moreover, due to vast areas of virgin forests, the quality of the stands is deteriorating; the percentage of fuelwood is growing while the stock of commercial timber is decreasing. In connection with this the problem of waste management and salvaged timber processing is becoming increasingly acute.

The Wood Industries Confederation of Northwest Russia (WIC NWR) reports that according to the

applied timber production technologies, residues produced by logging make about 20%, sawmilling – 35-55% of the total volume, plywood production residues are 60% of the material, and pulp and paper production – 20% of procured raw materials. The waste resulting from the manufacture of wood-based products, furniture, etc., are 50% of the volume of products. The waste is partially converted to chips and used to produce pulp and paper, while the rest is used in wood-based panels. A significant proportion of wood residues, however, are not processed yet. This is a potential fuel for bioenergetics of the Leningrad Region; their proper use may help solve a range of social, environmental and economic problems.

The recent years have seen the implementation of a program of waste wood use as an alternative fuel source, and the local industrial and municipal boiler plants are transferring to this local type of fuel. This measure ensures the effective use of wood and decreases the cost of thermal energy.

## REGIONAL TIMBER INDUSTRY POTENTIAL

The Leningrad Region is one of the major zones in the Northwest of Russia focusing on harvesting, timber processing and export. According to experts, the annual timber harvest volume may reach 12mln m<sup>3</sup>. In spite of the increased volume of clear-cut, the annual harvest now doesn't exceed 6mln m<sup>3</sup>. It is obvious that the industry has great potential and, at present, industrial timber production in the Leningrad Region involves more than 200 large and middle-size timber harvesting and processing enterprises, including plants specializing in chemical and mechanical wood technologies. Most of the enterprises are engaged in harvesting activities; about 85 enterprises – in timber processing.

After the disintegration of the harvesting industry, which reached its climax in the early 1990's, a lot of small logging companies surfaced. The scope of those enterprises was limited by geographical location, so they didn't have a noticeable influence on the economy of the region. The beginning of the new century, however, was marked by a drastic change in the situation. The specific feature of these years was the regeneration of timber producing companies and a significant restructuring of the regional industry in whole. New effective harvesting



and processing enterprises have appeared; the growth of harvesting and especially processing volumes has been observed, as well as the growth of construction materials and furniture production. Pulp and paper enterprises are also undergoing an upgrade.

Apart from the improved organization of harvesting operations, greater attention is being paid to forest regeneration. According to the Committee for Forest Resources and Environmental Protection in the Leningrad Region, in 2005, forest regeneration works at the cost of 54,762.6 thousand rubles were conducted. The leaseholders reported an aggregate of forest regeneration works at the cost of 15,439.7 thousand rubles. All timber enterprises in the Leningrad Region can be divided into three groups depending on the major product types – pulp and paper, timber processing (sawmilling, furniture, wood-based boards and plywood) and harvesting enterprises.

Statistics show that harvesting, woodworking and pulp and paper industries in the Leningrad Region demonstrate continuous development and production growth. According to the Committee for Forest Resources and Environmental Protection in the Leningrad Region, over the past seven years the volume of industrial production at least doubled. At present, the most serious shifts are observed in the pulp and paper and woodworking sectors.

The pulp and paper sector is second to none regarding production growth. In 2005, it accounted for more than 16bln rubles (102% against the corresponding period in 2004) of the 23bln rubles of the total production volume (108% against the corresponding period in 2004). It is noteworthy that the volume of sold pulp and raw paper has decreased, while the volume of finished products made out of this paper (school note books, etc.) has grown. The same situation is seen in timber processing (sawmilling, furniture, wood-based boards and plywood production): the output was 3bln rubles (146% against the corresponding period in 2004); and harvesting operations – more than 3bln rubles (101% against the corresponding period in 2004).

The total cost of products (labor, services), VAT excluded, in 2005, was 111% against the corresponding period in 2004 (i.e. 22,178.3mln rubles), among them:

- pulp and paper production – 107% (i.e. 16,695.7mln rubles);
- timber processing (sawmilling, furniture, wood-based boards and plywood production) – 144% (2,365.7mln rubles);
- harvesting – 109% (i.e. 3,116.9mln rubles).

The sum of fees and taxes paid to the 2005 budgets at all levels by timber companies was a 120% increase against the corresponding period in 2004 (2,320mln rubles), among them:

- pulp and paper enterprises – 1,535.2mln rubles.
- timber processing companies (sawmilling, furniture, wood-based boards and plywood production) – 257mln rubles.
- harvesting enterprises – 528.2mln rubles.

The active development of pulp and paper and timber processing industries, which are heavy energy consumers, is largely accounted for by the fact that the energy sector in the Leningrad Region produces electric energy nearly twice as much as required by the industry and population. Moreover, locally produced electrical energy is much cheaper than in other regions, as the local energy system is based on the Sosnovoborskaya nuclear power plant and a developed network of large and medium-size hydroelectric power stations.

Among the most stable regional timber companies of these years are the following:

JSC Svetlogorsk, JSC Syasky TsBK, JSC Kommunar Paper Plant, JSC Kommunar Paper Mill (Ilim Pulp), JSC Saint Petersburg Cardboard and Printing Mill (Ilim Pulp), called the best industrial enterprise of Leningrad Region in 2005, JSC Priozersky DOZ, Nevsky Laminate Plant Ltd., CJSC Forest Complex, CJSC Viner Company, Kirishi Lesprom Ltd., Stroyles Ltd., CJSC Lemo-Wood, CJSC DP FIRO-O, Privus Ltd.

Timber enterprises of the Leningrad Region employ more than 20 thousand people. The average salary in the industry has increased by 20% compared with the corresponding period in 2004, reaching 9,800 rubles. Among the enterprises, the figures are as follows:

- pulp and paper production – 13,100 rubles;
- timber processing (sawmilling, furniture, wood-based boards and plywood production) – 8,100 rubles;
- harvesting enterprises – 7,800 rubles.

## RESULTS OF TIMBER INDUSTRY WORK FOR 2005

According to the record of activities of forest and timber industries located in the Leningrad Region in 2005, one of the most promising results is a significant reduction of round timber exports. Thus, during 2004, the round timber export was 3,074.3 thousand m<sup>3</sup>, while in 2005 – only 1,835.3 thousand m<sup>3</sup>.

This is due to the fact that many local timber companies, investing into the development and modernization of their production facilities, initiate extensions of their wood processing plants. Upgrading of sawmilling and timber processing equipment is made not only by large enterprises, but even by small operations.

Moreover, large foreign timber companies tend to move their processing facilities to Northwest Russia, and to the Leningrad Region, in particular, as one of the most investment attractive RF subjects.

By way of illustrating this trend, we should mention a Finnish concern, Metsa-Botnia, which built Europe's largest timber processing plant in the Podporozhsky district, equipped with high-tech equipment. The rated capacity of the plant will be 300,000 m<sup>3</sup> of lumber per year. At present, the start-up works are close to finishing, and the plant is to be commissioned in summer.

Another large Finnish timber concern, UPM-Kummenne, has also set up its subsidiary, UPM-Kummenne Forest Russia, moving a part of the productions facilities into the region.

Finally, this trend, accompanied by the further development of timber companies, means that 100% of the timber harvested in the Leningrad Region will be processed by local facilities.

In 2005, the volume of timber harvest in the region was 8,704.9 m<sup>3</sup>, which is 631.4 thousand

m<sup>3</sup> more than in 2004 (107.8% against 2004).

Forest leaseholders harvested 5,792.5 thousand m<sup>3</sup> (66.5% of the total harvest volume), including 798.7 thousand m<sup>3</sup> obtained by intermediate and other uses.

Aggregate FMUs' harvest was 2,045.1 thousand m<sup>3</sup>, including:

- Federal Agency for Forestry in Leningrad Region and Saint Petersburg – 1,438.3thsd m<sup>3</sup>
- LOGU Lenoblleskhoz - 307.8thsd m<sup>3</sup>;
- FGU Sosnovsky GOLOH - 31.4thsd m<sup>3</sup>;
- other agencies - 267.6thsd m<sup>3</sup>;
- Other forest users - 867.3thsd m<sup>3</sup>.

In 2005, the local government granted forest users the right to harvest timber under short-term licenses in forests which earlier belonged to farming organizations; the total allowed cut is 580.5 thousand m<sup>3</sup>.

Agricultural organizations were granted forest areas for free use with the allowable cut of 195.5 thousand m<sup>3</sup>.

Apart from this, as of January 1, 2006, 934.8 thousand m<sup>3</sup> (49.1% of annual allowable cut) of available stock in forests which earlier belonged to farming organizations were leased.

The FMUs belonging to the Federal Agency for Forestry in the Leningrad Region and Saint Petersburg offered for lease forest areas with the allowable cut of 7,627thsd m<sup>3</sup> of timber. The total leased area in the Leningrad Region allows the harvest of 8,561.8thsd m<sup>3</sup> or 68.5% of the annual allowable cut. The Leningrad Region was among the first to introduce a long-term forest lease system. The local government believes that long-term leasing is the most progressive form of interaction between the state owning the forest fund and timber companies. The long-term lease promotes the long-term planning of loggers' activities, road construction, fire prevention, forest regeneration and results in an effective implementation of the regional budget. The organization of rational forest use lead to the increased volume of harvest in the



Leningrad Region, supplying local processing plants with timber and meeting the wood needs of the population.

In 2005, 78 km of roads were built and 889 km of forest roads were repaired; about 3.5 thousand ha of plantations were established under lease contracts for forest areas in the Leningrad Region. Furthermore, according to the municipal units' authorities, forest lease holders donated 31.3mln rubles toward meeting social needs, 25.3mln rubles for the development of agricultural production; 100.4 m<sup>3</sup> of fuel wood for population and state-financed organizations, 10.3 m<sup>3</sup> of commercial timber, and 1.8 m<sup>3</sup> of lumber.

During the same year, to meet the needs of state-financed organizations and the population, areas were leased on a short-term basis with the total allowed cut of 479thsd m<sup>3</sup>, including forest areas with the allowable cut of 182thsd m<sup>3</sup>, which earlier belonged to agricultural organizations, offered for a short-term lease by the Government of the Leningrad Region on the request of municipal authorities. Municipal units, selling timber obtained from short-term forest use, have received aggregate revenues of 12,418 thousand rubles and allocated them to meet the following needs:

- education and health care – 8,165 thousand rubles;
- social needs – 3,538 thousand rubles;
- development of agricultural production – 716 thousand rubles.

At present, the region demonstrates a great demand for forest lands to be managed for cultural, recreational and sport purposes on lease. One of the causes is a large number of long working children's summer camps and recreational centers, which registered the land lots and received the land title improperly. Now they don't pay the required land use fees to the budget of the Leningrad Region.

Unfortunately, the forest legislation, changed in 2005, banned the leasing of forest lands for cultural, recreational and sport purposes due to the absence of relative legislation regulating these issues and corresponding rates of fees for this type of forest use. In 2004, over 700 ha of forest funds were

leased for cultural, recreational and sport purposes, including more than 500 ha by auction.

Among the largest, most socially important and economically viable projects implemented in the Leningrad Region was the Skiing and Recreation Center on the slopes of Bashennaya mountain in the Vyborg district and Ski Mountaineering Center in the Sosnovskaya Volost of the Priozersky district.

The budget revenue from forest use for cultural, recreational and sport purposes increased 3.9 times compared with 2004. The regional budget received 15.3mln rubles. This was the result of the consistent work of the Federal Agency for Forestry in the Leningrad Region and Saint Petersburg, which controls the revenue from the forest fund use.

## INVESTMENT ACTIVITY IN THE TIMBER INDUSTRY

An up-trend in the volume of production observed in the region in recent years can be partially accounted for by the fact that timber companies began investing into production development. According to the data of the Committee on Natural Resources and Environmental Protection in the Leningrad Region, in 2005, the production investments made by timber enterprises doubled and reached 4,498.8mln rubles, including the following groups of enterprises:

- pulp and paper production – 3,448.6mln rubles;
- timber processing (sawmilling, furniture, wood-based boards and plywood production) – 842mln rubles;
- harvesting enterprises – 208.2mln rubles.

The largest production investment was made in 2005 by Svetlogorsk Pulp and Paper Mill. The PPM is implementing a system investment project aimed to develop and diversify production. This was the largest investment project in the Russian timber industry.

The Committee on Natural Resources and Environmental Protection in the Leningrad Region reports that investment activity growth is observed not only in the pulp and paper sector but in timber processing, too. Company managers

realize that the current economic situation demands investing into the development of advanced timber processing.

The regional government took an active stand in this issue. A strong economic environment was reached first of all by creating a favorable investment climate in the region, soft tax legislation, a specialized market infrastructure and information accessibility.

The Law on Investment Activity in the Leningrad Region, which came into force in 1977, still has no analogues in the Russian Federation. It provides a governmental system aimed to support and protect investors operating in the region. The document guarantees equal rights both for Russian and foreign investors, as well as large and small ones. It specifies a number of preferences and additional guarantees. The Leningrad Region made this step at a time when federal legislation didn't allow RF subjects to impose a privilege income tax. In 2003, a revised Law on the Governmental Support of Investment Activity was approved, giving investors the opportunity to receive subvention from the regional budget for paying income taxes. Investment companies have the right to receive additional income at the expense of the income tax privilege during the initial development stage, the pay-back period and then within two years after the breaking-even point.

One of the conditions of successful investment activity in the region is information openness. To support local enterprises, the Committee on Economy and Investments formulated an investment package, which is annually revised. The investment package includes about 100 large projects and 200 projects for medium-size and small businesses.

Every year the Committee compiles and issues a "Catalogue of Investment Projects in the Leningrad Region" and a "Catalogue of Investment Projects of Small Enterprises." Another annual "Catalogue of Free Production Areas," issued and updated by the joint efforts of enterprises and municipal authorities is in great demand among potential investors, consulting and engineering companies. Since 2000, the journal "Leningrad Region: Economy and Investments," has been informing potential investors about the economic life of the region.

In order to create optimal conditions for the development of investment activity on the territory

of the region, the government issues an annual guide to the location of production facilities on the territory of the Leningrad Region – the first original guide for home and foreign investors in Russian and English versions named "Investor's Guide." A presentation laser disk titled "Investment Climate of the Leningrad Region," has been issued for distribution among potential investors with the aim of making them aware about the region.

To support the investors, the regional government follows the policy of monitoring all investment projects and assisting in the settlement of various designs, construction, land, infrastructure and other related problems. Investment and tax legislation as well as their application are discussed with authorized consulting and insurance companies, working both with foreign and Russian investors. Comments and proposals of investors are carefully considered and used as a basis for preparing amendments toward applicable regional legislation.

A strong inflow of investments enabled the creation of dozens of new enterprises in various sectors of the Leningrad Region's economy, including the timber industry. Svedwood-Tikhvin Company was a pioneer in the timber processing sector. It made its first steps on the Russian market in 2002. The regional government considered the appearance of this investor as an event of particular importance not only for the region, but the whole country. Significant Swedish investments into the construction of an enterprise located 200 kilometers from Saint Petersburg paved the way for other foreign investors showing that one can operate successfully not only near the megapolis, but also off the beaten track. Today we can speak positively about the successful implementation of the second stage of this project.

The regional government intends to promote industrial enterprises' locations on undeveloped lands, especially in the north-west of the region, which is rich in forests and opportunities for generating cheap electricity. Large investors, such as Metsaliitto, which is building a large timber processing plant in the Podporozhsky district, are already there.

## DEVELOPMENT CHALLENGES

According to the forecast of the Committee on Natural Resources and Environmental Protection in the Leningrad Region, export potential of the



region will rise sharply after the commissioning of the new timber terminal at the port with the rated turnover of 4mkn m<sup>3</sup> per year, which will require investments worth \$160-190mln.

The main tasks for the timber industry have been determined. They are:

- stimulating advanced timber processing;
- ensuring rational forest use;
- applying low impact technologies;
- production upgrading with consideration of the global and national markets requirements;
- development of the transport and communications infrastructure.

**Among the most challenging projects are:**

- development and upgrading of CJSC Syasky Pulp and Paper Mill (TsBK);
- development of the JSC Vyborgskaya Pulp and Paper Company;
- construction of the timber processing plant in the town of Boksitogorsk;
- development and upgrading of regional logging companies;
- establishment of a timber transport company.

In 2004-2005, the Interdepartmental Commission for Establishment of Production facilities in the Leningrad Region addressed, and is going to further address, tender documentation for the construction of sawmilling and timber processing

and the supply of export round timber decreased. The Leningrad Region is approaching a state where all the timber harvested is processed on the same territory. This is happening even despite the fact that it is a transit region with huge amounts of raw material passing through and no opportunity to process solely regional timber.

Wood-house-building is accelerating. In the Leningrad Region eight enterprises are producing wooden constructions for the building of low-rise apartment houses. The enterprises' output of finished goods is more than 1 thousand apartment houses per year. The results of 2005 reveal positive points about the equally important sphere of the committee's activities, the development of the recreational potential of the Leningrad Region and mainly the specially protected environmental territories (SPEN).

A new type of tourism – Ecological Tourism – has been gaining ground lately. People grow more attracted to nature untouched by humans and civilization. It is the Leningrad Region where one can spend their leisure time in such surroundings.

The Leningrad Region is very far-reaching and is awaiting investments in its development of nature resources. The Leningrad Region Administration, in its turn, is ready to support any environmental-oriented business.

**Dedov M.A., Head of the Leningrad Regional Committee of Natural Resources and Preservation of the Environment**

The Leningrad Region possesses significant natural resources including forests, water resources and minerals. Some 70 thousand business units and nature-users engage in activities on this territory, varying from industry giants to small private entrepreneurs. Nevertheless, our region keeps its ecological level stable, according to 2005 data. This is undoubtedly the result of both regional ecologists and the local population's careful treatment of their natural environment.

Speaking more specifically about the main results of the Committee of Natural Resources and Environmental Protection in the Leningrad region's activity in 2005, it was the timber complex that gained the most significant rates. Last year, the raw wood processing volume increased considerably

plants in the region submitted by the following companies:

**Electropribor Ltd.** is building a sawmill, "Belaya Gorka," in the Luzhksy district. The supposed date of commissioning is August 2006. The round timber processing capacity is 120 thousand m<sup>3</sup> per year. The output will be edged boards with 14% moisture. The output of the plant will be 60 thousand m<sup>3</sup> per year. The plans include the construction of a glued laminated timber shop.

**IES-Holding Ltd.** is adjusting pre-design solutions considering the recommendations of interdepartmental commission. The enterprise is planning to build a sawmill in the Kirishsky district with a rated volume of processed hardwood sawtimber of 30 thousand m<sup>3</sup> of round timber.

**Ust-Luzhsky Timber Processing Plant Ltd.** is planning to arrange production facilities in the Kingiseppsky district with an output of 50 thousand m<sup>3</sup> of sawn timber and up to 35 thousand m<sup>3</sup> of other timber products; the total round timber processing capacity will be up to 120 thousand m<sup>3</sup> per year.

**PFK Quintex Ltd.** is planning to build a sawmill in the Vyborg district, Leningrad Region. The annual volume of timber to be sawmilled is 60 thousand m<sup>3</sup> of roundwood. The output is to be 49 thousand m<sup>3</sup> of lumber. An additional shop for the production of glued laminated structures is supposed to be built in the future.

**Lyuban Les Ltd.** 000 intends to establish sawmilling production in the town of Lyuban with a rated output of 25 thousand m<sup>3</sup>. The plant will process small-size merchantable wood neglected by other regional sawmills. The supposed volume of timber to be processed (hardwood sawtimber) is up to 50 thousand m<sup>3</sup> of round timber.

**MM-Yefimovsky Ltd.** has started site preparation for the construction of a timber processing plant with the rated output of 500 thousand m<sup>3</sup> of timber per year. The supposed investment is 1,400mln rubles. The commissioning of the plant is planned for 2007. The second construction stage – a plant for the production of glued laminated timber – is to begin in 2007.

Recent years have seen the fast development of the local production of pre-assembled wood structures

for dwelling timber houses; the total finished product output exceeded 1000 dwelling houses per year. The largest house producers were:

- Kompania Rus Ltd. (54,000 m<sup>2</sup> – 360 houses\*, basic types – square log, round log);
- Regionstroy Ltd. (20,000 m<sup>2</sup> – 150 houses\*, basic types – timber frame structure with exterior fiber cement board sidings);
- Scandic Construction Ltd. (20,000 m<sup>2</sup> – 150 houses\*, basic types – timber frame structure with exterior clapboard sidings, 6,000 m<sup>2</sup> – 50 houses\*, basic types – square log, round log);
- CJSC Ditrich Design Concern (10,000 m<sup>2</sup> – 100 houses\*, basic type – timber frame structure with exterior clapboard sidings).

All of these enterprises are oriented in the large-scale manufacture of timber modules and accessories and assembling timber houses on building sites. The most widely used models were high quality timber frame and panel structures using modern insulating materials.

*Galina MALIKOVA*

\* – permanent living house area is up to 150 m<sup>2</sup>





# THE VOLOGDA REGION FORESTS

**The Vologda region was formed on September 23, 1937 and currently is one of the most economically developed regions of the European Northern Russia. Its area is 145.7 thousand square km, which constitutes 0.8% of the total area of the Russian Federation. It borders at the North with the Archangelsk region, at the East with the Kirovsk region, at the South with the Kostroma and Yaroslavl regions and at the West with the Leningrad, Novgorod and Tver regions. Its Northwestern neighbour is the Republic of Karelia. The climate in the region is mildly continental, with long, cold winters and relatively short, warm summers.**

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**The head of the Department of TIC, The deputy governor of Vologodskaya oblast Vladimir Grachev**



Vologda Oblast is a hilly plain, with altitudes above the sea level of 150 m to 200 m. The Oblst has 4,000 lakes, and 1,300 rivers of a total length of over 10,000 kilometers. The Volga-Baltic Channel runs through the region. The natural resources of the region include wood, fluxing limestone, quartz sand, peat and mineral water. Among the natural reserves of the Vologda region is the Darvinsky wildlife reserve, the national park "The Russian North," as well as game sanctuaries, wildlife areas, cranberry and water conservation bogs, protection forests along the rivers and the forests of the green belt's surrounding towns.

The forests are the basis of the social and economic development of the Vologda region. They cover around 70% of the area of the region.

## HISTORICAL BACKGROUND

The life of the population of Northern Russia has always been related to the forests. Until the late 17th century, wood harvesting and primary processing was performed by the peasants mainly for their personal needs. The demands of commerce, industry and urban development and transport led to the increasing demand for timber.

Forestry developed into a separate industry as a result of the development of capitalism. The increasing demand both in Russia and in Europe led to the emergence of major domestic and international timber markets.

The province of Vologda provided very good conditions for wood harvesting: it had large areas of high quality softwood, numerous large and small rivers suitable for timber rafting such as Sukhona, Sheksna, Mologa, Kovzha, Vytegra and others.

The most intensive period of timber exploitation started in the province after 1861 and thus for the past 120 years the province has relatively developed timber exploitation and sales. The intensity of wood use was very low. On average 0.13 cubic meters of timber were harvested from 3.6 acres. At the same time, selective harvesting was also performed near the rivers and roads where the largest and the best conifers were harvested.

The growth of industrial production and the construction of railways in the early 20th century led to the increasing demand for timber.

But at the same time, the market was primarily interested in large softwood. The clear felling at that time was performed only in 30% of the areas designated for cutting.

Most of the timber (93%) supplied outside the province was sent to the timber market in Archangelsk or local sawmills and paper mills and also exported to other countries. The rest was sent to Volga and St.-Petersburg. Inside the province, the main consumers of timber in the early 20th century were the Sokolsk paper mill and twelve sawmills, which processed 250-300 thousand cubic meters of sawlog per year. In total, before World War I, the wood exploitation industry of the Province had harvested around 3 million cubic meters of timber.

The timber industry continued its development in the Vologda region located in the former Province of Cherepovets. According to the data of the Russian industrial and professional census of 1918, there were sawmills and timber processing plants all around the Province of Cherepovets. The census registered 22 timber-processing establishments, which employed 1097 workers (which constituted 44% of the total number of enterprises in the province and one half of the total number of workers at the time of the census). All 22 timber-processing establishments were sawmills; only one of them also had a plywood unit. In 1893, the construction of the railway to the North had begun, which ran across the province, so the manufacturers decided to build industrial timber processing plants in that area.

During the first years after the revolution, the Soviet government made several decisions concerning the restructuring and development of the forestry and timber industry. In December 1918, the Central Forestry Committee (Glavleskom) and local Province Forestry Committees (Gubleskoms) were established. Their purposes were to manage, control and administer the timber industry. This marked the beginning of a slow but steady development of the timber the industry.

The timber operators of Vologda increased the volume of annual timber felling and export by means of organizational development, but also forced the mobilization of peasants into logging operations. Thus in 1923 they harvested 269 thousand Russian cubic fathoms of timber, of which 142 thousand (53%) were firewood. The share of the province

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in the total volume of timber harvesting in the country at that time was 5.8%.

During Soviet rule, the structure of the forests in the Vologda region had changed significantly. While even in the 1950s the coniferous forests still constituted 75% of the Vologda forests, they only accounted for 49%. The forests of the Eastern part of the region where millions of cubic meters of timber used to be drifted along the rivers of Sukhona and Yug have been substantially damaged during the so-called "conditional clear felling." As a result, the Vologda region faced the problem of processing low-quality light hardwood, which naturally replaced the harvested coniferous forests.

### THE FOREST AND ECONOMICS

The Vologda region is rich in forests: the total amount of timber is estimated at 1.6 billion cubic meters, of which 776 million constitute operating stock with 320.4 millions of cubic meters of softwood. The design felling area enables harvesting of 22.3 million m<sup>3</sup> of timber annually. The existence of the transportation system as well as the proximity of the domestic and international timber markets provide good conditions for the development of large timber enterprises in the region.

The Vologda region is one of the most developed industrial regions of Russia. It occupies the second place in volume of the industrial production in Northwestern Russia after St. Petersburg. It also steadily occupies the second place in Russia for volume of the industrial production per capita. Despite the fact that it is the iron industry that is the leader of the regional production, the main growth potential of the Vologda region is linked to comprehensive and dynamic use of its timber resources. It is not a coincidence that in 2005 the timber industry placed third after the iron and chemical industries in production volume. The total volume of timber production in 2004 amounted to 12 milliard roubles.

However, the timber industry has enormous development potential. Despite the large timber resources, the share of the industry in the total production volume in the region is only 7%. Only 40% of the existing raw timber is exploited and in some thickly wooded areas, especially in the Eastern zone, this amount constitutes only 25-30%. Thus, the development of the timber

industry in Vologda has clear perspectives. It is necessary to make the maximum use of resources and the economic potential of the industry, which means intensive development.

Currently the timber industry occupies the second position in Russia in production volume of boards and plywood, the third place in timber hauling, the sixth place in sawn timber production. The region also has the leading position in other areas. The export of sawn timber is growing. New facilities for deep timber processing are launched every year.

Thanks to the well-directed strategy of the regional Government and the consistent implementation of all policies, production volume in the timber industry has been continuously growing for the last 8 years. Recently there emerged substantial new approaches to forest management in the Vologda region. The regional forest sector is a geographically limited group of interrelated companies and suppliers, which are united by the principles of interdependency and complementarity. The development of the "Forest cluster," in form of a large stable agglomeration of timber enterprises and related production is one of the most promising development trends in the Vologda region.

### DEVELOPMENT STRATEGIES

Currently, the Government of the Russian Federation pays a lot of attention to the timber industry's problems. The meeting of the Government, which took place in November 2005, was expected to produce a development strategy for the timber industry and to prepare necessary measures. Although at this meeting it was decided to postpone actual decisions, the Chairman of the Government, Mikhail Fradkov, expressed clear intentions to change the situation. The Government of the Vologda region actively participates in the development of the Federal Program for the development of the timber industry of the Russian Federation. Thus it has prepared developmental suggestions that were presented by the Governor of the region, Vyacheslav Pozgalev, at the meeting of the Government of the Russian Federation.

The logic and structure of the development strategy for the timber industry has to consider the place and the role of the timber industry in economics and the community, its goals in long-term prospective and also possible development scenarios. While such programs

are being developed at the federal level, the regions follow their own developmental programs. The Vologda region has developed and is currently implementing a strategy of controlled development of the timber industry. It includes the development of the industry in four main directions: 1) efficient use of forest resources including efficient exploitation of forests and full forest management, including reproduction, certification and the protection of forests, 2) The development of the logging industry; 3) the development of wood processing and its complex use due to investments; 4) organizational work aimed at the development of the timber industry including spatial planning (development of areas of economic development) and systematic economic development.

According to developers' forecasts, the implementation of the strategy of controlled development of the timber industry in the Vologda region will create a profit of 1.5 milliard roubles by 2008, with the income to the budget being 2-3 milliard roubles. The share of the timber industry in the total industrial production of the region will double, reaching 15%. Considering

that the leading industry in the Vologda region is the iron-and-steel industry, this will be a very good result for the timber industry.

### WOOD ROAD CONSTRUCTION

The wood road has always been a cornerstone of the economy, not only for the logging industry, but all of forestry. A developed network of permanent roads is a prerequisite for the efficient use of forest resources and their preservation and reproduction. However in Russia, the density of the roads per hectare is 8 times less than in the developed countries. Therefore, the timber industry unavoidably faces the problem of an insufficient wood road network.

Over the last few years the wood roads in the Vologda region were mainly built at the expense of large industrial enterprises in insufficient quantities: the production volume was 45-50 km per year, which is 7-8 times below the level it was in 1990. In order to make full use of forest resources and technical capacities, at least 10-15% of the production volume should be spent on road construction.

### HOLDING COMPANY "CHEREPOVETSLES"

is one of the largest timber industrial companies in the North-West of Russia. Company's activities are approved by leading environmental organizations, such as "Greenpeace" and "WWF".

The company annually produces more than 1,2 million cbm of round timber and over 70 thousand cbm of sawntimber. High quality of the products are acknowledged both by Russian and foreign customers. The company received the certificate on conformity to ISO 9001 standards for quality management system.

The largest timber logging company within the structure of Cherepovetsles "Belozersky LPH" was certified according to the standards defined by FSC FM and CoC. JSC "Cherepovetsles" also received FSC CoC certificate. At present the company is preparing for group voluntary certification of all the enterprises incorporated into the structure of the holding company.

**CHEREPOVETSLES** 

Timber industrial holding company "Cherepovetsles"

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Wood road construction leads primarily to the capitalization of forest resources, that is, to a major increase in their market value. The wood roads are also necessary for the operations of logging camps. Today the wood roads are often built without following the classic western scheme, but depending on the existing social and economic problems. The government of the Vologda region considers the development of the wood road network to be of paramount importance. Therefore, the Governor of the region, Vyacheslav Pozgalev, suggested to the legislative authorities of the region that they allocate the funds in the 2005 budget for the construction of wood roads. In the Chagodoschensky district, 57 million roubles were invested into wood road construction as a part of a pilot project, which made it possible to harvest an additional 80 thousand cubic meters of timber.

In general, the project, "The Wood Road Construction in the Vologda Region," involves budget investments of 1.5 milliard roubles,

and will make the logging much more cost efficient. This initiative is to be supported by the Government of the Russian Federation. The forest resources are state property and thus it is the state that benefits from the increase in their market value and the resulting solution of social and economic issues.

### FOREST MANAGEMENT

Beginning January 1, 2007, according to the amendments to the current Forest Code of the RF, the management of all Russian forests, apart from the one explicitly mentioned in the Forest Law, is transferred to the subjects of the Federation. Therefore, the regional governments have a direct interest in correct and efficient forest management in regional forests. Apparently, the subjects of the Federation need to work hard to adopt the management system and to develop a corresponding structure at the regional level.

The Vologda region already has experience

with such work, as do other Russian regions. Earlier last year the Forest Department of the Vologda region took over the management of all forests previously controlled by the agricultural organizations of the region. The rural forests constitute more than one third of all forests of the Vologda region and therefore the transfer process was complicated and lengthy, but the personnel and management of the forestry enterprises ensured the stable work of their organizations during this period. The Vologda Forest Department has developed 30 regional regulations for the rural forests as well as development of the program until 2010.

Furthermore, experience shows that the forests transferred to the subjects of the Federation are used and preserved more efficiently. For example, the amount of forest offences in rural forests has decreased over the 9 months following their transfer to the regional level by 32%, the detection increased by 42% and the material damage decreased by 15 million roubles. No major fire occurred during the fire season and the total expenses for fire fighting amounted to 82 thousand roubles, while the expenses for two major fires in the forests of the Forest Management Agency for the Vologda region constituted 2.8 million roubles. During the same period the profitability of standing woods also increased with the average price of a cubic meter increasing from 36 to 48 roubles. The rural forests have also been subject to surveying for the last three years.

Thus, the transfer of the forest management to the subjects of the Federation is a justified and appropriate measure. During 2006 the Forest Department of the Vologda region will carefully develop all possible conditions, regulations and standards, that is, all regional laws, so that it will be able to ensure the smooth transfer of the forest management to the regional level on January 1, 2007. This work will lead to the creation of a management structure that will ensure even more effective use of the Vologda forests.

### TIMBER INDUSTRY

The Vologda wood enterprises perform the entire cycle of wood processing, producing sawn wood, furniture, paper, cardboard as well as wood chemicals. They manufacture everything from matches to houses. Currently there is an active development of all kinds of wood processing.

The Logging Industry is the basis of the whole timber industry. The logging in the Vologda region is performed by numerous enterprises including the holding companies, "Vologodskie lesopromyshlenniki," and "Cherepovetsles," "LPK Kipelovo," "Vologdasprom Corporation," "AO," "Bely Ruchey," and others.

2005 was a difficult year for the logging industry. The situation was particularly challenging in the Northeastern areas of the region, where there are no large wood processing enterprises, including hardwood. Therefore, the logging enterprises had to dispatch their production to the Kotlas paper mill, which was imposing its own dumping prices, being a monopolist. The measures taken by the regional Government could not fully solve the problem.

Despite these difficult conditions, some of the logging enterprises continue to develop. In 2005 they harvested about 6.7 million cubic meters of wood. They also bought new equipment for bucking logging and training the operators. Considering the difficult situation in the European market, the loggers of Vologda are changing their supplies and switching to the domestic market.

Sawn Wood Production is one of the most developed industries of forestry in the Vologda region. Almost all enterprises of the vertically integrated timber industry structures operate in this area (e.g. Belozersky LPKh, Sokolsky DOK) as well as such enterprises as OOO Lespromsever, OOO Premium-les, SP Profile, ZAO Cherepovetsky FMK, OOO Kharovsklesprom, OAO Agrostroykonstruktsiya, ZAO Soldek and others.

Over the past few years the sawn wood production volume has shown an annual growth of 100-140 thousand cubic meters. In 2005 the Vologda region enterprises produced more than 1 million cubic meters of sawn wood. Although in 1990 the production volume was almost twice as large, only 10% of the sawn wood complied with the European standards and was suitable for export. Currently more than 80% of sawn wood complies with the Western standards, because it is produced by the chipping headrigs. Thus, the quality and the merchantability of sawn wood production has significantly exceeded the level, even before the start of the reforms. Furthermore, over the last few years the range of hewed timber and

**Belozersk port, shipment of timber for transportation by water**

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glued conduits was substantially expanded. There are more than one thousand headrigs operating in the region.

Sawn wood production has good potential. According to experts, it is possible to increase the production of high quality square-sawn timber to 1.6 million cubic meters over the next 5 years.

Plywood and Board Production in the Vologda region is represented by such enterprises as Cherepovetsk Plywood and Furniture Factory, with a production volume of more than 1 milliard roubles, Sheksna fibreboard factory, Veliky Ustyug plywood factory, "Novator," Monzensky DOK, OAO Severtara, OOO Sotameko Plus and others.

Plywood production in 2005 was around 200 thousand cubic meters, which is three times more than before the reforms.

Board production has also been developing recently. The chipboard and fibreboard production volumes have reached Soviet levels. New capacities for MDF boards have been launched and there is a possibility of OSB production. The chipboards production volume in 2005 was more than 500 thousand cubic meters, which substantially exceeds the level of 1990. At the same time, quality and lamination significantly improved the products merchantability. The production volumes of other kinds of boards in 2005 were 24.6 square meters for fibreboards and 13.3 cubic meters for cement boards.

The Construction of Wooden Houses is also rapidly developing in the Vologda region. The main manufacturer of wooden houses is the Sokolsky DOK, which forms part of ZAO "Natsionalnaya lesoindustrialnaya kompaniya." Today it is the largest producer of square timber houses, frame houses and bearing-wall houses in Northwestern Russia. The manufacturing capacities allow processing of up to 300 thousand cubic meters of lumber and the production of 25-30 thousand square meters of glued square timber houses and 10-15 square meters of frame houses per year. The production capacities are not fully used and as a result there is the potential for production growth. Wooden houses are also produced in smaller volumes by small and medium businesses of the Vologda region. In 2005, the total volume

of industrial production of wooden houses was 26 thousand square meters. Apart from this the wood enterprises of the Vologda region also produce window and door units. In 2005 the production volume for door units in the region was 186 thousand square meters and 112 thousand square meters for window units.

Pulp and Paper Production in the Vologda region is represented by two enterprises: Sokolsky paper mill and OOO Drevplit and is currently undergoing a crisis. In 2005 the production volume for pulp was 36 thousand tonnes, 21.5 thousand tonnes for paper and 51.8 tonnes for cardboard.

Despite the fact that the cardboard production has significantly (5 times) increased in comparison to 1990, the situation with the pulp and paper factories in the region is more complicated. The Vologda pulp and paper factories reduced the volumes of pulp and paper production. The Sokolsky pulp and paper factory, which used to be the leader of the timber industry in the Vologda region and produced 10-15% of the total volume of timber products, is now undergoing a serious economic crisis. This is related to outdated production technologies and the need for modernization.

Despite these difficult conditions, pulp and paper production is still developing. A waste paper line was launched at the OOO Drevplit located in the town of Sokol and the capacity of two paper machines is to be increased to reach 5,600 tonnes per month. The pulp production is also expected to reach 4,300 tonnes per month, while a third corrugated paperboard machine is to be launched as well as fibreboard production with refined a surface at a production volume of up to 800 thousand square meters per month.

Biofuel – The Wood Pellets – is a totally new but very promising direction of development for the timber industry in the Vologda region. The biofuel production has great potential, because most of the European countries are planning to switch fully or partially to environmentally friendly fuel and thus there will always be markets for this production. The development of pellet production is also important for the Vologda region from the point of view of the efficient use of lumbering waste and low quality hardwood, for which there is no demand at the moment.

The first company to start the production of biofuel in the Vologda region was the "Vologdasprom" corporation. Until now the corporation has already built two production facilities in Vologda and Veliky Ustyug with an overall capacity of 20 and 50 thousand tons of wood pellets per year and it is planning to build three more factories, including the one in Totma with a production capacity of 50 thousand tons of pellets per year.

The wood pellets are also produced by OOO Lesprom (Cherepovets). New factories are being built in Kadnikov and Verkhovazhye. There are future plans to build more such enterprises in other areas of the region.

Power Generation from Wood is one of the most promising directions of development of deep wood processing. Already now, all wood enterprises have boiler houses that use wooden waste and supply energy to the drying tunnels and other production areas. This kind of heat generation is used more and more widely: there is a heat power plant operating at the plywood factory Novator that uses the production waste, and in 2006 the first stage of a similar plant will be launched in Bely Ruchey. These plants, being more large-scale power suppliers, will serve not only industrial, but also social purposes by providing heat to the communities where the wood enterprises are located.

Match Production is represented in the Vologda region by only one enterprise: the match factory "FESKO". However, it is the largest producer of matches in Northwestern Russia. The total volume of match production at this enterprise is more than 20% of the total production volume in Russia

The factory has been gradually increasing its production potential over the past few years. In 2005 ZAO FESKO produced about 1.5 thousand standard matchbox cases, which is more than during the Soviet times. Now the enterprise shows stable operation and despite certain problems with sales, the production volume remains at the same level, which is sufficient for the normal workload of the personnel.

Furniture. Furniture production is represented in the Vologda region by several enterprises. They are the furniture factory Styling, which currently cooperates with Ikea and is one of the leading furniture enterprises in the region.

The Vologda branch of OOO Nord-class, which focuses on school furniture production, is also gradually developing.

## FOREST MACHINE BUILDING

The Vologda region is one of the few regions that possesses not only forest resources, but also several machinery enterprises that focus on the production of machinery for the timber industry. There are three large forest machinery producers in Vologda itself: OAO Vologodsky stankozavod, OAO Severny Kommunar and ZAO "Vologodsky Eksperimentalny Zavod Derevoobrabatyvayuschikh Stankov." These companies are sufficiently large and play an important role in town and regional economics. However, they are now facing difficult times.

In Soviet times the machinery factories were focusing on large-scale production and thus large and wealthy customers. The situation has changed now: the processing volumes have decreased and most importantly, many enterprises, especially the new ones, need new equipment that would take less space and ensure the quality of complex processing.

The machinery enterprises listed above produce the equipment for mechanical wood processing. Now, this is the dominating and most plausible direction in the development of timber industry in the Vologda region, because the lumbering requires much less investments than, for

### Lumber production (Sokolsky DOK)





example, pulp and paper factories, for which millions of dollars are needed. The current trend is to use both imported and Russian equipment for the investment projects. Some enterprises opt for the best combination: western core equipment and Russian auxiliary equipment (mainly produced in Vologda).

The development of the forest machinery industry in Russia and in Vologda in particular is especially important for medium and small wood processing enterprises, which cannot afford expensive western equipment. One of the main goals of the machinery enterprises is to improve the quality and to develop new equipment that would satisfy the needs of the wood processing industry.

### VERTICALLY INTEGRATED STRUCTURES

It is hardly surprising that the success and prosperity of the timber enterprises highly depend on the development of vertically integrated structures. There are four such enterprises operating in the Vologda region.

OAo Wood Processing Holding Company Cherepovetsles was founded in 1994. The holding includes 5 enterprises involved in wood processing in the North-Western part of the Vologda region: OAo Babaevsky LPKh, OAo Belozersky LPKh, OOO Belozerskles, OAo Vashkinsky LPKh, OOO Belousovoles. The holding employs 3,200 people.

The annual production volume of Cherepovetsles is 1.2 million cubic meters of lumber of all assortments, more than 70 thousand cubic meters of sawn softwood, 5 thousand cubic meters of sawn hardwood and 2 thousand cubic meters of aspen veneer.

Environmental safety is an important part of the industrial policy of the company. According to the company's environmental policy, the development of cutting areas follows the principle of sustainable forestry. More than 30% of harvesting is done using the Scandinavian technology that ensures a similarity to the natural tree generation change. The harvesting enterprises take an active part in forest recovery. The company plants up to 4,000 fir trees every year. Every year more than 3,500 hectares of the cutting areas are thoroughly cleaned from the

groundwood and the necessary soil preparation is performed.

The holding's work methods are fully approved not only by the environmental services of the consumers, but also by the leading environmental organizations including Greenpeace and the World Wildlife Fund. In 2004, the company joined the Association of environmentally responsible harvesters of Russia.

The Cherepovetsles holding takes an active part in international projects. In 2003, the holding joined the Russian-Finnish project, "We Share the Responsibility," whose aim was to improve the economic, environmental and social components of wood harvesting in Russia. In 2004, Belozersky LPKh submitted materials for the evaluation of the social impact of harvesting over the life of local population to the researchers of Yvaskyla University in Finland. The research for this project continues. Currently the holding participates in a joint Russian-Danish project, "The Legality of Russian Timber," initiated by the World Wildlife Fund and WWF of Denmark.

The Cherepovetsles holding has been three times awarded the title of the Best Exporter of the RF (1997, 1998 and 2001). The company has won numerous medals and diplomas from the exhibition, "The Forests of Russia." In April 2005, it was awarded the National Entrepreneurship Award, "Gold Mercury," in the category, "The Best Exporter of Consumer Goods," and awarded a medal and a diploma for its contribution to the development of entrepreneurship in Russia. In the same month the company won the timber industry award Lesprom.ru in the category, "For the Efficient Forest Exploitation."

In November 2003, the rating agency "Expert RA," together with WWF, conducted an independent eco-rating and assigned to the Cherepovetsles the high class of environmental responsibility, Eco-A. In August 2005, after the second evaluation, the rating was increased to Eco-A+, denoting a company with a high level of environmental responsibility and minor environmental risks. According to the experts of "Expert RA," "The high level of forest exploitation in OAo LKhK Cherepovetsles and the company's active interest in certification of its wood processing enterprises had a positive impact for the Eco-Rating."

ZAO Holding Company "Vologodskie lesopromyshlenniki" runs 11 production units, of which nine are involved in harvesting and two in lumbering and wood processing. The holding has 4,600 employees, of which 800 work in lumbering and wood processing. The felling register rented by the holding consists 40% of softwood and 60% of hardwood.

The turnover in the timber industry in 2005 was around 2 milliard roubles. Since 2001 the harvesting volume of the holding company "Vologodskie lesopromyshlenniki" increased from 960 to 1420 thousand cubic meters, that is, by 1.5. The production volume in lumbering and wood processing increased from 180 million roubles in 2001 to 290 million roubles in 2005. After the completion of the first stage of the reconstruction of Kharovsky LDK, the timber processing volume will reach 250 thousand cubic meters per year and the production volume for lumbering and wood processing will almost double, amounting to 570 million roubles.

The automation of processes will steadily increase as foreign harvesting technologies are introduced, such as automated bucking. The holding has purchased five harvesting units from Timberjack (John Deer) and one from Volvo.

In 2004, the holding sold 44% of its shares to Thomesto, the subsidiary of the Finnish Metsaliito Group. This was done in order to implement the wood-processing project in the village of Suda in the Vologda region and to improve the financial stability of the holding company. The participation of the Metsaliito Group to a certain extent raised the status of the company, Metsaliito also is the holding's largest customer and accounts for 26% of its total sales.

Two projects are implemented in cooperation with Thomesto. First, the sawmill Suda, for which there is already a secured site and a business plan. The sawmill will have a capacity of 200-250 thousand cubic meters of lumber per year. The construction work will start in 2006. The site also allows for the building of a pulp and paper factory, but the final decision has not yet been made and this possibility is currently being considered. The second project involves the construction of lumbering and wood processing facilities at OOO Kharovsklesprom. Currently the enterprise has already reached a technologically new level of production.

ZAO "Natsionalnaya lesoproductivnaya kompaniya" is the largest vertically integrated holding and is one of the leaders in the Russian timber industry. NLK has substantial production capacities both for harvesting and for wood processing and operates according to the global standards using the most advanced principles of corporate management. The harvesting and wood processing enterprises of the holding are located in strategically important forest areas of the European part of Russia: in the Vologda and Archangelsk regions, and the Republic of Karelia. Five of the 8 NLK enterprises are in the Vologda region. They are LPK Kipelovo, Sokolsky DOK, Kovzhinsky LPKh, and ZAO Severlesprom. This is why the company's further development plans are mainly related to the Vologda region.

OAo Lesopromyshlenny Koncern Kipelovo, which forms part of the ZAO Natsionalnaya Lesoproductivnaya Kompaniya holding, was founded in 1996 and is the managing company for harvesting. The company has eight branches in Kirillovsk, Charov, Syamzha, Kadnikov, Kaduysk, Babaevsk, Vologda and Vozhegodsk and performs harvesting activities in ten districts of the Vologda region. It performs the operational management of the harvesting enterprises in the holding: PO Vytegra (ZAO Kovzhinsky LPKh, ZAO Severlesprom), OAo Ustyales. The total area of the forests rented by the holding is 771 thousand hectares with an estimated cutting area of 1318 thousand cubic meters, including 178 thousand hectares with 580 thousand cubic meters of the estimated cutting area for OAo LPK Kipelovo. The harvesting is performed by use of bucking technology and computerized Timberjack (John Deer) shortwood harvesters, Ponsse, harvesting units harvester-forwarder and by subcontracting. In 2003, following the contract with Timberjack (now John Deer) the holding purchased harvesting equipment for a total sum of 1,445 thousand euro, and in 2004, it purchased 8 more units from the Finnish company Ponsse for a total sum of 3,400 euro. Thus, in 2005, the OAo LPK Kipelovo used 15 technologically advanced harvesting units.

OAo Corporation Vologdalsprom is one of the largest timber industry enterprises in the region. Today it includes 10 different business units operating in harvesting, logging, subsequent wood processing and the production of wood-chemical products. The corporation continuously increases production volumes and creates new workplaces. Over the last few years the



corporation enterprises have been steadily increasing their capacities and main performance indicators.

The corporation produces lumber, soft and hard sawlog, soft and hard pulpwood, veneer block, match block, mine timber and sawn wood. Recently, Vologdalesprom has been actively developing biofuel production and it plans to establish in the Vologda region 5 factories for wood pellet production. Two of them, in Vologda (at Vologda plant of wood chemical products) and Veliky Ustyug, are already in operation.

### CERTIFICATION

The certificates of compliance of the forest management system with the international FSC standard allows a timber industry enterprise to be more confident about its future because there is a high demand for the FSC approved production in the environmentally aware European countries. This certificate is often a necessary condition for further cooperation.

The first company to undergo certification in the Vologda region was LKhK Cherepovetsles. In 2003, the company successfully passed the environmental audit performed by the European Bank for Reconstruction and Development. In August 2004, Belozersky LPKh (the largest harvesting enterprise within the holding) was one of the first companies in Northwestern Russia to obtain the FSC certificate of compliance of the forest management system with a total area of 220 thousand hectares. In March 2005, the production of the Belozersky LPKh sawmill in Nizhnyaya Mondoma obtained a certificate for the CoC chain. Other holding enterprises are to be certified in the near future. In February 2005, OAO LKhK Cherepovetsles obtained the ISO 9001:2000 certificate of compliance of quality management systems for the following services: preparation, execution and full support of contracts for timber supplies, including production management, storage, dispatching and custom clearance of timber. The certification was performed by Det Norske Veritas. In May 2005, the Holding company Cherepovetsles successfully passed the audit of compliance with the supply chain standard 2.0 GFA, thus closing the supply chain for the FSC certified products.

Other lumberers in Vologda follow the same trend, and other enterprises of the region also undergo certification. AO Bely Ruchey also

passed FSC certification, while Vologodskie Lesopromyshlenniki holding tried the Russian system of voluntary certification at one of its enterprises OOO Vozhega Les.

### INVESTMENT CLIMATE

The full development of the timber industry is only possible with investments. The investment appeal depends on multiple factors. The investors, especially the foreign ones, do not operate in the regions with unstable, unpredictable situations or where the authorities do not cooperate with the business world. The Government of the Vologda region tries to ensure the most favourable conditions for the investment projects, because any investor creates workplaces, uses working assets, pays taxes and thus contributes to the economic development of the region.

According to the rating agency, "Expert RA," over the last 10 years the Vologda region has been one of the leaders in the category of regions with lower investment potential and moderate risk. Although the investment potential is average for the general Russian level, the investment risks are continuously maintained at a low level. The fixed capital investments into the timber enterprises of the region over the past few years amounted to more than 300 million dollars.

The RA experts note the high industrial and financial potential of the region resulting from the highly developed production and processing industries. The Vologda region is gradually becoming more competitive at the investment market. If six years ago it shared the same level of investment risks with "mediocre regions," now the Vologda region competes with such traditionally attractive regions like Moscow, the Nizhny Novgorod region, the Rostov region, Tatarstan and Bashkortostan.

Nevertheless, such areas as the support of innovations, further implementation of the program of economic diversification, and the reduction of criminal and environmental risks are still important for further development of the Vologda region. According to the experts, the development of a system of measures in these areas will preserve the high quality and stability of the investment climate in the Vologda region and secure a permanent place in the top ten most attractive Russian regions.

### THE NATIONAL RUSSIAN EXHIBITION, "THE FORESTS OF RUSSIA"

The annual national Russian Exhibition, "The Forests of Russia," is one of the ways to stimulate the development of the timber industry. The tenth exhibition took place in the Vologda region last year.

This event serves several purposes: advertising, economics, commerce, and others. "The Forests of Russia," like any other trade exhibition, provides a good opportunity for advertising the enterprises and their production and allows the participants to present themselves and establish personal contacts with business partners.

Furthermore, the exhibition helps to solve some actual problems of the timber industry. Personal meetings and discussions at the seminars and "round tables" provide a good opportunity for developing joint solutions for the further development of the industry. Another important aspect of the exhibition is the opportunity to see and show the modern timber industry machinery and to present new technologies for harvesting

and wood processing. Thus, the exhibition, "The Forests of Russia," contributes to the modernization of manufacturing equipment.

The exhibition also supports the community of the Vologda region by contributing to the city and regional budget in exchange for the use of local infrastructures, profitable activities of local manufacturers and service providers and income from the exhibition events. Furthermore, "The Forests of Russia" exhibition always includes events that attract the attention of the general public to the timber industry, for example, the exhibition of wooden constructions and Vologda crafts that took place at the tenth exhibition. Some of the exhibited items were later presented to the local establishments for children.

Thus, the National Russian Exhibition, "The Forests of Russia," makes an important contribution to the development of economics both in the Vologda region and in Russia in general. One can say that it constitutes an example of "timber cluster," which should exist in every developed forest region.

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**The MONZA Group activities involve all stages of wood-processing: from planting, logging to production and sales of the final product. Major production capacities are located at the "Monzensky DOK" company (Vologda Region)**

**Manufactured products:**

- Laminated wood participle boards for furniture
- Edged sawn wood of export quality
- Planed patterned products of natural softwood for interior and exterior finish
- Glued wood articles for furniture and ladder making
- Glued balk for wood constructions of various types of buildings

All products are made of softwood of the Russian North



# KARELIA: HABITAT OF THE FOREST

## GENERAL

The Republic of Karelia is a part of the northwestern Federal District of Russia belonging to the far northern regions and similar areas. As of January 1, 2004, the territory of Karelia including the water areas of the White Sea gulf, the Ladoga and Onego lakes, was 180.5 thousand km<sup>2</sup>. The population is 708.7 thousand people; its density is 3.9 persons per km<sup>2</sup>.

In the west, Karelia borders Finland, in the south – the Leningrad and Vologda regions, in the north – Murmansk, in the east – the Arkhangelsk region, in the north-west it is washed by the White Sea. The republic stretches from the north, southwards, and its length is about 660 km. According to the State Forest Inventory, the Karelian forest area as of January 1, 2005 was 14,824.1 thousand ha (i.e. more than 50% of the total territory of the republic). Nearly one third of these forests are bogs and wetlands.

The regional timber industry accounts for about 40% of the region's industrial output. Timber companies employ nearly half of all persons in the Karelian industry. These enterprises possess more than 41.3% of the region's industrial assets. Karelia's share in the national paper production is 22.2% and more than one third in newsprint. In 2004, exports were 94.7%, of the total production volume of Karelia's timber industry. As for commodities, the largest part of the region's export costs was brought by un-edged timber (58.9%).

## FOREST RESOURCES

According to the Forest Code of the Russian Federation (approved by the State Duma on 01.22.1997, read with Federal Law № 116-FZ of 07.25.2002, № 171-FZ of 12.10.2003, as amended by Federal Law № 194-FZ of 12.30.2001, № 176-FZ of 12.24.2002, № 186-FZ of 12.23.2003, № 199-FZ of 12.29.2004, № 199-FZ of 12.31.2005) Russian forests are federal property (Art.

19). Meanwhile, Federal Law "On Introducing Amendments to Some RF Legislative Acts in Connection with Perfection of Division of Powers," № 199-FZ of 12.31.2005 prescribes the transfer of forests to Russian Federation subjects starting from 1.01.2007 for exercising the rights of property, use, management, protection, guarding and regeneration of the Federal Budget's account (Art. 15). Most Karelian forests (96.9%) are federal property, which aggravates the problems of forest use, such as the transition of forestlands, allocation of land strips for forest road construction, introduction of regional forest use rules, etc. However, the neighboring northwestern regions have been much more successful in handling these matters than Karelia. For example, the Natural Resources Department of the Vologda Region permitted low-quality aspen trees to remain during harvest, because cutting these trees is economically and environmentally unfeasible. Nevertheless, since the beginning of 2006, representatives of the Karelian government have been holding consultations with regional timber companies regarding work under the process of the partial decentralization of forest management. The condition of regional forest resources as well as problems and prospects of the Karelian timber industry after 2007 were discussed at the seminar "Regional Opportunities of Forest Management in the Republic of Karelia: Problems and Prospects," which took place on January 25, 2006.

Experts proved that to make reliable forecasts of the development of the Karelian timber industry they will need a reappraisal of available information on the republic's forest resources aimed at specifying the areas of non-productive and economically inaccessible stands in the forest funds of Karelia to be excluded from harvesting. At present, the federal forestland area in Karelia is 14.5mln ha (82% of the region's area), including the forested area of 9.2mln ha (Table 1).

The total area of forestland decreased by 243 thousand ha compared with the year of 1993 (See Table 1), meanwhile the forested area expanded by 251.3 thousand ha or 2.8%. The average annual wood increment is 13.6mln m<sup>3</sup>. Forest composition (Fig. 1) is characterized by the dominance of the softwood species (88.1%), including pine – 5.9mln ha (64.5%), spruce – 2.2mln ha (24.2%) and birch – 1mln ha (10.5 %).

The standing stock (Fig. 2) is 910.38mln m<sup>3</sup>, 28.3% of which are forests of Group I, 30.9% – forests of Group II, 40.8 % – forests of Group III.

Exploitable forest stock is 80.3% (12.8 % – forests of Group I, 29.1% – forests of Group II, 38.4% – forests of Group III).

Distribution of age classes in Karelian forests (Fig. 3) is uneven: coppices occupy only 38.7% of the forested area, mature and over-mature stands – 31.8%, middle-aged stands – 21.9%, a vast deficit of maturing stands is observed – only 7.5% of the total forested area, which hinders harvesting. The consequent 3.5 times reduction of the allowable cut will require the enhancement of intermediate cuttings.

The current deficit of maturing stands resulted from intensive clear cuttings in the mid-20th century. In the 1950-60's, the Soviet Union felt an acute need to use timber to restore and develop the national economy. Karelia, with its considerable timber stock and close proximity to the center of the country, was suitable for launching intensive harvesting schemes. Karelia was oriented in the large-scale harvesting of roundwood performed by temporary logging enterprises while the processing of harvested timber was done in the central part of the country. In the 1960's, Karelia registered an historically high volume of harvesting – more than 18mln m<sup>3</sup>/yr, which exceeded the sustainable yield prescribed for those conditions (Fig. 4) and led to the reduction of the industrial forest resource base.

Table 1. Basic Forest Fund Indicators of the Republic of Karelia

Year	1983	1988	1993	1998	2003
Total area, mln ha	14.84	14.78	14.77	14.76	14.53
Including forestland, mln ha	9.61	9.63	9.66	9.70	9.54
Including forested area, mln ha	8.82	8.97	8.98	9.27	9.23
Stock, mln m <sup>3</sup>	781.27	807.24	848.61	919.23	910.38

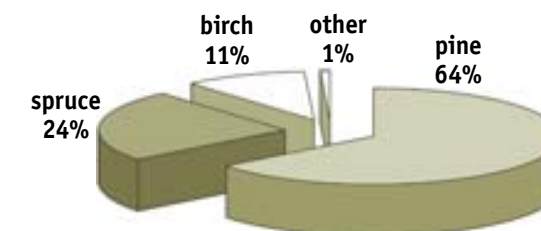


Fig. 1. Composition of Karelian Forests

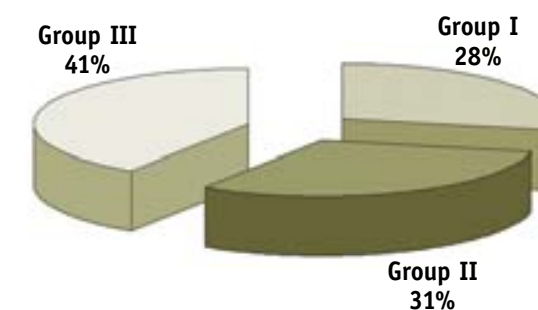


Fig. 2. Stock Distribution by Forest Groups in Karelia

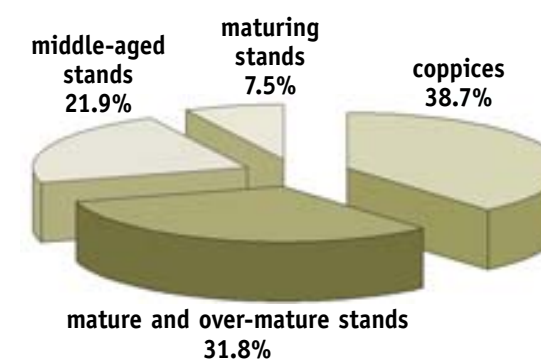


Fig. 3. Distribution of Karelian Forest Stands by Age Classes

The major problems regarding the regeneration of the forest resource base in Karelia arise out of severe climate and poor Karelian soils, resulting in relatively low forest productivity. The forest fund is characterized by the dominance of medium density stands of yield class IV, with a current increment from 1.2 to 1.5 m<sup>3</sup>/ha (in



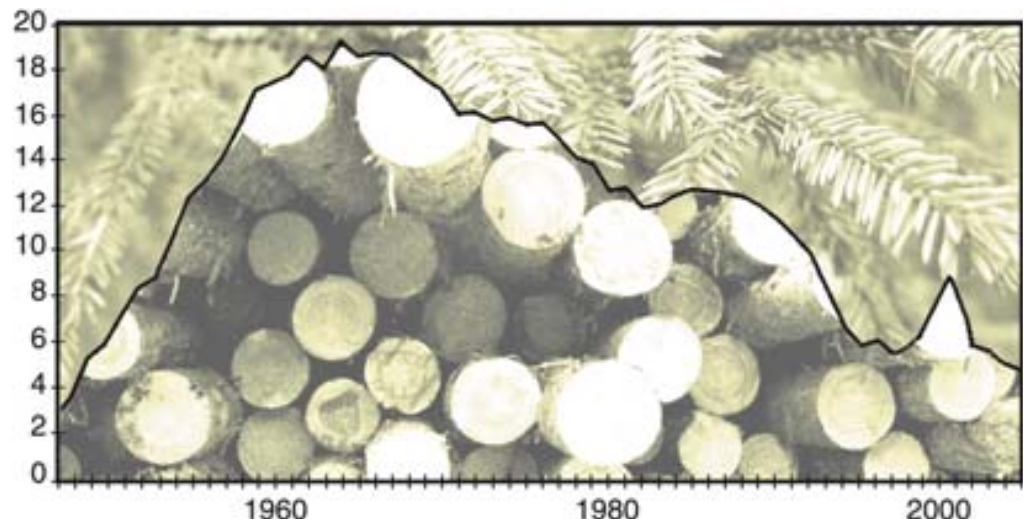


Fig. 4. Harvesting Volume in Karelia, mln m³/yr

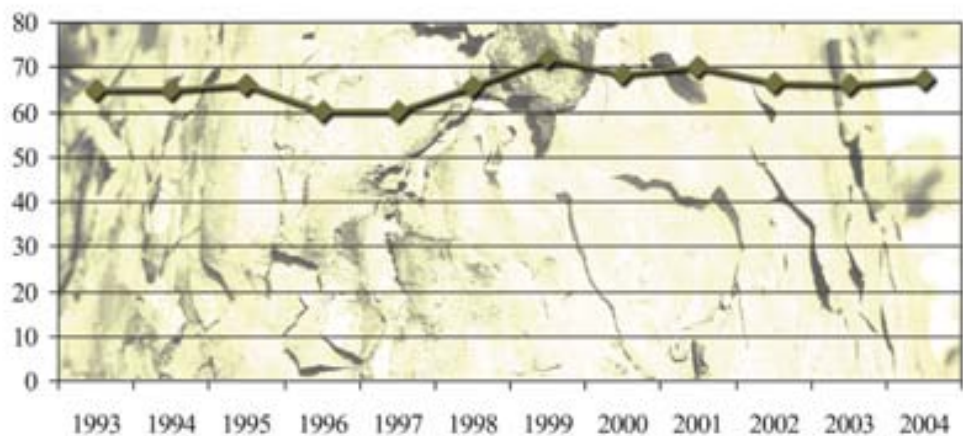


Fig. 5. Implementation of Allowable Cut in 1993-2004 (%)

neighboring Finland, the increment of wood exceeds 3 m³/ha). The average stock per hectare of forested lands in Karelia is 98.7 m³; of mature and overmature stands: 145.6 m³. In 1990, the Karelian allowable cut was 10.6mln m³, in 1995 – 8.820mln m³ and in 1998 – 9.492mln m³. For the period from 1990 to 1998, taking the overall allowable cut reduction by 11.5%, the most significant decrease referred to conifers (by 14.1%) while the soft deciduous species' allowable cut grew by 6.9%. During that period

both softwood and hardwood management units were underused (from 12.5 to 41.3%) (Table 2).

As the Karelian Forestry Agency reported in 2004, the allowable clear cut was 8.9mln m³, and the harvested portion of allowable cut was 6.1mln m³. For the period from 1997 to 2004 the allowable cut implementation gradually increased from 60.3% to 67.3% (Fig. 5). The average annual volume of timber harvested

Table 2. Implementation of Allowable Cut in 1990, 1995, 1998

Year	Allowable Cut, Mln m³			Actual Cut, thsd m³			Implementation of Allowable Cut. %		
	Total	Softwood	Hardwood	Total	Softwood	Hardwood	Total	Softwood	Hardwood
1990	10.60	8.74	1.86	9.27	8.18	1.09	87.5	93.6	58.7
1995	8.82	7.01	1.74	5.97	4.83	1.14	67.6	68.3	65.4
1998	9.49	7.50	1.99	6.22	4.83	1.39	65.6	64.4	70.1

per hectare of Karelian forested lands is 0.72 m³, which exceeds the corresponding national average (0.13 m³), but is 4 times less than the average in Finland (2.8 m³).

The complete implementation of the allowable clear cut may bring about 3mln. m³ of coniferous sawn timber; 0.7mln m³ of birch sawn timber; 2mln m³ of pine pulpwood; 1.4mln m³ of spruce pulpwood; 0.5mln m³ of birch pulpwood. In the meantime, official data on the allowable clear cut for a number of FMUs (leskhozoes) are to be specified. For example, random audits of the forest management in forests of Group III in the Pudozhsky and Loukhsky districts performed by a group of non-governmental conservation organizations revealed discrepancies between prescribed and empirical figures (up to 200%) including the economic accessibility of low-volume trees on high and wetlands.

It was proved that the available exploitable stock is uneven regarding economic conditions and development opportunities. Most stands located along overland and water routes are intensively used. On average, about 20% of mature forests in the region are represented by undercut blocks and low-quality and deciduous stands on cutover areas. These types, in aggregate, make about 65-70% including low-density, wetland, mature and old-growth stands. This will entail the deterioration of the forest resource base due to the depletion of coniferous forests and the need to use low-productivity stands. In general, 15-20% of forested lands are underused because of the poor transport infrastructure of the territory and limitations placed by strict environmental requirements (mainly referred to forests of Group I and some other forest categories).

Taking into account the conditions and dynamics of forest resources at particular enterprises, a reduction of the allowable cut may be expected in West and North Karelia in years to come, while in the south and central parts where harvesting has been performed since the 1930's, the allowable cut has a tendency to increase. The allowable selective cut (tending, selective salvage cuttings, regeneration cuttings, etc.) in Karelia is 2.4mln m³. The economically viable volume of intermediate cuttings is 1.8mln m³; the portion of used economically accessible resources does not exceed 25%. The volume of intermediate harvest may be increased by 30%, provided an adequate road network is

constructed. 100% use of economically accessible resources will supply additional volumes of raw materials to timber processing plants: 0.3mln m³ of sawn timber, 0.3mln m³ of coniferous pulpwood and 0.4mln m³ of birch pulpwood. Cordwood supplied for heating and other technical uses constitutes 18% of the final cut volume and about 40% of the intermediate cut volume. The ratio of cordwood types (firewood and industrial cordwood) may vary depending on forest composition and stand conditions. At present, the share of cordwood for processing is approximately 12% for clear-cut, and 30% – for intermediate cut.

In 2004, the region continued the process of forestland's long-term lease for bid. At present, more than 136 forest lease contracts are in force, including 78 bid lease contracts. Forest plots transferred for lease have an aggregate prescribed annual harvest of 6.2mln m³, which is nearly 70% of the allowable cut. In 2005, the transfer of forest resources for lease finished.

During 2004, 66 auctions were held, selling 170.6 thousand m³ for a total amount of 34.9mln rubles. The federal budget generated 8.1mln rubles, the local budget – 26.8mln rubles. The price per cubic meter of timber was 204.7 rubles, which was 4.3 times more than minimum forest tax rates.

The Karelian Forestry Agency implemented the programs, "Forests of Russia," and "Forests of Karelia," according to which, 22.5 thousand ha (102.3% of the planned area) of the republic's territory was reforested in 2004, including sowing and planting on the area of 10.6 thousand ha (101.2%) and salvage cuttings in coppices on the territory of 22.2 thousand ha (101%). Forest tending was performed on the territory of 20.2 thousand ha (against a planned 29.0 thousand ha). Replenishment of 6.9 thousand ha of forests was conducted (against a planned 6.7 thousand ha). 1,596 ha of plantations were established using seedlings with improved properties.

The estimated forest management costs in 2004 were 659.4mln rubles, including 90mln from the federal budget and 31mln from the Karelian budget and 513mln from off-budget sources (i.e. money earned by Karelian FMUs from tending cuttings). Financing schemes of Karelian forestry are issues of concern to local leaseholders (though these issues are common in all territorial subjects of the Russian



Federation). According to the JSC Seguezhsky Pulp and Paper Mill (TsBK), leskhozoes have turned from governmental forest guards into competitors of private logging companies, which still are in more favorable condition, compared with leaseholders. For example, in 2005, on JSC Seguezhsky TsBK's leasehold area, leskhozoes stealthily cut the best forest blocks along roads under the guise of current cutting, jeopardizing the forest base for future final cuttings. Cutting operations violated acting conservation legislation, which was proved by control measurements made by JSC Seguezhsky TsBK late in 2005, together with representatives of the Federal Forestry Agency. The timber was hauled over roads built at the expense of JSC Seguezhsky TsBK: there is no mechanism for collecting fees from leskhozoes for road use.

The way out may lie in the transfer of forest growing and tending functions to the leaseholders (perhaps, supported by federal or local budgets), at the same time, leskhozoes must retain performance control functions in order to monitor the leaseholders' conformity with the requirements of Russian forest legislation, enjoying relevant governmental support. Large leaseholders regard the law "On Introducing Amendments to Some RF Legislative Acts in Connection with Perfection of Division of Powers," № 199-FZ of 12.31.2005 as a possible tool for reforming the existing leskhoz system.

## FOREST CERTIFICATION

The European Union (EU) is completing its development of rules prescribing the 100% import of legal forest products. This process is called "Forest Law Enforcement, Governance and Trade" (FLEGT). FLEGT's requirements of forest products imported to EU are expected to be introduced in 2006-2007. The FLEGT process is an issue of current concern for Karelian timber companies because export accounts for some 77% of their total production. One of the documents verifying the compliance of supplier's products with FLEGT requirements is an international FSC certificate. Russia's joining of the WTO, which is expected to occur in 2006-2007, serves as an additional impetus for timber companies having only 1.5-2 years to pass the FSC certification process to obtain certificates. FSC certification is being intensively introduced in the regions adjacent to Karelia, while Karelia itself is a little bit late, though at the end of the 1990's, certification

issues were being actively discussed. At present, FSC certification in Karelia is being promoted by the FSC Russian Office, the Karelian Voluntary Forest Certification Center, NGO SPOK, and others. Apart from the FSC certificate, preferential access to international markets can be obtained through a quality management certificate issued in compliance with the requirements of ISO 9001 standard, the "Year 2000" version; at present only JSC Pulp Mill Pitkyaranta has such a quality management system. Since 2005, JSC Svedwood-Karelia has passed the audit for compliance with FSC Principles and Criteria. Its leased forest area is 161.3 thousand ha. The audit is performed by NEPCo, a representative of Smartwood, accredited in Eastern Europe, Scandinavia and Russia. Also, in 2005, JSC Seguezhsky TsBK announced a new environmental policy in forest use and concluded a contract with the FSC-accredited audit company JSC SZhS Vostok Limited for SGS QUALIFOR-based forest management certification of the plant's 1.8mln ha of forest area.

The press-service of JSC Seguezhsky TsBK reported that the company, demonstrating environmental responsibility, redirects the output of certified advanced wood products and strives to procure the maximum possible volume of certified raw material. To verify the new course, the Forest Resources Director of the plant announced that Uhktuales enterprise, a member of JSC Seguezhsky TsBK holding, will not harvest intact forests on its leased area, even under the threat of bankruptcy. One of the problems of adapting FSC requirements to the Russian forest management system is the inventory and maintenance of all high conservation value forests (HCVF), i.e. specially protected areas (SPA) and valuable forest areas not included in HCVF, in the process of forest use.

Until 2005, the Republic of Karelia didn't have a public source of information about quantity, protection regime and location of HCVF except for an outdated handbook "Specially Protected Natural Areas of Karelia," (Khokhlova T. U., Antipin V.K., Tokarev P.N. Petrozavodsk, 2000. 312 p.). This caused problems for forest management bodies and leaseholders planning and performing cuttings in the region, as well as research and non-governmental organizations monitoring the condition of HCVF.

In 2005, regional NGO R00 SPOK, supported by the Finnish Forest Research Institute (METLA),

inventoried planned SPAs outside HCVF. The results were presented in the book "Analysis of Wood Harvesting Restrictions in Conservation Areas and Old-Growth Forests of the Republic of Karelia," (Gerasimov, Yu. Yu., Markovsky A.V., Markovskaya N.V., Lapshin P.N. Joensuu, 2006. 148 p, available via Internet: <http://www.metla.fi/julkaisut/workingpapers/2006/mwp022-en.htm>).

It is estimated that at present there are 215 SPAs in the territory of Karelia with a total area of 933.2 thousand ha or 5.2% of the total area of the region and 6.3% of its forest funds. These include:

- 3 preserves: Kostomukshsky, Kivach and Kandalakshsky (the major part of the Kandalakshsky Preserve is located in the Murmansk region), total area 59.6 thousand ha;
- 2 national parks: Paanyarvi and Vodlozersky (the major part of Vodlozersky National Park is located in the Arkhangelsk Region), total area 235 thousand ha;
- Natural park Valaam Archipelago (2.2 thousand ha);
- 97 federal and local reserves with a total area of 571.7 thousand ha;
- 103 natural monuments with a total area of 29.9 thousand ha;
- Recreation forests of the sanatorium Martsyalnye Vody (7 thousand ha);
- Botanical garden of Petrozavodsk State University (0.4 thousand ha);
- Conservation zones of the Kivach Preserve and Paanyarvi National Park with a total area of 13 thousand ha;
- 5 territories having cultural and historical value with a total area of 14.4 thousand ha. According to their status, the territories are classified as follows:
- 9 territories of federal importance with a total area of 379 thousand ha;

- 204 territories of regional importance with a total area of 554.2 thousand ha;

- 1 territory of local importance with an area of 170 ha (Porozhky Reserve of introduced wood species)

Moreover, another four SPA's with the total area of 113.9 thousand ha are undergoing an approval procedure (0.65% the total of Karelia's area). They include the planned Kalevala National Park (74.4 thousand ha), the Syrovatka Landscape Reserve (31.1 thousand ha), the Voynitsky Landscape Reserve (8.3 thousand ha) and the Kumi-Porogz Natural Monument (0.1 thousand ha).

It may seem that such an abundance of SPA's does not always help nature conservation. For instance, in the taiga zone, cuttings are the major method of transforming the natural environment. Both partial and clear cuttings result in a change of microclimate of forest and ecosystems, destruction of wildlife habitats (dens, nutrition areas, etc.). As a consequence, any cuttings of SPA's will bring irreversible damage to the environment, which contradicts the goal of SPA's establishment – conservation of the natural biological diversity of the region. That is why SPA's harvesting should be limited.

As of January 1, 2006, a complete ban was placed on all types of harvest in the territory of 40 SPA's with a total area of 105 thousand ha (0.6% of the total area of Karelia). Restrictions are put on 487.9 thousand ha of 42 SPA's (2.7% of the total area of Karelia) – only a part of their territory can be harvested or particular types of cuttings allowed. 143 SPA's with the aggregate area of 340.3 thousand ha (1.9% of the total area of Karelia) can be harvested without restriction. Distribution of Karelian SPA's by cutting restriction regimes is shown in Fig. 6. Fig. 7 illustrates the spatial distribution of SPA's in the territory of the Republic of Karelia.

In 2006, NGO R00 SPOK, together with METLA, Finland, are planning to continue collecting data on harvesting restrictions in the Karelian SPA not included in HCVF, and conduct comparative research on protection regimes and harvesting restrictions in HCVF in the Republic of Karelia and the Arkhangelsk Region.

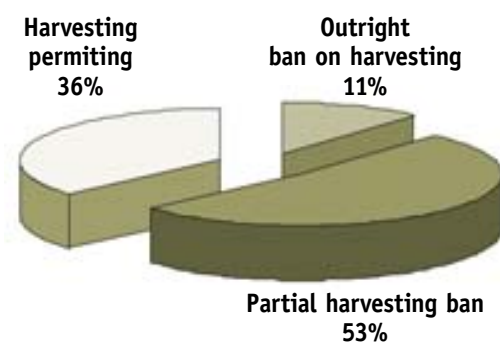


## TIMBER INDUSTRY

The timber industry holds the top position in the Karelian industrial rating. It employs 40 thousand people out of 760 thousand living in Karelia. More than 13 thousand workers of 256 Karelian enterprises are engaged in harvesting, cutting about 7mln m<sup>3</sup> annually (in comparison, in neighboring Finland, the logging industry employs about 6 thousand people, harvesting approximately 50mln m<sup>3</sup>). In 2004, the Karelian timber industry had 525 operating enterprises and plants, 66% of which are small enterprises, 18% auxiliary production lines at non-industrial enterprises, 16% large and medium-size enterprises, including enterprises with foreign investments.

Among the largest Karelian timber companies are: harvesting company JSC Karellesprom, managing shares (stocks) by right of proprietary possession of 16 economic societies, including ten joint stock companies, one closed joint stock company and stocks of five limited liability companies. The largest participants whose shares are a property or trust stocks managed by JSC Karellesprom include JSC TsZ Pitkaryanta, Mouyezersky LPK, Kodopozhskoye LPH (about 10% of enterprises' stocks are trust stocks). The holding also includes such companies as Lakhdenpokhsky LPH (63.5%), Lendersky LPH (32.1%), Onego-Service-LZP (20%), Pudozhsky LPH (20% of own shares, 45% – trust stock of JSC Kondopoga). More than 50% of JSC Karellesprom belong to the government of the Republic of Karelia.

The leading companies operating in the logging sector of the Karelian timber industry are holding companies JSC Kondopoga (timber harvesting,



*Fig. 6. Distribution of Karelian SPA's by Cutting Regimes*

production of newsprint, 20 % of the stock belongs to Conrad Jacobson GmbH, Germany) and JSC Seguezhsky TsBK (timber harvesting, sawmilling, production of paper bags).

Until 1998, the Karelian timber industry production volume showed a decrease, which persisted for several years; in 1998-2000 (after the collapse of the ruble against the US dollar) the region saw a period of financial rehabilitation of enterprises and extensive industrial growth. By the year 2000, however, the potential for extensive growth was exhausted. Thus, the republic modified its approaches to forest use within the framework of regulations provided by the RF Forest Code. The Karelian government turned to on-site advanced timber processing, improved the technological support of harvesting operations, production of sawn timber, and pulp and paper [3, 4].

From the period of 2000-2004, production volume in the timber industry grew by 21.1% (Table 3, Fig. 8). In 2004, the overall 12.8% production growth was observed in comparison with 2003, harvesting production grew by 18%, pulp and paper industry by 11.8%, woodworking by 3.5%. 2004 saw the growing production of commercial round timber, sawn timber, chipboards and paper.

2004's final profit and loss accounts (P&L) of timber companies reported losses of 259.3mln rubles (including harvesting – 159.7mln rubles woodworking, 155.3mln rubles, paper production, 55.7mln rubles in profit). The percentage of enterprises reporting losses in 2004's year-end P&L account was 62.1% of the total number of timber enterprises, the sum of 2004's losses was 833.9mln rubles. The level of forest product sales at which they break even grew by 0.4% in 2004 compared with 2003. Expenses per 1 ruble of product price (works, services) in timber industries made up 0.96 ruble in 2004, which was a 0.01 ruble growth in comparison with 2003 (Table 4).

In 2005, timber companies continued to augment production volumes (mainly at the expense of paper production); the harvesting branch, on the other hand, reported a production slowdown, lowering their paying capacity. In 2005, the first half-year-end income of the Karelian budget was 169mln rubles (a 9.1% decrease compared with the 2004 level). Losses stated in the balance sheet for seven months of 2005 made






-  Karelian SPA's where only final fellings are prohibited  
 Karelian SPA where cutting is unlimited  
 Karelia SPA's where all types of cuttings are prohibited

Fig. 7. Distribution of SPA in the territory of the Republic of Karelia



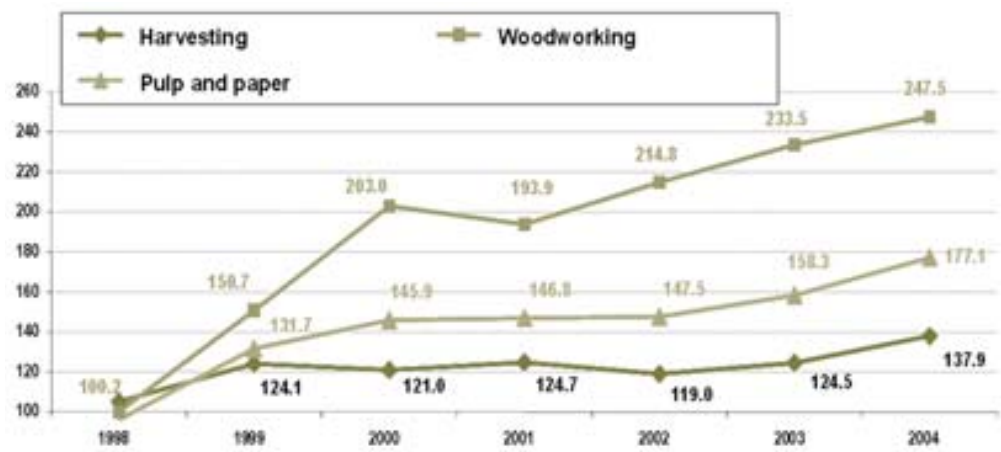


Fig. 8. Indices of Physical Production Volume in the Timber Industry (%) against 1998

up 138.2mln rubles. Two thirds of enterprises bear losses regarding harvesting operations. According to the preliminary report, only four companies managed to make profits in 2005, with an average efficiency of 5%. Company heads say that lower indicators are accounted for by the growing ruble-dollar rate, increased prices of energy carriers and transportation tariffs. In the meantime, nine months of 2005 showed a significant rise of pulp and paper production volume against the same period in 2004: pulp – by 19.3%, paper – 12%, cardboard – 61%, paper bags – 19%. The balance profit grew from

31.2mln rubles (January-September, 2004) up to 978.9mln rubles, or nearly 30 times.

At the meeting of timber companies’ top managers held on October 19, 2005, the representatives of the Karelian government required that forest companies logging timber under leasehold agreements fulfill development and tax obligations (fixed in business plans and other relevant documents regarding the lease of forest areas via bidding during 2004-2005), and promised that those who failed would lose their leaseholds [5].

Table 3. Production Volume of Major Product Types

Product Type	Measurement Units	1998	1999	2000	2001	2002	2003	2004
Timber Extracted	thsd m³	4,468.5	5,946.7	5,652.6	5,852	5,940.4	6,097.4	6,730.6
Sawn Timber	thsd m³	489.1	743.8	931.1	804.5	722.8	741.0	759.7
Glued Plywood	thsd m³	1.2	12.2	16.1	20.6	22.1	22.7	19.2
Pulp	thsd t	34.3	64	72.5	73.3	73.7	80.8	89.8
Paper	thsd t	518.9	659	724.7	700	711.1	758.9	862.4
Including Newsprint	thsd t	416.3	509.9	540.5	533.4	534.2	573.6	693.2
Cardboard	thsd t	6.5	9	44.5	82.8	63.1	64.9	54.1
Paper Packs	mln pieces	142	199.6	178.2	195.1	235.9	269.0	257.9

Table 4. Main Indicators of Karelian Timber Industries, 2000-2004

	2000	2001	2002	2003	2004
Number of Operating Enterprises as for the End of the Year	636	493	515	525	525
Production Volume, mln rubles	14,113.1	14,600.0	15,598.4	17,601.4	19,955.2
Share in the Total Volume of Industrial Production of Karelia, %	55.8	48.7	45.2	45.3	41.2
Average Annual Personnel Engaged in Production, Persons	43,336	44,222	42,665	38,651	34,061
Average Aggregate of Monthly Salaries of Production Personnel, thsd rubles	3,022	3,597	4,368	5,400	6,673
Main Assets (overall reported value) as for the End of the Year, mln rubles	6,885	9,237	10,378	13,460	16,702
P&L Account (profit (+), losses (-)), mln rubles	2,231.7	2,067.1	667.8	-143.2	-259.3

EXPORT

The Economic Development Ministry of Karelia reports a considerable growth of the Karelian foreign trade volume at the expense of both exporting and importing. The volume of foreign trade in products and services increased 1.5 times over the past five years. 2005 foreign trade turnover was estimated at about USD1, 170mln. Finland, sharing a border with Karelia, is its main business partner, accounting for 36% of Karelian foreign trade turnover. Karelian foreign timber trade is export-oriented. The region’s share in the Russian export of raw timber in physical terms was about 10% in 2000-2003 and 9% – in 2004; its share in RF exports of forest and pulp and paper products in money terms was some 8% during the period 2002-2004. In 2004, forest, timber and pulp and paper products constituted

37% of the total industrial production volume of the republic and 94.7% of the industry output. The total cost of forest products exported from Karelia was USD544.2mln (64.6% of all exported products), including USD249.3mln (29.6%) for timber and products thereof and USD294.9mln (35%) for pulp and paper products. The commodity composition of exports of timber and products thereof was presented by un-edged timber (58.9% in monetary value), edged timber (34.9%). Export of pulp and paper products included newsprint (74.4%), sulphate pulp (7.5%), kraft paper (17.3%), bags and cardboard tare (0.6%), other products (0.2%) (See Table 5, Fig. 10).

In physical terms, the export of pulp increased by 5.9%, newsprint – by 30.1%, edged timber – by 9.7%. Kraft paper export decreased by 9.7%, unedged timber – by 0.4%.

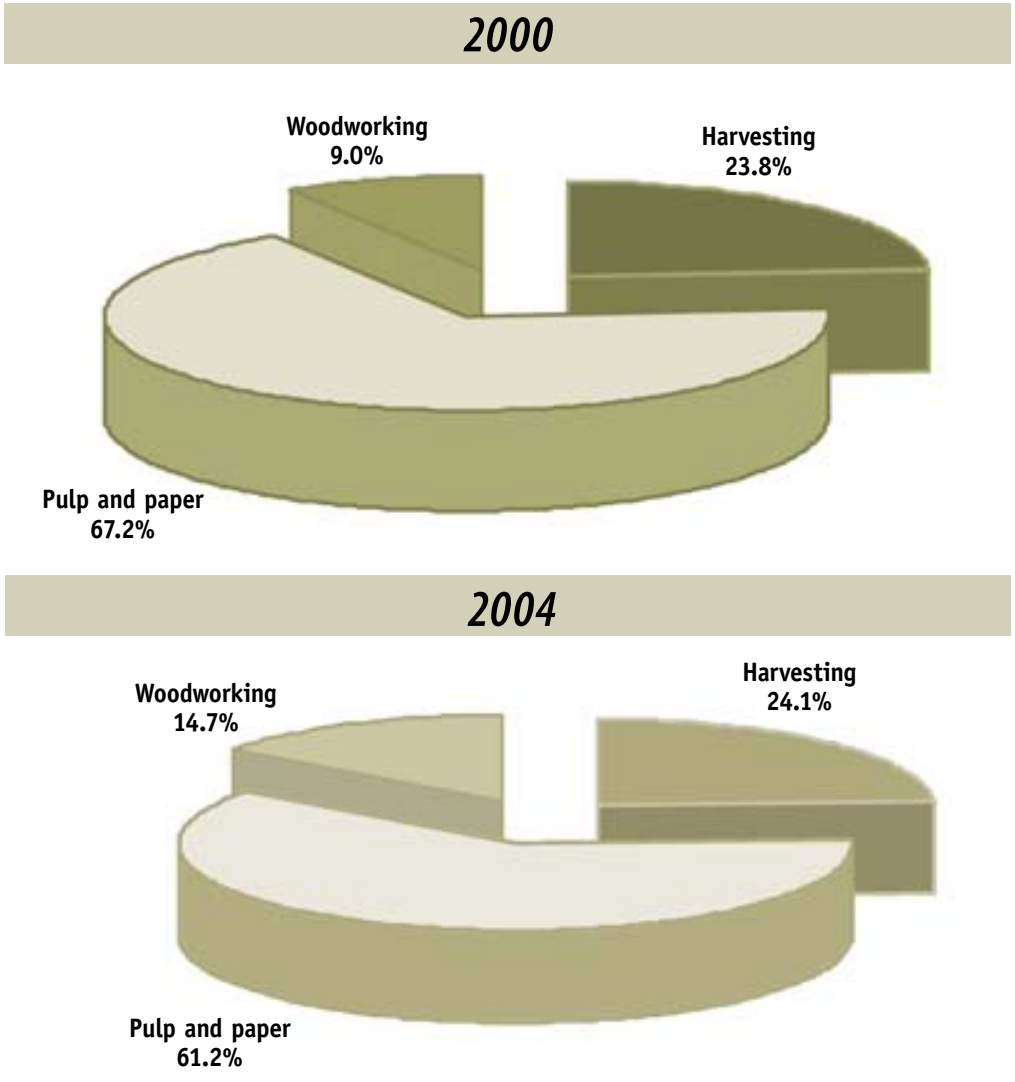


Fig. 9 – Production Structure of the Karelian Timber Industry [1]



Table 5 – Main Export Articles of the Timber Industry, Republic of Karelia

	2000	2001	2002	2003	2004
Unedged timber, thsd m³	3217.5	3673.9	3688.2	3563.7	3548.7
Edged timber products, thsd tons	319.8	301.1	290.5	301.8	331.1
Sulphate pulp, thsd tons	51.8	59.8	60.2	64.4	68.2
Paper, cardboard and products thereof, thsd tons	501.1	549.5	520.4	546.7	656.4

The republic delivered forest products to 79 countries. Among the major buyers were Finland, Great Britain, Turkey, Germany, and India. Deliveries to Finland account for 98.2% of un-edged timber, 24% 24.0 % of edged timber, 12.3% of pulp, 7.7% of newsprint. The largest buyers of newsprint were Turkey, India, Germany and Great Britain (over 50% of the total turnover). The cost of forest product imports in 2004 was USD11.4mln or 5.8% of the total import of the republic. The imported range included sulphate pulp, paper, cardboard and products thereof.

Today, following the advanced processing-oriented policy of the Karelian government, the regional authorities are discussing prospects of cooperation between the Karelian timber industry with its Finnish counterpart. On the one hand, the Republic of Karelia has traditionally supplied Finnish forest industries with raw materials in prejudice of the interests of Karelian companies, while there are timber products ignored by local plants (aspen and birch pulpwood, above all). Exportation of these products may be beneficial to both parties in the future, as many Karelian districts are rich in hardwood produced by regenerating cutovers.

INVESTMENTS IN THE TIMBER INDUSTRY

Since 1998, the Karelian economy in general, and the timber industry, in particular, underwent several stages of development. The period of 1999-2001 was characterized by quite rapid industrial production growth, justified by post-default factors, and increased self-investments. By the end of 2001, the development of the republic slowed down (the annual rate was 1-3%). In 2002, the government of the Republic of Karelia declared an open-door-policy, which attracted extra investments from abroad and pushed up economic growth. In 2004, industrial growth was 116.8%; in 2005, the estimated growth index was about 119%.

In 2004, the timber industry received 3,302.5mln rubles in the form of capital investments for development purposes (free of VAT), which was a 1.5 time growth in comparison with 2003 and accounted for 56.2% of the total industrial investments (in 2003 – 58.6%). Investments into large and middle-size enterprises were made through transactions using raised funds and accounted for 69.3% in 2004 (compared

with 40.4% in 2003); the proportion of owner's equity was 30.7% (59.6%).

According to the Economic Development Ministry of the Karelian Republic, the Karelian economy today is showing signs of investment-driven development. The investment/GNP ratio has reached 21-23%, which exceeds the average Russian analogue and is in tune with global practice. In the meantime, the portion of direct foreign investments in Karelia is larger than the Russian average; this is explained by the implementation of specific projects not related to capital movements on the stock exchange. The Karelian Statistical Committee reports that in 2005 the capital inflow to the regional economy was over 9.8bln rubles, including foreign investments. The major part of foreign investments was aimed at woodworking enterprises (USD8.9mln) and harvesting (USD6.1mln). The largest investors were Finland (USD9.7mln), Canada (USD3.5mln) and Cyprus (USD1.3mln).

Logging companies allocate invested funds to the development of cut-to-length harvesting systems using imported machines (harvesters and forwarders). This technology is being introduced at 20 out of the 28 largest enterprises of the republic. JSC Ladenso, JSC Lakhdenpokhsky LPH, JSC Lendersky LPH and JSC Volomsky LPH harvested 100 % of its timber in cut-to-length form. For example, in 2004, the largest local enterprises produced 2.1mln m³ of cut-to-length timber (44.5% of total harvest); the annual cut-to-length harvesting growth rate is 10-15% [6]. The introduction of new techniques can be illustrated by the experiences of Onego-Service-LZP Ltd., set up by JSC Karellesprom in 2004 for camp-type logging in the Pudozhsky district using "harvester-forwarder" systems. In 2005, this enterprise harvested and extracted 157.6 thousand m³ of timber with 100 m³ per machine shift.

Karelian timber processing industries use investments to improve the quality of their products and establish new production lines including processing hardwood and low-grade timber.

The Program of the Karelian Government [4] identifies the following priority projects:

- a new large sheet plywood production line with the output of 60 thousand m³ and

organization of furniture production from cross-laminated wood panels at Boumek's Ltd;

- a woodworking plant with the rated annual output of 38 thousand m³ of furniture components to be constructed by Swedwood Karelia Ltd (IKEA concern, Sweden);
- two woodworking plants with a total capacity of 100 thousand m³ of sawn timber per year in the Pudozhsky and Mouyezersky districts and an edge-glued furniture panel factory with the annual output of about 40 thousand m³ in Petrozavodsk to be constructed by JSC Karellesprom;
- a woodworking shop of Setles Ltd. (Stora Enso concern, Finland-Sweden), reaching a rated capacity of 115 thousand m³ of sawn timber (aggregate investments in 2004-2005 – USD4.8mln);
- upgrading and modernization of woodworking facilities at Kemsy LDZ Ltd, Medvezhyegorsky LDZ Ltd, JSC Mouyezersky LPH;
- a new modern saw mill with a rated output of 100 thousand m³ of sawn timber at JSC Zapkarelles.

Development challenges of the Karelian pulp and paper industry come from existing technical upgrading plans. Planned technical upgrading is expected to bring 2 – 2.5 times growth of the volume of commodities of JSC Seguezhsky TsBK in compliance with the "2010 Development Strategy" of the enterprise. It was granted a €410mln credit by Sberbank of Russia to modernize its production lines (in comparison – the total budget of the republic is 5bln rubles). In 2004, JSC Seguezhsky TsBK allocated 100mln in investments. The money was spent on the upgrading of paper-making machines, pulping lines and a new color print machine. Production upgrading will augment sales of micro-crepe tough paper and cardboard used to produce packaged materials.

In order to stimulate raw material procurement, the plant has started developing a pilot project (the launch date is 2008) of forest management for special purposes under which the enterprise leased a forest area with the stock of 403.1 thousand m³ on a long-term basis (up to

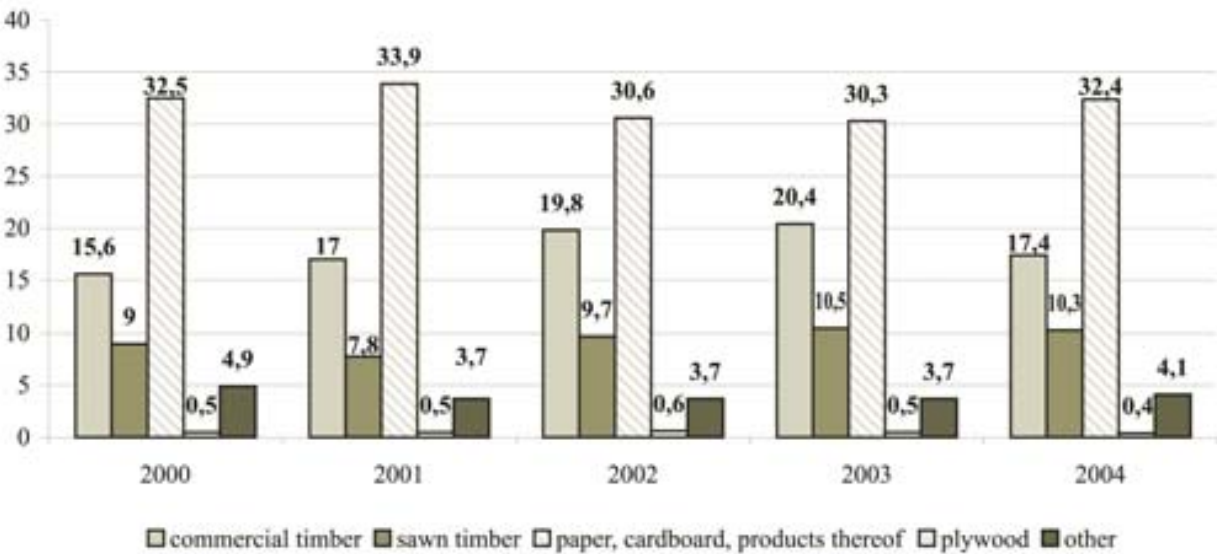


Fig. 10 – Cost Structure of Wood-Based Products Export, % [1]



2054). If implemented, the business plan of JSC Pitkyaranta for the period to 2010 will increase the production volume of market pulp up to 115 thousand tons per year. The project of upgrading and installing the second paper-making machine is being realized by Suoyarskaya Cardboard Plant, which joined the JSC Kondopoga-based holding. In 2004, the volume of cardboard production doubled, reaching 40 thousand tons. Commissioning of the 10th papermaking machine with a rated capacity of 200 thousand tons resulted in the 20% increase of paper produced by JSC Kondopoga in 2004 (703.5 thousand tons). By 2007, yet another machine to produce coated paper will have been installed; thus JSC Kondopoga will pioneer coated paper-making in Russia. The enterprise is planning to introduce a new line for thermomechanical pulp with a rated capacity 240 thousand tons per year.

To encourage the development of timber companies, the Karelian Governmental Program [4] offers support for the creation of an industrial group of three timber companies (JSC Kondopoga, JSC Seguezhsky TsBK and JSC Karellesprom), which will close the cycle of production and sale of forest products, increase budget revenues and improve the effectiveness of timber companies' management.

A remarkable event of 2005 was the purchase of JSC Seguezhsky TsBK by Swedish Korsnäs Packaging; the cost of the deal was €73.5mln. This takeover will make the plant the second largest world producer of paper bags with an annual output of about 1.1bln paper bags and 300 thousand tons of bag paper. According to V.F. Preminin, director general of JSC Seguezhsky TsBK, the deal is a part of the enterprise's strategy aimed at enlarging its global market share, strengthening its position in the markets of Eastern Europe, CIS and Russia.

Another interesting event was the opening of an assembly and maintenance line for harvesting machines (harvesters and forwarders) by Harvi Forester, Ltd. at the Medvezhyegorsky Repair Plant under the license of Finnish Pinox Company. The total investment sum was €4.5mln. Unfortunately, JSC Karellesprom failed to implement a construction project regarding two new timber plants (in Lendery and Pudozh) and a furniture plant in Petrozavodsk by 2005 (supposed investment sum was \$35mln).

## PROBLEMS AND PROSPECTS

The major problems of the Karelian timber industry are similar to those of the national industry: depleted forestlands, lack of road networks, considerable wear of the machine park of logging enterprises, and a need for new timber advanced processing facilities, including hardwood.

The problems to be solved on a federal level include: abolition of VAT and customs duties on technological equipment, which are not manufactured in Russia, imported by timber companies; an increase of export duties on raw timber; development of mechanisms of governmental support of forest road construction as well as mechanisms of raising loans on lease rights for forest areas. Forest leaseholders and forest product processors hope that the transfer of forest management powers to the region in compliance with Federal Law № 199-FZ of Dec 31, 2005, will help solve these problems.

The most topical problems and possible solutions at the federal and local levels were discussed at the seminar "Forest Management Opportunities in the Republic of Karelia," held on January 25, 2006. The final statement of the seminar formulates the following recommendations and offers the government of the Republic of Karelia:

1. Suggested amendments to federal legislation for the optimization of forest use at the RF subject level, given the planned transfer of some forest management powers from the centre to the regions, are as follows:

- The powers should be transferred to the government authorities of RF subjects (consequently, additional subventions from the federal budget); departmental acts regulating issues of transferred forest-related powers, compulsory methodological recommendations and guidelines on their implementation by the RF subjects' executive agencies should be approved. Regional acts should not contradict federal legislation and must undergo a check at the federal level.
- Forest leaseholders should be trusted with management of leased forestlands compensating their expenses from the republican fund replenished by stumpage fees as a part of lease duties. The forest areas

shall be managed by forest management agencies of an RF subject compensating its expenses from the federal budget.

- The national status of forest planning and surveying organizations should be maintained. Forest planning expenses may be reduced by the introduction of a two-level system: at lower levels, a generalized inventory of the forest fund on all territories should be performed; at the higher level, a survey of specific purposes of forest use in a specified territory should be conducted.

2. Forest management improvement measures aimed to increase effectiveness and the profitability of logging operations under applicable legislation are as follows:

- to permit leaving small-leaved species and undercut areas of other low-quality timber without fining, as the punishment is neither environmentally nor economically justified. This is proven by good practices exercised by adjacent regions. Coppice systems should be allowed not to pile cutting residues during cuttings, the performance records should be made based on the cut area. (pursuant to p. 46 of Rules of Standing Timber Sale in Forests of the Russian Federation, governmental bodies in the RF subjects may settle issues, regarding cutting systems, tending, tapping, width of cutting areas, cutting cycle and leaving tees of particular species on cutovers, which arise during the demarcation of cutting areas).
- to identify habitats of Karelian and/or RF red-listed species during the forest planning process or environmental impact assessment and grant them SPFA status (p.2 of RF Government Regulation of February 19, 1996, N 158 "On Red Book of Russian Federation;" Art. 60 of Federal Law "On Environmental Protection" № 7-FZ of January 10, 2002 (read with Federal Law of August 22, 2004 № 122-FZ); Art. 55 and 59 of Forest Code of the Russian Federation; p.2 of the Karelian Government Chairman Regulation of May 19, 1997 № 268 "On Red Book of Republic of Karelia;" "General Regulations on the Identification of Specially Protective Forest Areas," approved by Rosleskhoz order № 348 on December 30, 1993.

- to prohibit timber cutting in specially-protective areas identified in the habitats of rare and endangered wildlife species (Art. 55 and 59, Forest Code of the Russian Federation).

- to set up a regional body governing SPA's of the Republic of Karelia (taking into account the experience of the Water Resources Department as well as the environment and wildlife protection experience of the Ministry of Agriculture, Fisheries and Food, Republic of Karelia).

- to maintain landscape reserves falling under the complete harvesting ban, intact forest areas that are natural environmental ecosystems, landscapes and complexes, including objects of special protective, scientific, historical, aesthetic and recreational value (Art. 3, 4 of Federal Law "On Environmental Protection" № 7-FZ of January 10, 2002 (read with Federal Law of August 22, 2004 № 122-FZ).

- to recognize the allocation of area and the development of quarries for forest road construction as forest management/use-related activities. The registration procedure is carried out following Article 64 of the RF Forest Code (Art. 64 RF Forest Code).

3. In relation to the planned partial transfer of forest management powers there is a necessity to:

- develop a regional "Rules of Forest Use" for subsequent approval at the federal level and involve Karelian forest management agencies, businesses, research institutions and environmental NGOs in the process of developing the Rules.
- Due to the significant depletion of Karelian forest resources, a detailed quality assessment of available forest information based on current inventory data is needed. This means the identification of softwood and hardwood sections, as well as mixed sections specifying the proportion of small-leaved forests. The assessment should also specify the number of non-productive stands in the forest funds of both the Republic of Karelia and specific territories to exclude them from forest use



plans. For this purpose, an order should be placed with research organizations for the assessment of Karelian forest resources taking into account their economic feasibility, social and environmental importance for adequate evaluation of exploitable forest stock of Karelia, and prospects of the timber industry. This will help analyze the accessibility of forest stock and exclude economically and environmentally unacceptable sources from the plan.

On the other hand, the Karelian timber industry is not free of problems. A near-border location, growing transport tariffs and an overall production slump in the late 90's predetermined the isolation of the regional timber industry from central Russia and its transition to roundwood export. Specialists believe that the export orientation of raw materials sector and the remoteness of alternative suppliers underlie the high prices of the raw timber (compared with other regions of the Northwest Federal District) for Karelian processors as well as the development of timber processing plants with foreign ownership.

If the current situation persists, the workload of facilities of Karelian timber companies manufacturing value-added products will become insufficient in the near future. For instance, by 2007, JSC Seguezhsky TsBK will be able to process up to 2.6mln m<sup>3</sup> of raw timber against the current 1.3mln m<sup>3</sup>, JSC Kondopoga – 2mln m<sup>3</sup> against 1.6mln m<sup>3</sup> respectively. Raw material importers keep roundwood prices up (excessively high prices in comparison with average Russian market prices), discouraging Karelian loggers from supplying the domestic market (namely, the Karelian market).

In the meantime, until 2007 the financial environment for Karelian logging companies may remain stable, or perhaps get worse, and the export of round timber may increase. Advanced processing enterprises – JSC Seguezhsky TsBK, JSC Kondopoga – exhibiting hunger for raw materials, will not be able to maintain their competitiveness on the global paper market; the lack of raw timber may result in the reduction of production volumes. Karelian budget revenues from the timber industry will depend on the financial soundness of processing plants located in the republic.

During the period from 2007 to 2010 there is the risk that all logging companies will shift to

the export of un-edged raw materials. Karelian advanced processing plants will not be able to rely on raw timber supplies from central Russia, because major timber sources in areas adjacent to Karelia have already been divided between integrated industrial organizations, with processing facilities, competing with JSC Seguezhsky TsBK and JSC Kondopoga. The absence of 'free raw materials' will result in a production slump and the decreased competitiveness of Karelian pulp and paper and timber products, entailing reduction in the local budget revenue for advanced processing enterprises. After the year 2010, raw materials importers may take an advantage of their strengthened monopolistic position on the Karelian market by implementing a contracted export price reduction strategy further decreasing the profits of the budget from the export of raw materials. Successful implementation of this strategy in Karelia, which is traditionally dependent on the use of forest resources, will be a threat to its social and political stability and financial independence as an RF subject, turning the region into an economically depressive state-aided region. The consequences for Karelia are comparable to the causes of 'perestroika' when oil and gas profits were not able to cover the losses incurred via ineffective socialistic production schemes in the Soviet Union. In order to overcome identified negative trends and create conditions for the intensive development of the Karelian timber industry, a system of development projects (under governmental control) for domestic raw materials and finished product markets at the expense of the gradual increase of export duties on un-edged timber, and a complete ban on round timber exports in the future (following the historical example of neighboring Finland) is necessary.

JSC Seguezhsky TsBK, in conjunction with the Institute of Economics of the Karelian Research Centre, Russian Academy of Science, put forward a number of priority actions to develop the Karelian timber industry, presented in the document, "Forest Industry Management Ideology of the Republic of Karelia." The document suggests creating a unified regional industrial group comprising of three holing enterprises of the republic (JSC Kondopoga, JSC Seguezhsky TsBK, JSC Karellesprom), thus reaching sustainable and highly effective forest use, maximum added values from advanced timber processing, competitiveness of high-quality products, the employment of the local

population and an increase in local budget revenues. These three largest industrial holdings are expected [3, 4] to join their efforts (their heads signed a memorandum of intent in 2003) to upgrade timber enterprises of the republic, sharply reduce the export of raw materials at the expense of the redirection of timber to the processing plants, expand the harvesting volume up to 14mln m<sup>3</sup> and reach at least a 2.5 time increase (up to USD160-180) of the price of products obtained out of 1 m<sup>3</sup> of timber harvested in the republic.

So, what should regional officers do now that forest management powers are being transferred from the federal level to the level of RF subjects?

1. Require that the federal center permit the regions to retain the money needed for forest management starting in 2007 (at least the current sum, ideally), provided all unspent money allocated for forest management will be transferred to the Russian budget as before. Perhaps the federal center will share its revenues with regions and shift from the "big circle" circulation scheme (i.e. region – budget of the Russian Federation – region) of forest management funds to the "small circle" scheme providing for the extraction of revenues in excess of forest management expenses. This scheme eliminates the necessity for redistribution and control of RF subjects' spending on forest management. The promotion of the forest sector development in RF subjects can be made by federal budget revenue plans generated by the center, supposing that above-plan profits are retained in the regions.

2. Require that the federal center transfer to RF subjects the right to approve and use regional regulations regarding exercising the transferred powers starting in 2007, on the condition that they are in compliance with federal laws and undergo a check at the federal level. The centre may reject the proposal in cases when forest management uses cost planning, since cost planning allows RF subjects to justify larger forest management expenses and, consequently, demand a larger piece of the profit. However, once the plans to collect forest profit for the federal budget are set, the federal center may approve them. At the same time, the center will be able to monitor the performance of regions via simple economic mechanisms, giving regions the right to determine methods to

supply the federal budget with required revenues and making the heads of RF subjects bear responsibility for the fulfillment of the plans.

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# THE LAND OF BIRCH

**The Novgorod Oblast, situated in the Northwest of the Russian Federation, borders on the Leningrad, Pskov, Vologda and Tver regions and occupies 655.3 thousand square meters. The main value of this country is the forest that covers about 62% of its territory and amounts to 4101.7 thousand hectares, of which 4068 thousand ha are under the authority of the Russian Ministry of Natural Resources for the Novgorod Oblast, including 3468.3 thousand ha of lands covered by forest vegetation.**

The Novgorod forests have been exploited since the beginning of the 18th century, when the Russian Emperor Peter the Great ordered the logging of oak forests in the neighborhood of Staraya Russia for shipbuilding. At present, oak forests remain only in the north and south of the Novgorod Oblast and cover an area of 3.8 thousand ha. A prevailing tree species in the region is birch, which takes up 42% of the forest stock, while other species are distributed as follows: pine – 19%, spruce – 18%, aspen – 11% and alder – 9%.

The multiple uses of forest resources are recognized as the basis for the structural reorganization of the local economy. The total forest area in the oblast comes to 3.5 million ha. The annual allowable cut of recent years has been increasing: in 2002 it was 7.6 million cubic meters, in 200 – 8.8 million cubic meters, and could easily reach 12 million cubic meters per year, which is 4 times the size of the current volume of logging (3.3 million cubic meters). Lately there has been a stable growth in the logging volume of the Novgorod Oblast in connection with the construction of new wood-processing plants (sawing and board production) and new capacities of the existing enterprises.

Currently, 43% of the total cutting area in the Novgorod Oblast is on lease. In 2005, 234 of the 1453.7 thousand ha in concession areas

were taken on lease with 3757.4 thousand cubic meters of allowed volume of timber removal. Over 1620 thousand cubic meters of timber was removed under felling contracts. Timber removal does not exceed the yield calculation and is determined by the State Forestry Agency for the Novgorod Oblast by the results of forest auctions and according to the lease contracts.

Reforestation is a new responsibility of forest users. In 2005, the State Forestry Agency for the Novgorod Oblast stored 35 tons of forest seed raw material and extracted 352 kg of seeds to provide local sites with their own saplings. Forest planting with preliminary soil cultivation covered 5.3 thousand ha instead of 5 thousand ha as planned. Moreover, the care of forest plantations was fulfilled with 10 thousand ha. The plan for 2006 is to conduct reforestation works in the Novgorod Oblast in the area of 11 thousand ha, including the growing of forest crops in the area of 6 thousand ha, the transfer of young forest stands to the category of valuable stands in the area of 7 thousand ha, and the cleaning of 16 thousand ha. It is also planned to grow 29 million saplings at forest nurseries, which will enable the extension of the planting area up to 7 thousand ha in 2007.

Timber is traditionally considered to be one of the key shares in export from the Novgorod region. In the marketable export structure, timber takes second place, giving way to mineral

fertilizers. According to the Novgorod customs office, the volume of exported timber increased by 16.3% in 2005. The Novgorod timber has been exported to 34 countries worldwide. The major importers are Finland, Denmark, Great Britain, Greece, the USA and the Baltic States. In the area under the authority of Novgorod customs, over 150 foreign companies were trading wood, and 149 stakeholders of external economic relations dealt with exports.

The timber complex of the Novgorod Oblast is represented by forest companies, wood-processing plants and pulp and paper mills. The leading companies of the field are investment firms. Investment influx to the timber companies of Novgorod Oblast became the direct result of a favorable economic environment for investments. A regional law on tax benefits for companies and organizations in the Novgorod Oblast has been in effect since 1994. In accordance with the laws of those companies, foreign capital investments that run production and are registered in the oblast are exempt from the local budget taxes until there is a complete payback of the laid-down capital.

Thus, companies investing their own capital for implementation projects in the Novgorod Oblast pay a reduced tax in the average of 30% of the total tax amount.

In accordance with the Economic Committee of the Novgorod Oblast's data, the region has attracted over 1 billion US dollars in foreign investments over the past 11 years. Timber, wood-processing, and pulp and paper industries are leaders in attracting investments from abroad. In 2005 these industrial fields obtained over 60% of the total investment volume, and incidentally, about half of it was received from Finland.

The list of investors includes such companies as Wood Schauman, Raute, UPM Kymmene, Stora Enso (Finland), Pfleiderer (Germany), Forte (Poland), and Amcor (Australia).

The basis of the Novgorod timber complex consists of enterprises of one of Russia's leading producers and exporters – Novgorodlesprom – a close corporation. This integrated industrial association, presently involving dozens of logging and wood-processing enterprises, was established in the 1980's. Currently, Novgorodlesprom produces 180 thousand cubic meters of scale board and birch veneer, 300

thousand cubic meters of sawn wood, and 245 thousand cubic meters of pulp chips.

In 1990, in cooperation with Finnish partners, Novgorodlesprom built the closed joint stock company, Tchudovo-RWS, producing large-sized plywood in the town of Tchudovo in the Novgorod Oblast. The plant was constructed in record time and was supplied with modern equipment, applying the most progressive and environmentally friendly technologies. Tchudovo-RWS became one of the first companies in Russia with foreign investment contributions. Investments in this Russian-Finnish project came to 62.6 million DEM. The Finns found this partnership to be successful, and in the beginning of 2003 Novgorodlesprom and Schayman Wood (Finland) launched the production of birch thin veneer (0.6 mm) with the capacity of 7.5 thousand cubic meters per year within Tchudovo-RWS. Project investments amounted to 16.3 million EUR. In 2004, in conjunction with UPM Kymmene (Finland), Novgorodlesprom launched one more enterprise in the town of Pestovo – Pestovo-Novo sawmill – bringing the total value to 47 million EUR. The annual output of the sawmill is 300 thousand m<sup>3</sup> of coniferous wood.

The biggest enterprise of the Novgorodlesprom holding is its 100% branch, open joint stock company "Parfinsky fanerny kombinat," which mainly produces scale board. The enterprise was founded in 1910 by Dmitry Nikolayevich Lebedev - a merchant of the first guild - of St. Petersburg. In March of 1993 the plant was reconstructed into a share-holding, and in September 1998 reorganized into the Parfinsky Plywood Complex. At present, over 80% of the production at the plant is exported abroad (USA, Finland, Sweden). In 2004 the Parfinsky Plywood Complex produced 100 thousand m<sup>3</sup> of scale board, exceeding that of the Soviet period, when the biggest annual production volume reached 50 thousand m<sup>3</sup> of plywood. Now the owner of the Novgorodlesprom complex is extending its capacities by starting the production of large-sized plywood. It is expected that the complex will produce up to 60 thousand m<sup>3</sup> of large-sized plywood per year, 20 thousand m<sup>3</sup> of which will be contributed by laminated plywood. Implementation of the project is planned for 2006.

In the Lubytsky region of the Novgorod Oblast, over 90% of all production volume belongs to



forest companies. The central enterprise of the region is the limited liability company, Setново, which produces sawn wood in the village of Nebolchi. The company was built in 2004 by Stora Enso, whose share in the industrial production volume of the region is made up of about 50%. The Setново company became the second Russian wood-processing division of Stora Enso Timber. Currently the processing volume at Setново constitutes 240 thousand m<sup>3</sup>. The manufacture of finished products by the end of 2005 exceeded 100 thousand m<sup>3</sup> per year, reaching its productive capacity. The finished products of the sawmill are in the main assortment of the Stora Enso Timber production, which is being traded worldwide. A fraction of the products are exported to Germany, another to the Stora Enso Timber divisions in Estonia for further processing, and the third is on the home market. At the end of 2004 Stora Enso bought another logging company in Nebolchi called the "Terminal" limited liability enterprise. The company harvests over 100 thousand m<sup>3</sup> per year, and supplies a sawmill in the Nebolchi village and other mills situated in Finland.

A Novgorod branch of the Sodruzhestvo timber company (St. Petersburg) is also intensifying its capacities. This sawmill, with an output of 100 thousand m<sup>3</sup> per year, supplies its own production of doors and window-frames. In 2005, a second sawmill was launched within the company, and for 2006 it is planned to increase the output of sawn timber by 25%, with a output of dried board production at nearly 80% of the total volume.

Sawing is one of the main industries in the Malovishersky district of the Novgorod Oblast. The key company of the district is Madok (Malodok wood-processing complex with limited liability), owned by Holz Industries Leitinger (Austria). The complex started functioning in the Malovishersky district in 1994, and over 11 years it has become a key industrial company. The Madok complex deals with wood-processing, production, and trading timber. It also provides after-sale service and maintenance of logging machinery. The complex intends to enlarge its capacities by establishing a chain of three production lines, which will include drying (heat will be received by the incineration of industrial lumber waste), planning (ready sawn timber is to be exported to the Eastern market, particularly to Japan), as well as the processing of deciduous wood. Construction of such a network of non-

waste production will substantially ameliorate the ecological situation in the region. The total amount of the investment input is 154 million Russian Rubles.

Thanks to the contribution of Russian investors, sawing is also being developed in Valday. In 2002, a Moscow holding, Sokofeksdrevstroy, owning a network of wood-processing plants in Siberia, Krasnodar Krai and the Moscow region, invested approximately 1 million EUR to the Valdaylesstroy enterprise that had previously gone bankrupt. On the basis of this bankrupt enterprise a new sawmill was launched. Valdaylesstroy production has 2 directions: sawn timber to supply a factory of lined wood constructions in Volokolamsk, as well as cylinder logs, gauged sized beams and ready-made constructions of log houses produced by specially purchased Finnish equipment. The sawing operation has new equipment installed – making the technological process now completely mechanized: 2 powerful German-made driers with a simultaneous loading of 150 m<sup>3</sup> of sawn wood in each. Presently, Valdaylesstroy produces 3 thousand m<sup>3</sup> of commercial sawn timber per month. In the production space of Valdaylesstroy, a joint Russia-Bulgaria company was built, producing pellets called "Biotop" from low-quality wood and timber waste (chips, sawdust, particles).

In the Okulovsky region, the Torbino industrial company has been functioning for 10 years, with a capacity of about 50 thousand m<sup>3</sup>. The owner of Torbino – Novtekhles – invested over 500 thousand EUR in 2004-2005 for its development. The funds were spent on a bulk purchase of harvesting machinery: hydro manipulators, forwarders and a SISU heavy hauler. Re-equipment enabled Novtekhles to switch from caterpillar machinery to the Scandinavian logging technology to eliminate log depots and to significantly improve accident prevention procedures and environmental issues.

The biggest pulp and paper mill is located in Veliky Novgorod and is a branch company of AMCOR (Australia) and has 100% foreign interest capital. It is an open company with limited liability Amcor Rench Novgorod, which produces hard cigarette packaging. The mill has been operating since September 2000 and at present is a leader in the regional printing market. It produces packaging for such tobacco companies working in the Russian market as Philip Morris,

BAT, JTI, Gallagher, and also Russian companies – Balkanskaya Zvezda and Nevo. At present, Amcor Rench Novgorod supplies one-third of the Russian market with hard cigarette packaging. Currently, there are five technological lines operating at the mill, and in five years there will have been 39.1 million US dollars invested in the company's development. There are 294 working positions for Novgorod citizens at the mill.

Pfleiderer limited liability company, which produces wood particle boards, promises to become the biggest wood-processing plant not only in the Novgorod region, but also in Russia. The plant is currently under construction in the Podberezye village near Veliky Novgorod. Pfleiderer is a branch of the joint-stock company Pfleiderer Grajewo (Poland), part of Pfleiderer AG (Germany). The construction of the plant in Podberezye started in 2004. The projected annual capacity of Pfleiderer is ca 350 thousand m<sup>3</sup> of wood particle boards, quality class E1, 80% of which are laminated boards. This production is to supply the Russian market.

According to Hans-Peter Sattelkoff, CEO, Pfleiderer (Novgorod), project investments have exceeded 20 million EUR. The total amount of investments is valued at 70 million EUR. In August 2005, the plant carried out a test acceptance of wood supplies. It is planned to process deciduous trees – mainly aspen, which is in abundance and of low interest in the Novgorod Oblast. The first process line will require 600 m<sup>3</sup> of low-quality aspen per year. The Novgorod administration counts on the fact that the launch in 2006 of the Pfleiderer plant will enable the involvement of unclaimed deciduous stock in a production cycle, including firewood, increasing the exploitation of allowable cut wood to over 40% per year, and to ensure succession of species in the forest areas under operation. Pfleiderer expects to employ 260 specialists in the Novgorod Oblast, and to open 2000 working positions for the local population in logging operations and transportation.

At present, over 17.5 thousand people are employed in the forestry and timber industries of the Novgorod Oblast.

Olga ZYKOVA



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# ARKHANGELSK REGION: PAST, PRESENT AND FUTURE

Alexander GREVTSOV

**It is not necessary to introduce the Arkhangelsk Region to the global industrial timber community. Some of its enterprises are recognized as the largest in Europe. Arkhangel'sky TsBK and Kotlassky TsBK, Solombalsky LDK, Lesozavods #3 and #25 as well as many others, create the image of the region, and the claim 'made in Arkhangelsk' is a guarantee of the high quality and environmental friendliness of their timber products.**

Arkhangel'sky TsBK

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It is no wonder that in the Soviet era the Arkhangelsk Region was known as 'all-Soviet sawmill' or 'the country's currency maker'. The region demonstrated the second largest production of main product types – timber and sawn materials – in the USSR. Having easy access to the sea, the enterprises had no problem shipping timber products for export, thus, 90 percent of sawn timber, pulp, paper and cardboard were delivered to foreign buyers. Now the timber industry of the Arkhangelsk Region remains export-oriented. For example, in 2005, 1,785,000 m<sup>3</sup> or 87.3% of a total 2.045 thousand m<sup>3</sup> of timber went abroad. For large woodworking and timber processing enterprises, the share of exported products reached 97-98%.

## THE ARKHANGELSK TIMBER INDUSTRY: STAGNATION

Over the past several years, the output of traditional product ranges in the timber industry remained stable or decreased insignificantly. For example, the harvesting industry, the basic division of the timber industry, has not undergone any substantial changes recently and is reporting about 10mln m<sup>3</sup> of timber hauled annually. The year of 2005 was not an exception: harvesting enterprises produced only 9,910,900 m<sup>3</sup> of timber, which is 0.8 percent less than in 2004. Sawn timber production was about 2,045,000 m<sup>3</sup>, which is 0.8 percent less than in the previous year.

The growth is observed only in the pulp and paper industry. In 2005, the Arkhangelsk pulp and paper sector recorded two cases of historically high pulp output. Arkhangel'sky PPM reported breaking the record of 800,000 tons – the output was 826,600 tons, which is 4.9% more than in 2004, Kotlas PPM in its turn 'made a million' – it reported 1,002,000 tons of pulp or a 4.9% increase compared with the previous year. In total, pulping volume has grown by 3.2% and reached 2,036,800 tons. This amount is the maximum; a further increase is limited by the lack of facilities, and the work load of PPMs is nearly 100 percent. Only significant financial input can enable further growth.

The next two years are expected to see the increase of pulp output by 175,000- 200,000 tons at Arkhangel'sky PPM, while the production rate of Kotlas PPM will remain the same.

In the mid-late 90s of the 20th century, practically all large timber processing plants

received new owners interested in continuous development and expansion. The growth, however, was hindered by an insufficient supply of raw pulpwood and sawn timber. Logging operations were unable to provide the plants with raw materials as they were at a crisis point, under accumulated wage and tax debt burdens, operating worn-out equipment, which in its turn caused a drastic fall in harvesting volumes and put the operations on the verge of bankruptcy. At that time the new owners began establishing their own resource base by purchasing control stock of active logging operations and setting up new enterprises instead of liquidated ones or in the regions unfamiliar with timber harvesting.

As a result, the Arkhangelsk Region has several large and active vertically integrated industrial groups aiming to create an integrated timber harvesting and processing cycle 'from stump to finished product' (sawn timber, cellulose, paper). The pioneers in the process were the two largest European PPMs – Arkhangel'sky PPM and Kotlas PPM (Ilim Pulp). The early 2000's saw the formation of another industrial group in Solombalsky LDK and Lesozavod #3, which now includes eight forest operations and two subsidiaries. Some time later, several other companies came into light: Onegales (Onezhsky LDK, Orimi Concern) and North-West (Continental-Management).

**Railway is the most popular means  
of transporting forest products.  
The photo illustrates Konosha railway station**



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Volume of Timber Produced by Vertical Integrated Holdings of the Arkhangelsk Region in 2005

Thousand m³

Vertical Integrated Holding	Timber Production Volume		
	2004	2005	% to 2004
Solombalsky LDK and Lesozavod #3	840.8	837.2	99.6
JSC IlimSeverLes (a part of Ilim Pulp)	2168.7	2371.2	109.3
GC Titan (in Arkhangelsk Region)	1410.7	1389.6	98.5
PLO Onegales	777.9	758.4	97.5
LPK North-West	630.1	537.0	85.2
National Timber Company	376.0	342.2	91.0
TPG Capital	125.1	118.5	95.0
Articles	63.7	80.4	126.2
TOTAL	6393.0	6434.5	100.7
Volume of timber produced by all enterprises of the Arkhangelsk Region	9990.8	9910.9	99.2
Share of vertical holdings in total timber harvesting	64.0	64.9	+0.9%

Due to the creation of an effective vertical economic coordination scheme in the timber industry, these holdings account for two-thirds of all timber currently produced in the region. Their market share is expected to increase even more.

The table shows that in spite of the region-wide decline of timber harvesting, industrial holdings gradually augment their production volumes, which is quite natural. Considering the current economic situation, only holding companies are able to invest in the development of harvesting techniques and purchase up-to-date harvesters and bucking lines for upgrading and enhancing logging efficiency. This is illustrated in the example of the Arkhangelsk Region. Over the past several years it received more than 100 of the cut-to-length harvesting systems “Harvester-Forwarder,” the lion’s share of which was sent to integrated logging and processing enterprises. Most “non-integrated” logging companies are still accustomed to the tree-length harvesting system.

EXPORT ABOVE ALL

As mentioned before, the timber industry in the Arkhangelsk Region is export-oriented, and until recently, timber-based products accounted for up to 70 percent of the foreign trade turnover of the region. The past two years, however, have seen drastic changes in the market situation: today, the main exports going through Arkhangelsk Customs are oil products.

This is related to favorable conditions created by regional authorities for the transshipment of oil products.

In 2005, foreign trade turnover on the territory covered by Arkhangelsk Customs was \$2,377.5mln which is 77.2% more compared with the corresponding total last year. Exports account for \$2,250.1mln (94.6%), while imports – only \$127.4mln (5.4%). All of this proves that the region thrives mainly on exports. The positive foreign trade surplus in 2005 was \$2,122,700,000.

In 2005, the Arkhangelsk Region maintained business contacts with nearly 90 counterparts in other countries. The major users of products passing through Arkhangelsk Customs are western countries. As for CIS countries, Ukraine was the most active counterpart, accounting for 80% of trade turnover. Among western counterparts, the most extensive trade was recorded with the Netherlands, the Virgin Isles, Great Britain and Ireland. The most active trade participants on the Russian side are Kotlas PPM, Arkhbum, Arkhangelsk PPM, Solombalsky LDK, Onezhsky LDK, Lesozavod #3 and Lesozavod #25. These enterprises, together with oil companies and machine-building plants from the city of Severodvinsk, constitute over 90% of the foreign trade turnover.

The structure of exportation from the territory covered by Arkhangelsk Customs underwent significant changes in 2005 in comparison

with 2004, when forest products (roundwood, sawn timber, cellulose, paper and cardboard) constituted 52.7% of all exports. In 2005, there was a considerable shift in export towards crude oil – it accounts for 60.2% of the total exports or \$1,354.1mln, which is a five time increase against 2004. It is also worth mentioning that the volume of crude oil exportation has grown nearly three times. The oil export growth dynamic is no surprise – booming global demand and crude oil prices give Russian companies (Rosneft, first of all, in the Arkhangelsk Region) an opportunity to make the most of the favorable market situation.

In 2005, the share of timber exports was only 31% or \$698mln. Nevertheless, the decline in timber cargoes does not signal a decrease in the volume of timber exports in volumetric or cost terms. According to final reports of the year, the cost of exporting rose by 10.9%.

The uniqueness of the Arkhangelsk Region lies in the dominance of conversion products – sawn timber and pulp and paper products. Despite the slight growth, the share of roundwood in 2005 was only 0.4% of the total exports of the region. During the year 2005, foreign buyers received 198,000 m³ of roundwood (+ 50.2% against 2004) to the amount of \$8.1mln (+42.6%).

The growing export of roundwood can be regarded as a limiting factor for the development of the timber processing industry. It should be noted, however, that the Arkhangelsk Region still looks quite optimistic compared to other regions (especially Siberia and the Far East) where the majority of timber is exported as roundwood. About 0.2% of the roundwood harvest of the region is supplied from abroad. This is largely due to a high degree of integration of forest operations into big holdings and demand for raw materials by leading timber processing plants.

Timber landing is a costly, but essential element for the enterprises using tree length harvesting systems. The photo shows the timber landing of JSC Konoshales



Pulp became the leader in cost growth. For 12 months, the export of pulp reached 659,300 tons (+5.9%), customs cost being \$255.2mln (+13.1%). Thus, the price rose by 7-8% in dollar terms. Now pulp accounts for 11.3% of the total export of the region.

Experts also report the growing export of other products of local PPMs – paper, cardboard and products thereof. In 2004, it was 445,100 tons, which is 10.4% higher compared to relevant figures last year. The cost of exported paper products grew by 13.1% to \$175.8mln. So, the paper, cardboard and products thereof accounted for 7.8% of the total export.

The contributions of Arkhangelsk sawmillers to the foreign trade turnover were a little bit more: \$1.785mln m³ of sawn timber for 12 months, which is 2.8% up against 2004. At the same time, the export cost grew faster – by 4.8% – and reached \$232.9mln. Thus, the input of sawmilling enterprises in the total export is 10.3%.

The volume of the export of fiberboards has increased by 27.5% to 5,000 tons since the beginning of the year; their rated cost increased by 63% to \$1.1mln.

Based on the given data, we may conclude that despite the decreasing market share, the timber industry remains one of the major foreign trade groups in the region. The expected turnaround of crude oil prices may entail the decrease of oil shipments in the foreign trade turnover and a consequent growth of timber supplies.

In 2005, the federal budget generated about \$1 billion in customs duties and fees of timber exporting companies sending their products through Arkhangelsk Customs. The total sum of duties transferred by exporters was nearly 16 billion rubles, the largest part of which was gained from crude oil.

The largest exporters of timber and paper products are the pulp and paper mills (in descending order) – Kotlas PPM, Arkhangelsk PPM (through its trader Arkhbum) and Solombalsky TsBK. Among sawmills, the largest exporter is Solombalsky LDK, then Onezhsky LDK, Lesozavod #25 and Lesozavod #3.

PPMs account for the largest share of customs duties and fees paid by timber exporters: Kotlas PPM – nearly 400mln rubles, Arkhangelsk PPM and its exclusive trader JSC Arkhbum – about 320mln rubles, Solombalsky LDK – about 270mln rubles.

Export of Main Product Groups

Product Group	January-December, 2004			January-December, 2005			Ratio	
	Rated cost (thsd, USD)	Share in total volume, %	Weight (ton/thsd. m³)	Rated cost (thsd, USD)	Share in total volume, %	Weight (ton/thsd. m³)	gr.5/ gr.2	gr.7/ gr.4
Total export volume	1193982			2250058			188,5	
Crude oil and crude oil products	275134	23.0	1339587	1354125	60.2	3903413	492.2	291.4
Oil products (except crude)	239362	20.0	734877	103041	4.6	247530	43.0	33.7
Round timber (thousand m³)	5630	0.5	126	8029	0.4	198	142.6	150.2
Sawn timber (thousand m³)	222169	18.6	1736	232858	10.3	1785	104.8	102.8
Fiber boards	653	0.1	3899	1065	0.0	4972	163.0	127.5
Glued plywood (thousand m³)	20454	1.7	69	23783	1.1	67	116.3	97.9
Cellulose	225648	18.9	622575	255198	11.3	659279	113.1	105.9
Paper, cardboard and products thereof	152840	12.8	403103	175755	7.8	445145	115.0	110.4
Wooden furniture (thousand pieces)	1779	0.1	89	1296	0.1	5	72.9	5.1
Total timber export, thousand USD	629173			697984			110.9	
Share of timber export, %	52.7			31.0			-21.7%	

CERTIFICATION

Export-oriented policy of the Arkhangelsk Region calls on timber producers to pay special attention to the requirements of European timber markets. It is common knowledge that timber-based products should meet not only technical specifications, (species, grade, length, thickness) but also strict environmental requirements. Arkhangelsk enterprises interested in retaining their market positions are forced to follow these requirements. Certification, mainly forest management certification, is one of the ways to verify the environmental friendliness of timber products.

According to the latest data, 2,752,700 ha of forests in the Arkhangelsk Region are certified. The affiliated WWF Russia office and its active position exerted a decisive influence on the choice of timber producers in favor of the certification scheme. All timber companies holding certificates verified the compliance of forest management with requirements of international standards of the Forest Stewardship Council (FSC).

Certification is a costly process, and small harvesting operations are unable to pay auditors and consequently certify their forest management systems. This is the main reason why certificates were issued only for the forest management systems of logging enterprises included in vertically integrated holdings. The undisputed certification leader in the Arkhangelsk Region and Russia in general is the Onegales group of companies (Onezhsky LDK, Orimy Concern).

The first FSC group certificate of forest management for four enterprises of this industrial group was issued on December 14th. The certificate confirms that the forest management system of the four enterprises of PLO Onegales (Kargopolles, Yarnemales, Onezhskoye Timber Raft Enterprise) is in compliance with FSC requirements. Earlier, conformity certificates were issued for the other two enterprises of the group – JSC Maloshouykales and JSC Nimengales. Now Onezhsky LDK member enterprises account for 20% of all certified Russian forests and more than half of the forests in the Arkhangelsk Region.

Forest Management Certification in the Arkhangelsk Region (as of January 31, 2006)

Enterprise	Certified forest area	Certificate validity	Audit company
Industrial group of Solombalsky LDK and Lesozavod #3. Total certified forest area 338.3 thousand ha			
JSC Svetlozerskles	171,900 ha	2009	GFA consulting group
Toyma-les, subsidiary of Solombalsky LDK	166,379 ha	2010	GFA consulting group
PLO Onegales (Onezhsky LDK, concern "Orimi"). Total certified forest area 1679.9 thousand ha			
JSC Maloshouykales	336,445 ha	2008	GFA consulting group
JSC Nimengales	187,415 ha	2010	GFA consulting group
JSC Kargopolles	51,507 ha	2010	GFA consulting group
JSC Yarnemales	236,079 ha	2010	GFA consulting group
JSC Onegales	660,544 ha	2010	GFA consulting group
JSC Onezhskoye Timber Rafting Enterprise	207,882 ha	2010	GFA consulting group
Titan Group of companies. Total certified forest area 578.7 thousand ha			
JSC Shalakoushales	274,172 ha	2010	Smartwood
JSC Ust-Pokshengsky LPKh	236,541 ha	2010	Smartwood
JSC Velskoye LPP	68,035 ha	2010	Smartwood
Dammers Company (Germany). Total certified forest area 65.9 thousand ha			
JSC Holz Dammers GmbH Arkhangelsk	65,905 ha	2010	IMO
Arkhangelsky LDK #3. Total certified forest area 89.9 thousand ha			
JSC Zelennikovskoye	89,872 ha	2010	Smartwood
Total certified forest area in the Arkhangelsk Region	2,752,676 ha		

According to FSC Russia, a total of 24 certificates were issued covering the area of 6,695,498 ha. Thus, the Arkhangelsk Region accounts for 41.1 percent of all certified Russian forests. Today, the region can be referred to as a forest certification leader: the year of 2005 saw an increase in more than five times of the certified forest area! An international joint forest management certificate is expected to be granted in the near future to twelve member companies of JSC IlimSeverLes holding (a baseline appraisal was held the fall, 2005). Apart from this, timber producers of the Titan Group are in the certification process.



Another condition of getting access to international markets of FSC-certified products is a chain-of-custody certificate. At present, the Arkhangelsk Region has five chain-of-custody certificate holders: Onezhsky LDK, PKP Titan, Lesozavod #25, Solombalsky LDK and JSC IlimSeverLes. The initial consignments of FSC-marked timber produced by Onezhsky LDK and Lesozavod #25 have already been sent to European markets.

## Underwater Part of the Iceberg

The optimistic perspective pictured above is the tip of the timber industry iceberg. Unfortunately, the situation in the region is not as sunny as it may seem at first glance. The most serious problems facing the industry are:

- considerable wear of equipment;
- insufficient number of all-season forest roads;
- conflicts of interest with successful enterprises;
- drying out of spruce stands between the rivers of North Dvina and Pinega.

### CONSIDERABLE WEAR OF EQUIPMENT

According to the statistics, the average degree of wear for the main facilities at all stages of timber production today is up to 80% (average industrial wear parameter – 50%). This alone justifies the need for significant investment in the industry’s development. The region, however, is unable to finance such a sum (at least, hundreds of millions of dollars; ideally it would cost billions), so fund raising largely relies on foreign partners. The latter, nevertheless, are reluctant to put up their money for the Russian timber industry due to several reasons:

- short lease terms for forest plots: foreign partners want to feel safe, but how can they if the lease period will expire in five years? Recently, the tension has been released – the Federal Forestry Agency (Rosleskhoz) tends to

put forest lands on 49-year leases, which will undoubtedly raise the regional enterprises’ investment attractiveness. Such contracts are still very few in number.

- illegal cuttings (the country where, according to unofficial statistics, up to 20% of timber is harvested illegally, is hardly attractive to investors).
- lack of legal protection of ownership (western investors believe that corporate conflicts of interest contribute to the timber industries instability).
- low profits from timber business (nowadays the sale of low value-added products brings higher profits).
- absence of a specialized machine-building industry.

Nevertheless, Arkhangelsk timber producing companies are ready to offer a number of large-scale projects for implementation, including the organization of production lines for edge glued furniture panels, MDF boards (Solombalsky LDK), coated paper (Arkhangelsk PPM) and many other items which can be implemented with the help of foreign investment.

The problems listed above are not unique features of the Arkhangelsk Region; in fact, they are national. Apart from this, the region has internal problems requiring solutions for its wellbeing.

### INSUFFICIENT NUMBER OF ALL-SEASON ROADS

In the 1980s the government financed construction of up to 600 kilometers of all-season haulage roads in the region annually. However, small, low-profit enterprises cannot afford building the required road network. The report of the Timber Industry Department states that current road construction is no more than 40-50 kilometers a year, which hinders the development of inaccessible forestlands. Moreover, above 90 % of existing forest roads became seasonal due to intensive use (i.e. suitable for haulage only in wintertime), which entails the overexploitation of cutting areas adjacent to highways while the backwoods remain unused. Certainly, timber producers are trying to solve this problem by themselves, but their efforts are insufficient.

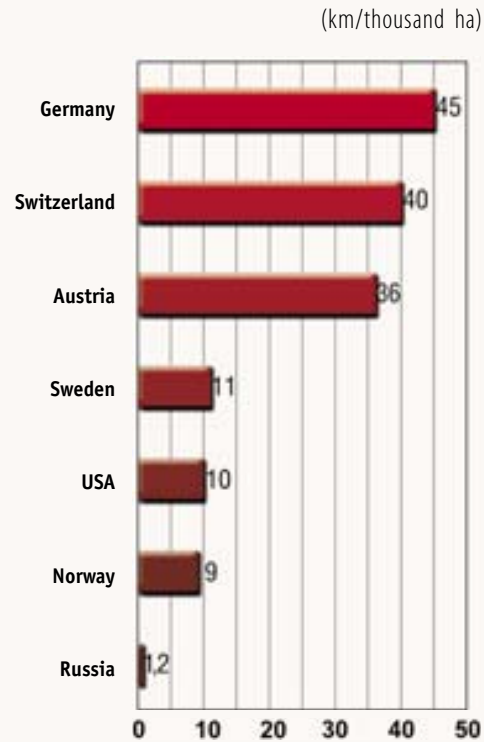
### Construction of Haulage Roads in the Arkhangelsk Region

Indicators	Years					
	1979	1980	1981	1985	1990	1991
Length of built haulage roads, km	532	533	521	584	470	312
Road length per 1mln m³ of hauled timber	31.0	30.0	30.2	32.0	28.4	16.8

Today the so called ‘forest road issue’ has become critical; in fact, it turned into a forest road crisis followed by a bulk of problems regarding the implementation of cutting plans. It is the absence of roads that presents an obstacle for harvesting expansion. The 2003 report said that the total road length in the Arkhangelsk Region was 22,865 kilometers, whereof the length of paved all-season haulage roads was only 1,961 kilometers.

So, the turn of harvesting to seasonal schemes is proved by varying volumes of timber harvest (in summer months the harvest is 2.5-3 times less than in wintertime). In general, Russia is far from the leading positions in terms of forest roads. As can be seen in the diagram, in

### Forest Roads Length in Russia and Abroad (Bar Diagram)



Germany the number of roads per one thousand ha is 40 times more than in Russia. Thus, the richest forest country has only 1.2 km of forest roads per one thousand ha.

Meanwhile, another consequence of the long-term intensive exploitation of forest areas is longer haul distance: the average haul distance in the Arkhangelsk region is 60-70 kilometers, and even more than 100 kilometers at other enterprises. The longer the haul distance, the higher the cost of timber harvesting. For example, in 1985, it was 38 km, in 1990 – 40.5 km.

In recent years, federal and local authorities have come to understand the necessity of governmental participation in building forest access roads. “Today, road building investment programs offering multiple funding schemes are being prepared,” says Valery Roschupkin, chief of the Federal Forestry Agency. The schemes will use the money of forest users, credits from financial institutions, and budget allocations of RF territorial subjects.

At the end of the previous year the government discussed the allocation of 500 million rubles from the federal budget for the construction of

Five districts in the Arkhangelsk region have no regular transport connection to the regional centre, so they are forced to use this means of transport to extract harvested timber





haulage roads. According to the Rosleskhoz chief, the Arkhangelsk region was to receive about 140 million rubles, which would be enough to build about 70 kilometers of forest roads, but the spending plan is still unclear. Consequently, we cannot be sure that the federal funds will be spent on building even several kilometers of forest roads. So, the harvesting boom is very unlikely to occur in the near future.

CURRENT CONFLICTS OF INTEREST WITH SUCCESSFUL ENTERPRISES

Recently, the Arkhangelsk regional timber industry has been suffering from corporate conflicts aimed at gaining control over successful enterprises. Foreign investors are expressing concern about this instability and are unwilling to invest in industrial development and the updating of production facilities, which will certainly affect the demand for Arkhangelsk timber products in the global market.

Among the enterprises that suffered most from unfriendly actions are the two leading PPMs of the region – Kotlas PPM and Arkhangelsk PPM. While the former has already overcome a fight for control over the plant, the latter is approaching the climax of the ‘corporate conflict.’ There is a threat of armed seizure against local sawmills with improved performance.

Potential investors watching such an acute confrontation are in doubt about their rights and protection in Russia, and have postponed their investment projects.

DRYING OUT OF SPRUCE STANDS BETWEEN THE RIVERS OF NORTH DVINA AND PINEGA

At present, up to 2.5 million ha of drying out spruce forests with the stock of 100 million m³ are recorded in the territory of the Arkhangelsk region. The affected area hosts dozens of settlements and leaseholds of 28 logging operations, many of them incurring considerable losses, e.g. Boretsky and Kontsegorsky harvesting enterprises (Vinogradov district), JSC Dvinles (Verkhnetoyemsk district) and others.

Specialists say the main reasons for the drying out of spruce stands are natural ageing (the average tree age is 200-250 years), several consecutive years of hot summers (especially 1997), the mass snow-break of spruce tree tops in the winter seasons of 2001-2002, and pest outbreaks, mainly Ips., Typographus, spruce bark beetle, and Monochamus sutor (Capricorn beetle). Field examination showed that the most heavily damaged forest plots are located along clear cut area borders where they were left for the period of initial regeneration. Specialists from Centre “Roslesozaschita” predict that in 2006 the drying out of spruce stands will persist, which will affect the properties of timber and harvesting volumes of high quality timber. Even in 2005, the enterprises harvesting in the affected area were forced to dispatch rafts of dried-out timber to their clients at lower prices and incurred losses.

Nevertheless, every cloud has a silver lining, and the crisis may be a source of profit, too. First, something should be done with the more than

100 million m³ of dried-out timber. The local authorities are considering several salvage projects. Production processes may vary from pellets to MDF boards. The project may be economically profitable due to the continuous raw materials inflow guaranteed by the planned abolition of stumpage prices by the government. At present, apart from salvage projects, the issue of attracting investments is also under discussion.

Last month the Federal Forestry Agency demonstrated an understanding of the necessity to solve this problem. To eliminate the consequences of forests drying-out in the territory of the Arkhangelsk region, Rosleskhoz began developing a target departmental program, “Forest Rehabilitation in the North European Part of the Russian Federation.” Rosleskhoz experts worked out new interim harvesting rules, cancelling the requirement of the retarded harvesting of forest plots adjacent to cut areas. Final Harvesting Rules demand adjacent forest plots to be left intact for the so-called initial regeneration period and harvested only after five years. This practice is used for the regeneration and stimulation of growth in healthy stands. As for diseased stands, these plots further aggravate the situation favoring pest reproduction.

In addition, Rosleskhoz considered alternative ways of processing wood salvaged from drying forests. For example, salvaged timber may be used in wood house construction, the production of sleepers, cement-fiber boards, chipboards, MDF, and, in the long run, pulp and paper production. Valery Roschupkin, Rosleskhoz chief, said that the target departmental program “Forest Rehabilitation in the North European Part of the Russian Federation,” is designed to

identify environmental and socioeconomic problems of the region and offer possible solutions.

WISH IT WERE STABLE!

Nonetheless, the problems mentioned above can be called temporary regarding the development of the timber industry in the Arkhangelsk region. If we consider the Arkhangelsk regional timber industry as a part of the Russian forest industrial complex, it is affected by imperfect legislation and amendments continuously proposed by the major Russian forest governance – the Forest Code.

Many issues of concern faced by the Arkhangelsk timber industry could have already been solved, but investments and the establishment of new production facilities need, above all, clear, open and consistent rules of the game. Unfortunately, the applicable Forest Code is recognized by the government as inadequate. The lawmakers regularly ‘improve’ it by introducing further amendments, turning the whole system of forest management upside-down.

At the same time, an alternative Forest Code is being prepared, and some of its provisions are revolutionary for the forest industry, although they don’t add to the economic attractiveness of the timber industry, so industrial practices are very unlikely to improve until the enforcement of the new Forest Code.

Development requires stability. If the industry is stable – it will raise investments. If the money flows into the market – it will speed up industrial growth, and the profits will come.

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Arkhangelsk Region: Summary

Location	North of European Russia		
Area	587.4 thousand qu km		
Population	1,318 thousand people		
Forest area	230 thousand km <sup>2</sup> , 39% of Region area		
Exploitable stock	1,580mln m <sup>3</sup>		
Forest composition:			
softwoods:		hardwoods:	
spruce	55.7%;	birch	16.3%;
pine	26.6%;	aspen	1.1%.
Total number of people employed: 75,000			
45% of all people employed in the industry			
Largest enterprises:			
Arkhangelsky TsBK, Kotlassky TsBK, Solombalsky LDK, Lesozavod #25, Onezhsky LDK, Lesozavod #3			

Resource base:	
(forests belonging to the Federal Forestry Agency):	
Total forest area, million ha	20.2
Total stock, billion m³	2.2
Annual allowable cut, million m³	19.7
Production facilities as of Jan 1, 2005:	
Pulping, million tons	2.0
Paper, thousand tons	338
Cardboard, thousand tons	730
Glued plywood, thousand m³	85
Fiber boards, million m³	21.8
Timber industry structure as for Jan 1, 2005:	
Large and middle enterprises, total	
divided by types of economic activity:	
Timber harvesting	70
Woodworking and manufacture of wood-based products	36

Production of cellulose, wood pulp, paper, cardboard and products thereof	4
Small enterprises, total	501
Individual entrepreneurs, total	533

Share of Timber Industry (percentages) as of Jan 1, 2005

	Russia	North-West Federal District
Industrial Timber	6.7	28
Sawn Timber Products	10.2	37.7
Pulp	33.4	52.7
Paper and Cardboard	15.7	29.0
Fiber Boards	5.2	31.0
Plywood	3.8	9.5
Percentage of RF Paper Products Export	9.4	

Industrial enterprises and production unit personnel as of Jan 1, 2005 - 65 thousand people

Volume of Hauled Timber and Sawn Products of Enterprises in the Arkhangelsk Region in 1940 - 2005

Year	Volume of hauled timber, mln m³	Sawn timber products, thousand m³	Year	Volume of hauled timber, mln m³	Sawn timber products, thousand m³
1940	16.0	3,353	1996	7.1	1,605
1950	13.1	2,978	1997	8.2	1,590
1960	26.1	6,411	1998	7.8	1,523
1970	25.7	7,057	1999	8.8	1,754
1980	23.9	5,957	2000	9.0	2,028
1990	22.6	5,011	2001	9.3	2,091
1991	18.5	4,097	2002	8.0	1,904
1992	17.6	3,488	2003	8.0	1,900
1993	13.8	3,201	2004	10.0	2,233
1994	9.3	2,292	2005	9.9	2,045
1995	9.0	1,737			





# INVESTMENT PROJECTS TO BE IMPLEMENTED BY THE ARKHANGELSK TIMBER INDUSTRY

## 1 TECHNOLOGICAL UPDATING PROGRAM FOR LOGGING ENTERPRISES

**Project initiator:** JSC PKP Titan

**Project summary and aims:** Purchase of imported harvesting systems for PKP Titan enterprises. The aim is to introduce harvesting systems (harvester – Caterpillar, forwarder – Ponsse) to optimize the harvesting process, cut the cost of timber, replace the worn-out, obsolete equipment, and increase harvesting volumes.

**Project location:** Arkhangelsk Region

**Feasibility report:** Production capacity of five harvesting systems - 250 thousand m<sup>3</sup> of timber per year.

**Total project cost:** \$4.1million      **Required investment:** \$4.1million

**Expected profit:**  
IRR - 42.67%      NPV - \$1.1million  
Average annual profit - \$0.53million      Cost recovery period - 26 months  
Number of new jobs - 30

**Project status:**  
A feasibility study of the project made. Project implementation period – 6 months. Resources offered by the enterprise – allowable cut (partial), supplementary production lines. Possible forms of investor's participation – leasing.

## 2 PURCHASE OF TIMBERJACK HARVESTING SYSTEM

**Project initiator:** JSC Solombalsky LDK

**Project summary and aims:** The enterprise is expected to increase harvesting volumes by introducing up-to-date and efficient machines at its logging enterprises. The aim is to purchase a harvesting system from the Timberjack Company and use it to implement planned harvesting operations by Solombalsky LDK group of companies.

**Project location:** Arkhangelsk Region

**Feasibility report:** Production capacity of Timberjack cut-to-length system is 35,000 m<sup>3</sup> of timber per year, including harvesting and skidding to the log yard.

**Total project cost:** \$0.6 million      **Required investment:** \$0.6 million

**Expected profit:**  
NPV - \$0.05 million      IRR – 19.5%  
Cost recovery period – 32 months      Annual profit – \$0.13 million

Introduction of up-to-date, efficient machines allows for creating qualified jobs and performing low impact harvesting operations.

**Project status:** Business Plan developed. Project implementation period – 6 months.

## 3 PRODUCTION OF WALL TIMBER AND MOLDING CO-PRODUCTS

**Project initiator:** JSC Solombalsky LDK

**Project summary:** The project provides for the production of construction materials from local timber in compliance with European quality standards. Glued laminated timber is designed for walls, window and door framing, sinks and other wood-based products.

**Project aim:** Establishment of a processing line for the production of glued laminated profiled timber at JSC Solombalsky LDK.

**Project location:** Arkhangelsk      **Feasibility report:** Predicted sales - 5.800 m<sup>3</sup> per year

**Total project cost:** \$0.67 million      **Required investment:** \$0.67 million

**Expected profit:**  
NPV - \$0.013 million      IRR – 16%  
Cost recovery period – 39 months      Annual profit – \$0.34 million  
The enterprise will include a new subdivision with an enlarged staff (52 persons).

**Project status:** Business Plan developed. Project implementation period – 9 months.

## 4 WASHER RECONSTRUCTION IN THE PULPING SHOP OF JSC SOLOMBALSKY LDK

**Project initiator:** JSC Solombalsky LDK

**Project summary:** Establishment of the fifth washing stage facilities for after-wash filter press in addition to the two existing washers of the pulping shop.

**Project aim:** Increased pulp output, lowered production costs, enhanced environmental friendliness, improved properties of market pulp.

**Project location:** Arkhangelsk

**Feasibility report:** Increase of cellulose output to 250 thousand tons per year

**Total project cost:** \$4 million      **Required investment:** \$3.4 million

**Expected profit:**  
Annual profit - \$3 million      Cost recovery period – 2.34 years  
The project will allow minimizing the amount of sewage water and gas discharge.

**Project status:** Business Plan developed. Enterprise's investment – \$0.6 million. Possible forms of investor participation – project crediting.

## 5 ESTABLISHMENT OF A FUEL GRANULES (PELLETS) PRODUCTION LINE WITH AN ANNUAL OUTPUT OF 50,000 TONS

**Project initiator:** JSC Bitewood

**Project summary:** Establishment of fuel granules (pellets) production line.

**Project aim:** Establishment of an integrated timber processing enterprise.



**Project location:** Arkhangelsk Region, town of Nyandoma.

**Feasibility report:** Production capacity - 50,000 tons of fuel granules per year

**Total project cost:** \$2.82 million

**Required investment:** \$2.82 million

**Expected profit:**

NPV - \$3.48 million

IRR – 240.8%

Cost recovery period – 2.2 years

23 new jobs

**Project status:**

Itinerary feasibility study conducted. Enterprise's investment – \$0.135 million. Possible forms of investor participation – project crediting.

## 6 UPGRADING OF JSC SHALAKOUSHSKY LESOZAVOD

**Project initiator:** JSC Shalakoushsky Lesozavod.

**Project summary:** Production upgrading includes the installation of drying chambers and grading and treatment facilities for dried sawn timber. At present the plant produces fresh sawn timber whose properties deteriorate during storage and transportation to the customers. The enterprise can allocate a ground for the construction of the sawn timber drying and finishing shop. The energy for driers can be supplied by the existing boiler house using sawmilling waste. After the installation of drying chambers, the enterprise will be able to finish and grade kiln-dried sawn timber. A packing line for the preparation of timber for shipment will be fully automatic.

**Project aim:** Upgrading of production lines of JSC Shalakoushsky Lesozavod.

**Project location:** Arkhangelsk Region, Nyandoma district, s. Shalakousha.

**Feasibility report:** Drying and treatment facilities for exporting oven-dried sawn timber with the annual output of 50,000 m<sup>3</sup>.

**Total project cost:** \$3.44 million including installation of drying chambers - \$1.1 million grading and treatment of kiln-dried sawn timber - \$2.34 million

**Required investment:** \$2.57 million

**Expected profit:**

Annual profit - \$0.56 million

Cost recovery period - 6 years

Number of retained and new jobs - 15

**Project status:** Business Plan developed. Project implementation period - 18 months. Enterprise's investment- \$0.87 million. Possible forms of investor participation – project crediting.

## 7 NEW DRYING AND INTEGRATED TIMBER PROCESSING LINE

**Project initiator:** JSC Niva

**Project location:** Arkhangelsk Region, Plesetsk region.

**Project summary:** Establishment of up-to-date processing line for the drying and deep processing of timber.

**Project aim:** Expansion of production capacity.

**Total project cost:** \$0.4 million

**Required investment:** \$0.3 million

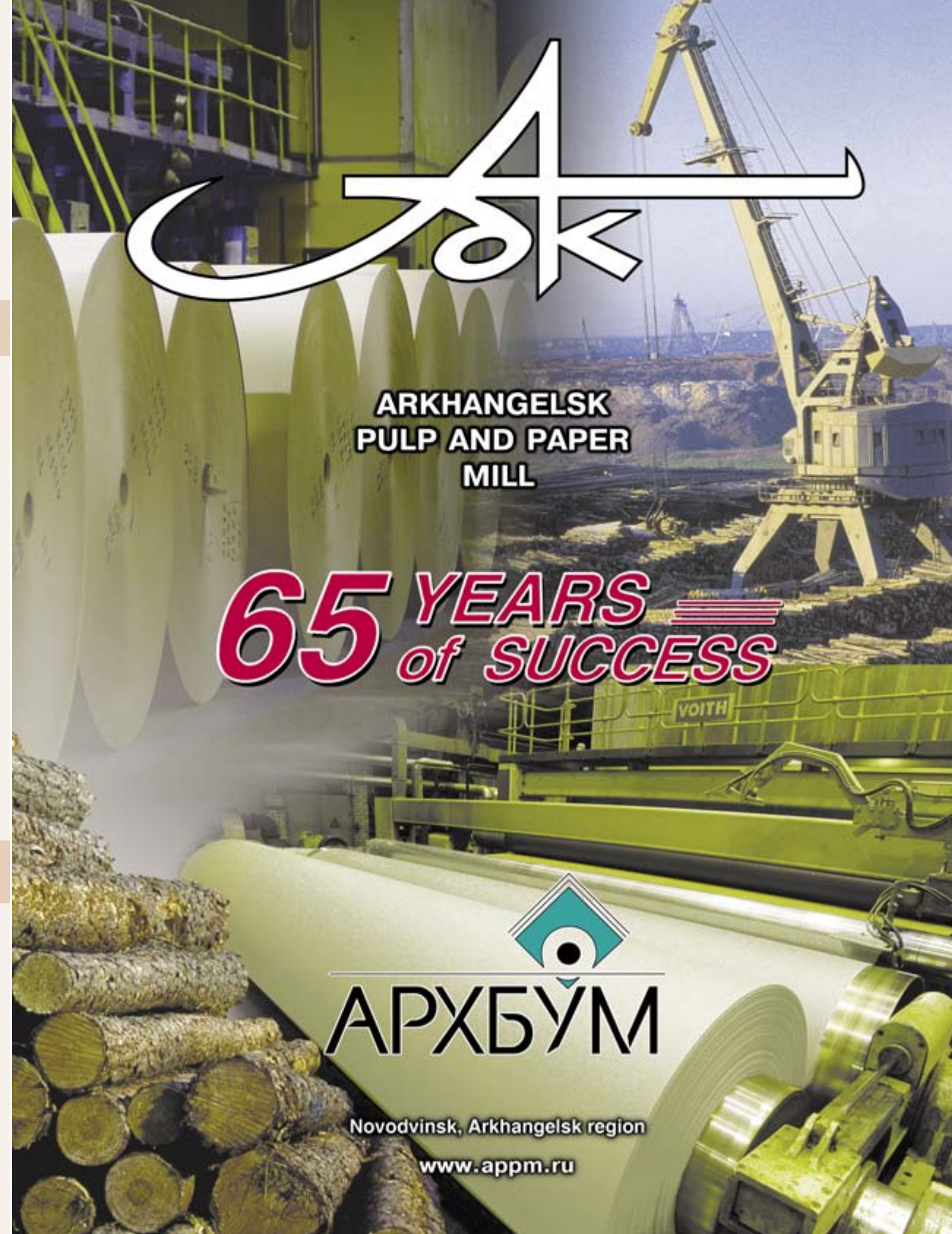
**Expected profit:**

Net profit – 30%

Cost recovery period – 30 months

Increased number of jobs (by 25)

**Project status:** Investment offer developed. Enterprise's investment – \$0.1 million. Possible forms of investor participation: project crediting, establishment of joint production.





# UNDER AIRPLANE WINGS STRETCHES THE GREEN PLAIN OF A PARMA

Parma means taiga in the Komi language

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The Komi Republic is situated in the extreme northeast of the European part of the Russian Federation, within the borders of the Pechora and Mezen-Vycheгда Lowlands, Middle and Southern Timan, western slopes of the Ural Mountains (Northern, pre-Polar and Polar Urals). The Republic stretches from Northern Uvaly in the south to Pay-Khoya in the northeast, and from the Pinega and Mezen rivers in the west to the watershed of the Pechora and Ob river basins extending along the Ural ridge in the east.

In the west and northwest, Komi borders the Arkhangelsk region and the Nenets Autonomous Okrug; Yamalo-Nenets and Khanty-Mansiysk Autonomous Okrugs of the Tyumen region in the east; Sverdlovsk region in the southeast; the Perm region in the south and the Kirov region in the southwest. The total length of the borders of the Republic are 4415 km. The area of the Komi territory is 416.8 thousand km<sup>2</sup>. Forests occupy 72.7% of the Komi land area.

## GENERAL DESCRIPTION OF THE TIMBER COMPLEX OF THE KOMI REPUBLIC

The timber complex, including logging, wood-processing, paper and pulp, is considered the second most important industry after fuel and energy (timber production accounted for 25% of the total production volume in 2004). Production growth was supported by wood-processing, and pulp and paper industries.

The timber complex of the Republic is generally at a growing stage (in 6 months of 2005 production volume distribution remained at the level of the previous year). According to the Ministry of Industry and Energy of the Komi Republic, volume indices of large and medium enterprises at all logging operation phases were lower in the first six months of 2005 than in 2004. Forest, wood-processing, and pulp-and-paper companies in Komi increased their production volume from 4.1% – up to 3 million 330 thousand m<sup>3</sup> in the

first six months of 2005 as compared to the same period in 2004. For the timber companies of the Komi Republic, 2004 became a period of stability and growth for the main production and economic indexes.

## FOREST REGENERATION IN THE KOMI REPUBLIC

Over the last five years, 415 thousand hectares of forests were cut and damaged in Komi. Reforestation was carried out only in 185 thousand ha (45%) and because of insufficient financing this area is gradually being reduced. According to the data of the territorial agency of the Federal Service of State Statistics for the Komi Republic, the scope of reforestation in 2004 came down to 9% as compared to that of the year prior, and covered an area of 34 thousand ha. The most extensively used measures were those stimulating natural forest regeneration (increment sustenance) – 31 thousand ha. At the same time, 2.7 thousand hectares were planted and sown with new trees. Tending of plantations was conducted in the territory of 5 thousand ha, and soil preparation for new plantations was carried out in 2 thousand ha. In order to increase soil productivity, the forest nurseries were supplied with 218 tons of organic fertilizer, however, this was way less than in the previous years. For the spring operations, 14 million coniferous seedlings were prepared and ready for

planting in 2005. In 2004, 93% of 42 thousand ha of young growth was attributed to the group of valuable forest stands (coniferous species make up 40% of the whole massif). According to Petr Perchatkin, Deputy Head of the State Forestry Agency for the Komi Republic, the main work plans in reforestation were managed better in 2005 than in previous years. The situation with forest fires was more auspicious in 2005. "We prevented forest fires from spreading over to the vast spaces," noted Perchatkin.

## FOREST RESOURCE MANAGEMENT OF THE KOMI REPUBLIC

The annual allowable cut in Komi is 26,4 million m<sup>3</sup>, however, exploitation of forest resources by all types of logging did not exceed 7 million m<sup>3</sup> over the last years. Almost all factories of deep wood processing in Komi work at full capacity or beyond their calculated power. "Currently, we are observing the succession of coniferous species by deciduous, which causes serious alarm," says Perchatkin. For example, the allowable cut of coniferous forest stands in the Koygorodsky forest management unit has been reduced by 121 thousand m<sup>3</sup> per year. Earlier it was 526 thousand m<sup>3</sup> per year, while the current inventory showed results of 475 thousand m<sup>3</sup>, with the simultaneous increase of the allowable cut of deciduous volume by 21 thousand m<sup>3</sup> per year.

Cut-to-length harvesting



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JSC Mondi Business Paper Syktyvkarsky

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### LOGGING IN KOMI

In the first six months of 2005, logging companies reduced their production volume by 3.9% – to 2 million 108 thousand m<sup>3</sup> as compared to the same period in 2004. But, taking into consideration that up to 30% of the total volume of logging in the Republic is contributed by private entrepreneurs, small and other companies, the general annual volume of logging remains within 6,0–6,3 million m<sup>3</sup>. About 34% of timber is logged by machinery – 1.2 million m<sup>3</sup>, of which 818.3 thousand m<sup>3</sup>, or 24.6%, is logged by harvesters and forwarders. The growth of assortment logging by harvesters and forwarders for the current six months stood for 65.2%. P. Perchatkin remarked that the logging volume in 2005 was relatively lower than in 2004. "This situation in the Republic is explained first of all by the fact that the Kotlas Pulp and Paper Complex has rejected their three areas in Komi (three enterprises of the IlymSeverLes Ltd.). Currently the Open Joint-Stock Company "Mondi Business Paper – Syktyvkar" uses less pulpwood." Hauling of timber for the same period of time was reduced by 6.6% – down to 2 million 299 thousand m<sup>3</sup>. In the current year the key wood-processing enterprises have maintained technological stock of the timber needed for



A shop of JSC Mondi Business Paper Syktyvkarsky LPK

regular and balanced work. Volume growth in logging is influenced by restrictive factors. They include a high degree of depreciation of basic production assets, deficiency of deep wood-processing capacities and insufficient volume of the fixed capital investment. The expected volume of logging, hauling and production of commercial timber is determined by wood-processing facilities put into operation in the Komi region, full exploitation of the existing production capacities, and absorption of the market of timber resources. Dynamics of the transportation tariffs and customs restrictions do not allow an increase in the sale of timber raw material by broadening the home market (of the Republic and nearby regions), neither by augmenting the export volume.

### WOOD-PROCESSING IN KOMI

For the first six months of 2005, wood-processing companies of Komi increased the volume of produced sawn timber by 0.8% – up to 368.6 thousand m<sup>3</sup>. During January–June, 2005, in comparison with the same period of 2004, a growth of cardboard and paper production indices by 1.6% – up to 393.8 thousand tons, of plywood by 11.9% – up to 57 thousand m<sup>3</sup>, and MDF chipboards (MittelDichteFaserplatte) by 16.4% – up to 2154.5 thousand m<sup>3</sup>, can be observed. The volume of fiberboard production stood for 13.3 million m<sup>3</sup>, which is 4.7% less than the year before. The growth of the given

Timber rafts, drifted down the stream of the Vychegda river, reached their destination



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Shops of a plywood plant

sorts of production is due to a stable condition both in the home and foreign markets of timber and paper products. In the first half of 2005, as compared to 2004, there was a lag in the production of wood-particle boards by 24.3% – 118.9 thousand m<sup>3</sup>. This situation was explained by the break in the complete overhaul of manufacturing equipment and an increase in the production of composite particle-boards at the Syktyvkar Plywood Plant, as well as by the lesser demand for non-refined wood-particle boards in the home market. The tendency for positive development dynamics of the wood processing industry in the Komi Republic is formed by the extension and exploitation of sawing capacities and the replacement of physically and morally depreciated equipment. The factor restricting development of the industry is the rise in the share of costs for fuel and energy in production.

According to the Ministry of Economic Development of the Komi Republic, the main priorities in the wood-processing industry in 2005 were:

- Adjustment of chipboard manufacturing and sawing to the planned production capacity;
- Quality improvement of output in order to improve competitiveness in the home and world markets;
- Familiarization with new sorts of production. In board manufacturing the main focus in

2005 was put on quality improvement and new production mastering.

### TIMBER EXPORT OF KOMI

The average currency proceeds from the export of all sorts of timber production in 2005 amount to \$60.8 per 1 m<sup>3</sup> of logged wood. This figure is higher than the average in Russia, which is approximately \$50 per 1 m<sup>3</sup>, but is several times less than in the leading forest countries, e.g. in Finland – \$200 per 1 m<sup>3</sup>, Canada – \$150 per 1 m<sup>3</sup>.

In accordance with the information of the Ministry of Industry and Energy of the Komi Republic, in the first half of 2005, export shares of timber and paper production volume increased by 1.4% and amounted to 53.4% (in RUR) in comparison with the same period in 2004; in the timber complex this index is 50.6%.

Export-oriented sub-industries of the timber complex include: wood processing (73.2% of production for export), board and plate manufacturing (74.8% of plywood and 23.4% of fiberboard for export), pulp and paper (more than 54.2% of production for export). Export growth of sawn timber, fiberboard and wood-particle board according to the data of the Ministry is due to the three-fold expansion of the timber and paper markets during the last ten years (\$100 billion). As it was noted in the Ministry, to ensure high competitiveness and a transition to more profitable timber production, the key issue is to continue modernization of the timber companies, technical re-equipment on the basis of highly efficient technologies and attraction of investments to the timber industry of the Komi Republic. Timber products are exported by the following companies: Open Joint-Stock Company "Syktyvkarsky LDK" (manufactured forest products), "SevLesPil" (sawn wood), Private Joint-Stock Company "Leskom" (forest products), Private Joint-Stock Company "Dvina" (sawn wood), Limited Liability Company "Zavod DVP" (fiberboard manufacture), Limited Liability Company "Syktyvkarsky Fanerny Zavod" (plywood). The monopolist in the export of pulp and paper is the Open Joint-Stock Company "Mondi Business Paper – Syktyvkar."

### BIG INVESTMENT PROJECTS

There are a number of projects concerning the construction of forest plants in Komi.

Particularly, in 2005, OJSC "Mondi Business Paper – Syktyvkar" had plans to implement several projects on production modernization. One of the main "ecological" projects of the company is "Transition to the non-chlorine (ECF) bleach of coniferous cellulose." The project goal is to meet increased environmental demands and to reduce the contents of hazardous chlorine-organic substances in finished products. The aggregate project value comes to 23.5 million EUR. According to the time schedule the project is to be completed by the end of quarter II of 2006. Environmental and conservation activities of the company are expected to improve as a result. "At present, we are striving to lower the company's load on the environment," pointed out Rinat Starkov, MBPSY CEO. "The major principle of the company from an environmental point of view is zero tolerance and the absence of ecocatastrophe." Implementation of the project "Modernization of recovery unit #4 "Y"" also contributes to the solution of ecological issues. The aggregated value of the project is 8 million EUR, of which 14% is already expended. The project is to be implemented in quarter I, 2006.

It is expected that realization of the project "Installation of a large-format film-slitting machine" will ensure deeper treatment of the production and supply of finished paper. The aggregate value of the project makes up 1.5 million EUR, and since the beginning of the project a little over 1% was expended. The production line was planned for launch in quarter IV, 2005. The project "Installation of the second line of the oxygen plant" is aimed at the steady raising of productiveness of the technological process of non-chlorine bleach of coniferous cellulose by assembling a second line of oxygen production, with the power of 525 m<sup>3</sup>/hour of pure gaseous oxygen. The aggregate value of the project amounts to 8 million EUR, 69% of which has been spent. At the present moment, assembling and adjustment works are under way. Another project contributing to the new wood-processing capacities is "Construction of a new sawmill of 600 thousand m<sup>3</sup> per year in the Ezhva district of Syktyvkar," with a primary value of 33 million EUR. According to Edgar Grunberger, Deputy CEO, the powerful wood-processing plant will be erected in several steps. The share of the Syktyvkar Timber Complex in the new plant will stand for 15%, the owner of 85% is the Tilly GmbH from Austria. A sawmill of 370 thousand m<sup>3</sup> of sawn wood per year will



**Rinat Starkov, Director General  
of JSC Mondi Business Paper  
Syktyvkarsky LPK**

be built at the first stage. About 100 workers will be employed. Construction works started in 2005, and it is scheduled for operation in the autumn of 2006. After that it is planned to increase the productivity of sawing in 2008 up to 780 thousand m<sup>3</sup>, and to achieve 1 million m<sup>3</sup> by 2010. The number of employers will grow as well – up to 400 people. Steam, hot water and electricity are to be supplied by MBP–Syktyvkar, where waste will be delivered to: wood chips for paper production, sawdust and bark for incineration at the heat power plant of the company. For this purpose one more boiler will be reconstructed. "The production will need a ground area of 30 ha for starters and 50 ha for the planned construction. Ground areas should be in the nearest distance to Mondi Business Paper – Syktyvkar in connection with its close relations with the company," said Hans Tilly, director of the Austrian company. An area of 70 ha has been allocated for the plant's construction, and land measuring is currently taking place. "Substantiation of investments toward the construction of the pulp and cardboard plant in the Troitsko-Pechorsky region of the Komi Republic" is considered to be one of the projects with the highest potential. Its value is 5.9 million RUR. A separate subdivision of the project will concern environmental impact assessment, which is to



be carried out by ecologists and experts of the Directorate of the Federal Supervision Service in Nature Management (Rosprirodnadzor) in cooperation with specialists of the close joint-stock company "Giprobum-Engineering." Public hearings on the project were held in September 2005. According to Valentin Brovkin, Head of the Timber Department of the Ministry of Industry and Energy of the Komi Republic, financing of the project on investment substantiation will be allocated from the Republican budget. "The introduction of such projects in Komi gives a powerful incentive to the development of timber and all the other industries of the Republic," V. Brovkin said.

Construction of the pulp mill in the Udora region will enable the involvement of 3.2 million m<sup>3</sup> of unused raw wood material. To raise the chemical treatment of surplus small-scale timber, the project is considering the construction of a plant for market sulfate bleached pulp production (capacity – 500 thousand tons per year). The aggregate value of the project stands for \$876.5 million. The construction deadline is 3.5–4.5 years. This project was elaborated by the close joint-stock company "Gazprombum" with participation of Jaakko Poyry Consulting (Finland). General costs of the project's development reached 5.8 million RUR and were allocated by the Republican budget. V. Brovkin thinks that the Udora pulp mill project will get investors shortly. "Project realization will enable an increase in capacities of the processing of small-scale and low-grade timber from 7 up to 12–13 million m<sup>3</sup> per year, which, in turn,

makes a contribution to the development of the timber industry of the Komi Republic." The investment program of the Syktyvkar Plywood Plant for 2005 includes the priority investment projects. First is the construction of an annex to the storehouse of finished products and veneer drying line (deadline – October, 2005). Second, reconstruction of the wood-particle board shop, planned for September, and construction of a boiler-house for the utilization of wood waste, with a productive capacity of 15 MW in November 2005. The total investment amount is over 460 million RUR. The company with limited liability "Syktyvkar Tissue Group" will implement the project "Modernization and expansion of the production of high-quality hygiene and sanitary paper." Generally it is expected to increase the total production volume up to 46 thousand tons of base paper for hygiene and sanitary goods per year. The value of the project is 544.6 million RUR. "The Komi government will support such projects, since along with the construction of new plants and opening new working positions they increase returns to the Republican and local budgets," states Ivan Pozdeev, Deputy Head of the Komi Republic. In the Noshul village of the Priluzsky Region of the Komi Republic the company "Algir Pelltes" (Moscow) started a project "Construction of a plant producing fuel pellets from logging waste," which is directed toward the liquidation of logging waste, reduction of costs on heat energy by using biological fuel and the utilization of low-quality timber. The aggregate value of this project amounts to 77 million RUR. Now that the design estimates have been approved, foundation building, and the mounting of production units and equipment are being carried out. "Investments in board production could increase the volume of timber resources involved," considers the Ministry of Industry and Energy of the Komi Republic. Experts think that because of deficient financing the projects are being slowly implemented. At present, an active search for potential investors in the construction projects is being held.

Irina MANOVA

\*\*\* The article contains information of the Komiinform Agency, Territorial Agency of the Federal Service of State Statistics for the Komi Republic, Ministry of Economic Development of the Komi Republic, Ministry of Industry and Energy of the Komi Republic, Open Joint-Stock Company "Mondi Business Paper-Syktyvkar".

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# THE TIMBER INDUSTRY COMPLEX OF THE IRKUTSK REGION

The Irkutsk region is one of ten Russian regions with a developed timber industry. The timber industry complex is very important for the regional economy. The region possesses unique timber resources. The territories covered with forests occupy 61.7 million hectares (82% of the region's territory). The region is one of most timber-rich among the Russian Federation members and second after the Krasnoyarsk region. 12% of the country's mature timber resources are concentrated here and the amount of high-value coniferous timber like pine and Siberian pine (cedar) is significant on the world scale. The total timber reserves of the Irkutsk region exceed that of Sweden, Finland and Germany together.

The total timber reserves in the region's forests (according to the information of the Russian Ministry of Natural Resources and Environment administration for the Irkutsk region) is 8.79 billion cubic meters including 5.17 billion cubic meters in mature and overmature forests in which the fraction of coniferous forests is 4.51 billion cubic meters. The mature forests ready for exploitation occupy 11.72 million hectares or 20% of the forest area. Predominantly coniferous wood occupies 78% of the exploitative reserve, thus they may be considered highly valuable for the timber industry. The forests of highly salable pine in our country and on the International market occupy 15.2 million hectares, or 25% of the wooded area, and are second only to larch forests. The pine forests of the region constitute 13.1% of the total pine forest area of Russia (115.2 millions of hectares). The Siberian pine (cedar) occupies 7,138 hectares of taiga or 12% of the forested area. The Irkutsk region cedar forests constitute 18% of the country's total cedar forest area (39.7 millions of hectares). Only in the Krasnoyarsk region the does the predominantly cedar forest area exceed that of the Irkutsk region.

The exploitable timber reserves in the Irkutsk region are 2730 million cubic meters; 41% of

them are of the highest value pine forests, which are highly desirable for the timber industry.

The estimated timber production in the region (the value that does not violate the recovery of the timber reserves) is 52.7 million cubic meters of lumber per year.

The main objective of the timber industry in the Irkutsk region is pine. The high technical properties of the pinewood make it especially valuable for all kinds of wood products. The large pine forestlands are located in the Angara river basin in the south of the Central Siberian plateau. The second in economic value is larch wood. The advantage of larch wood is its high resistance to rotting. Larch wood buildings can last for a few centuries.

Larch forests are dominant in the northern districts of the region. Because of the poor development of transportation routes in larch-growing areas and the specific mechanical properties of this wood hampering its processing, larch forests are almost unexploited. The mechanical properties of larch wood nevertheless enable its use instead of oak and beech.

The valuable technical properties (strength, softness, weight, rotting resistance) are characteristic of Siberian pine (cedar) wood. The production of cedar wood is limited because parts of cedar forests (3.8 million hectares) are reserved for cedar nut harvesting and hunting, whereas the regulated felling age is much higher than that of other coniferous trees.

Coniferous timber is used inside the region as well as outside. The problem exists with the processing of deciduous timber: aspen and birch. The region produces more than six million of these kinds of lumber and more than three million remain unused. The rest is used in cellulose production.

The major reserves of mature timber are concentrated in the Ust'-Ilimsky, Chunsky, Kirenskom, Bratsky, Ust'-Kutsky, Nizhneilimsky i Kazachinsko-Lensky districts.

Significant experience can be gained in the Irkutsk region by using timber resources for economic development. The timber industry of the region includes timber production, wood processing, cellulose/paper production, and a wood-chemical industry. The development of the timber industry in the Angara basin was stimulated by the fast industrial development of Siberia that started in the mid-1950s. Timber production in the region drastically increased and the large integrated timber plants (Baikal and Ust'-Ilim integrated pulp-and-paper mills) started operating. These plants produce about 70% of the total Angara basin timber industry output. In 1998, the decrease of production slowed down and a tendency towards the increase of the production volume became visible.

In 2007, the Irkutsk regional administration will accept wide powers in the distributing, protection and recovering of the timber resources of the region. Currently, the timber industry is responsible for less than a 7% contribution to the budgets of all levels. According to the regional administration, high priority in receiving forest lots for lease will be granted to the companies accomplishing the thorough processing of timber. This will reduce the volume of raw timber exportation. The Federal agency for the timber industry of the Irkutsk region, jointly with the regional administration, developed new criteria for determining winners in competitions for forest lots. Not only the forest lot lease price and the production capability are taken into consideration, but the leaseholder's preparedness for social partnership, the creation of new workplaces, and investments into the development of the facility and the whole industry. Strict compliance with the lease agreement will be ensured.

In 2005, the Baikal timber exchange was opened in Irkutsk. Among its founders were 11 organizations and 6 individuals. The timber exchange was founded in order to regulate trade relationships inside the region and with International partners and to establish general timber trade rules for all participants of the industry's division, which were formulated by the founders jointly with buyers and sellers. The founders expect that about 300 timber companies of the Irkutsk region will use the exchange services.

The "Siblespol'zovanie" (Siberian timber exploitation) exhibition (organized by "Sibexpocenter" International exhibition complex) is annually held in Irkutsk. The main themes of the exhibition are investment projects, technologies, machinery and equipment for timber harvesting and processing, thorough timber processing, and timber industry products. Presentations, round-table discussions, and consultations are organized. The participants are Russian and foreign timber companies and equipment producers.

## STATISTICS

In 2005, 21 million cubic meters of timber were produced in the Irkutsk region. In the beginning of 2006, 296 forest lots with a total area 14 million hectares were on lease. The possible production volume is 27 million cubic meters. Timber processing includes 35% for cellulose production, 17% of sawn timber and 9% of other products; 25% of timber production is raw timber, and 14% is used as firewood.

In 2005, the industrial production index of the Irkutsk region was 103.7%. In 2005, 2461.4 thousand cubic meters of sawn timber, 1295.0 thousand tons of marketable cellulose, 155 thousand tons of plywood, 2.38 thousand tons of paper, 214.4 thousand tons of cardboard, 28,003 thousand square meters of building insulation (DVP), and 169.5 thousand cubic meters of chipboard (DSP) were produced.

In January 2006, the industrial production index compared to January 2005 was 110.1%. The timber processing industry index in January 2006 compared to January 2005 was 117.9%, and that of timber harvesting – 89.3%.

About two thousand companies are operating in the timber industry of the region employing 62 thousand.

## PRINCIPAL PERSONS IN THE REGIONAL TIMBER INDUSTRY

- Dolgov Viktor Nikolaevich – Irkutsk administration deputy head for the timber and wood processing industry

### Committee for the timber and wood processing industry of the Governor's administration:

- Ignatov Valerij Viktorovich, committee chairman



- Tangarov Semen Sidorovich, head of the department of the timber and wood processing industry of the Governor's administration
- Tribunskij Pavel Vladimirovich, department of timber resources and leases
- Zhurkov Sergej Prokop'evich, head of the timber agency of the Irkutsk region
- Logachjov Jurij Fjodorovich – president of the Irkutsk region timber producers and exporters association
- Plakhotnik Anatolij Konstantinovich – president of OAO «Pik-89»
- Il'inskij Vladimir Serafimovich – general director of OAO «Chunskij LPK»
- Krivokhizhin Ivan Prokop'evich – general director of OAO «Lesogorskles»
- Stupin Andrej Ivanovich – general director of ZAO «Jantal'les»
- Babich Sergej Jakovlevich – general director of OAO «Kunerminskij LTKH»
- Rossoj Andrej Georgievich – general director of OOO «Ilimsibles»
- Podashov Iosif Fomich – OOO «SP Sibehksportles-Tajriku»
- Bratschev Vladimir Nikolaevich - General Director of JSC Ust-Ilimsk Pulp Mill
- Sokolovskiy Vladimir Alexandrovich – General Director of JSC Bratsk Pulp and Containerboard Mill
- Lazarev Alexandr Vasilyevich – General Director of JSC Logging and timber rafting Department
- Rudenko Viktor Ivanovich – General Director of JSC Ust-Ilimsk Saw and Wood Processing Mill

### THE PROBLEMS OF THE TIMBER INDUSTRIAL COMPLEX OF THE REGION

The main problems of the timber industrial complex of the region are: worn-out equipment, absence of investments into the all-season lumber truck roads, and the shortage of a qualified workforce. There is also a shortage of timber transporting vehicles. Investments into thorough timber processing and equipment purchasing are necessary.

The reason for the transportation problem is the shortage of freight cars experienced by transportation companies and timber companies. This problem is being solved: new lumber transportation companies have been founded, and currently there is competition between them. The timber companies themselves are investing into transportation vehicles. Creation of additional transportation companies and their competition is the best way to ensure the sufficient supply of the timber industrial complex with transportation vehicles. The regional administration supports the founding and development of transportation companies.

The low productivity per hectare of forest is considered the main problem of the regional timber industrial complex. In Russia, this index is a few times lower than in European countries. The productivity means not only the volume of timber harvested from the forest lot, but all of the profit obtained from the unit area. How can the value of the timber products be increased? It is necessary to ensure the increase of the volume of timber processing within the region. Obviously this cannot be achieved instantly because significant investments are necessary.

A very serious problem in the timber industrial complex of the region is the 80% aging capital equipment. This is the result of the state's insufficiently considered policy in customs duties and payments. According to experts it is necessary to stimulate businesses toward thorough timber processing and the compliance of products with world standards. This requires the correction of the customs policy and the revision of customs exportation duties for timber industry products.

Another important problem is the high transportation cost. The Irkutsk region is located in the center of Russia, thus, currently the cost of one cubic meter of lumber delivered to sea ports is increased by a factor of two. A well-considered system of preferential tariffs for these kinds of freights is necessary.

The next problem is lumber theft. The efficient coordination of law-enforcement, customs and revenue agencies, transportation companies and regional authorities is necessary. In order to prevent crime in the timber business, the timber police was founded.

Departmental roads are another point of concern. The large timber companies that have to build their own roads for lumber transportation have to pay the road taxes too, though these funds could be invested in the building of a new lumber truck road network. Currently, the estimated timber reserves in the region are estimated to be 52.7 million hectares, but only 14.6 million hectares are leased. According to Valerij Ignatov, the chairman of the committee for the timber and wood processing industry, the reason is the absence of a transportation infrastructure including all-season lumber transportation roads and, as a result – the inaccessibility of reserves for timber companies. The average timber transportation distance in the region is more than 150 km. The area for the timber resources accessible for exploitation should be gradually increased by road construction. For the efficient exploitation of timber reserves, 2.3 thousand kilometers of roads should be built in the Irkutsk region.

Among the existing problems is also the excessive value of duties paid for standing timber, which is expected to increase.

There are artificial problems too, for example, according to information of the Irkutsk region's timber producers and exporters association, among them is the depletion of timber reserves. Actually, the forest lot lessees do not even reach the estimated production volume (52.7 million cubic meters per year). Every year 11 million hectares are leased. The production on these lots is 20 million cubic meters.

### EXPORTATION

China is the major importer of timber from the Irkutsk region. This country's share is 75% of the total exportation; the remaining 25% is received by Japan and other Eastern countries. In 2004, the region's companies produced 20 million cubic meters of timber, including six that were exported (in comparison, during the Soviet period, 40 million cubic meters of timber were produced and only one million exported).

Currently, the electronic recording of timber exportation is being applied. The goal of the new system is more strict control of the exportation of timber abroad and the reduction of freight document processing times. The information on lumber volume and quality is transferred via

electronic systems. Each log is marked with a tag. The exporter's employees input the log parameters into the database. The timber exported this way requires less time for customs clearance. The Irkutsk region is the first Russian region where by-the-piece electronic recording of raw timber has been tested.

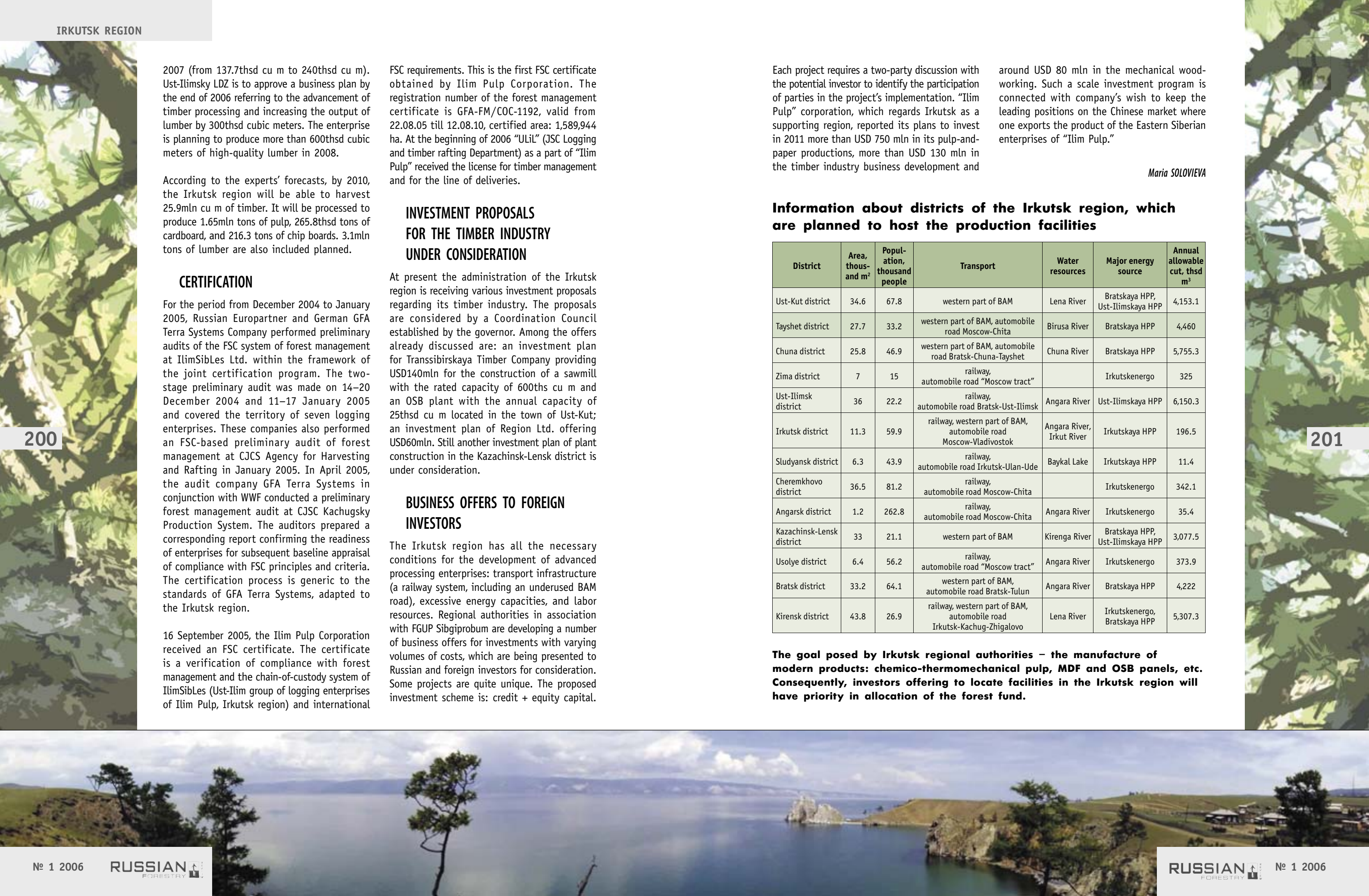
According to the Eastern Siberian and Far East customs data, exportation of Irkutsk region timber industry products in 2005 included: raw timber – 6033 thousand cubic meters, sawn timber – 1815 thousand cubic meters, cellulose – 1035 thousand tons, cardboard – 155.2 thousand tons, building insulation (DVP) – 0.4 million conditional square meters.

### TRENDS IN THE DEVELOPMENT OF IRKUTSK FOREST-RELATED INDUSTRIES

A strategy of development in the forest industry prioritized enhancement of advanced chemical wood technology with the aim to process small-size, low-grade wood and soft-wooded broadleaved species to obtain high-profit goods. The products obtained by advanced timber processing are competitive on the domestic and international markets, highly profitable and ensure stable revenues of the budgets at all levels. Investment projects have been developed for the development and expansion of existing advanced chemical processing facilities and commissioning new sawmills and woodworking enterprises oriented with the advanced processing of wood; their implementation is being planned considering economic, social, technical and environmental conditions. One of the major pre-conditions of enhanced timber harvest and extraction is full compliance with sustainable forest use and environmental protection requirements.

According to Denis Petushinsky, vice-governor of the Irkutsk region, the priority of the timber industry in 2006 is the commissioning of new facilities for advanced timber processing. The growth in this sector is ensured by the large pulp producing plants: JSC TsKK, PO Ust-Ilimsky LPK, and Baykalsky Pulp and Paper Mill. Moreover, in 2007, Bratsky LDZ is expected to double its output to reach 150thsd cubic meters per year. Ilim Bratsk DOK Ltd. drew up a business plan of plywood production providing for the increase of output nearly two times by





2007 (from 137.7thsd cu m to 240thsd cu m). Ust-Ilimsky LDZ is to approve a business plan by the end of 2006 referring to the advancement of timber processing and increasing the output of lumber by 300thsd cubic meters. The enterprise is planning to produce more than 600thsd cubic meters of high-quality lumber in 2008.

According to the experts’ forecasts, by 2010, the Irkutsk region will be able to harvest 25.9mln cu m of timber. It will be processed to produce 1.65mln tons of pulp, 265.8thsd tons of cardboard, and 216.3 tons of chip boards. 3.1mln tons of lumber are also included planned.

CERTIFICATION

For the period from December 2004 to January 2005, Russian Europartner and German GFA Terra Systems Company performed preliminary audits of the FSC system of forest management at IlimSibLes Ltd. within the framework of the joint certification program. The two-stage preliminary audit was made on 14–20 December 2004 and 11–17 January 2005 and covered the territory of seven logging enterprises. These companies also performed an FSC-based preliminary audit of forest management at CJCS Agency for Harvesting and Rafting in January 2005. In April 2005, the audit company GFA Terra Systems in conjunction with WWF conducted a preliminary forest management audit at CJSC Kachugsky Production System. The auditors prepared a corresponding report confirming the readiness of enterprises for subsequent baseline appraisal of compliance with FSC principles and criteria. The certification process is generic to the standards of GFA Terra Systems, adapted to the Irkutsk region.

16 September 2005, the Ilim Pulp Corporation received an FSC certificate. The certificate is a verification of compliance with forest management and the chain-of-custody system of IlimSibLes (Ust-Ilim group of logging enterprises of Ilim Pulp, Irkutsk region) and international

FSC requirements. This is the first FSC certificate obtained by Ilim Pulp Corporation. The registration number of the forest management certificate is GFA-FM/COC-1192, valid from 22.08.05 till 12.08.10, certified area: 1,589,944 ha. At the beginning of 2006 “ULiL” (JSC Logging and timber rafting Department) as a part of “Ilim Pulp” received the license for timber management and for the line of deliveries.

INVESTMENT PROPOSALS  
FOR THE TIMBER INDUSTRY  
UNDER CONSIDERATION

At present the administration of the Irkutsk region is receiving various investment proposals regarding its timber industry. The proposals are considered by a Coordination Council established by the governor. Among the offers already discussed are: an investment plan for Transsibirskaya Timber Company providing USD140mln for the construction of a sawmill with the rated capacity of 600ths cu m and an OSB plant with the annual capacity of 25thsd cu m located in the town of Ust-Kut; an investment plan of Region Ltd. offering USD60mln. Still another investment plan of plant construction in the Kazachinsk-Lensk district is under consideration.

BUSINESS OFFERS TO FOREIGN  
INVESTORS

The Irkutsk region has all the necessary conditions for the development of advanced processing enterprises: transport infrastructure (a railway system, including an underused BAM road), excessive energy capacities, and labor resources. Regional authorities in association with FGUP Sibgiprobum are developing a number of business offers for investments with varying volumes of costs, which are being presented to Russian and foreign investors for consideration. Some projects are quite unique. The proposed investment scheme is: credit + equity capital.

Each project requires a two-party discussion with the potential investor to identify the participation of parties in the project’s implementation. “Ilim Pulp” corporation, which regards Irkutsk as a supporting region, reported its plans to invest in 2011 more than USD 750 mln in its pulp-and-paper productions, more than USD 130 mln in the timber industry business development and

around USD 80 mln in the mechanical wood-working. Such a scale investment program is connected with company’s wish to keep the leading positions on the Chinese market where one exports the product of the Eastern Siberian enterprises of “Ilim Pulp.”

Maria SOLOVIEVA

Information about districts of the Irkutsk region, which  
are planned to host the production facilities

District	Area, thous- and m <sup>2</sup>	Popul- ation, thousand people	Transport	Water resources	Major energy source	Annual allowable cut, thsd m <sup>3</sup>
Ust-Kut district	34.6	67.8	western part of BAM	Lena River	Bratskaya HPP, Ust-Ilimskaya HPP	4,153.1
Tayshet district	27.7	33.2	western part of BAM, automobile road Moscow-Chita	Birusa River	Bratskaya HPP	4,460
Chuna district	25.8	46.9	western part of BAM, automobile road Bratsk-Chuna-Tayshet	Chuna River	Bratskaya HPP	5,755.3
Zima district	7	15	railway, automobile road “Moscow tract”		Irkutskenergo	325
Ust-Ilimsk district	36	22.2	railway, automobile road Bratsk-Ust-Ilimsk	Angara River	Ust-Ilimskaya HPP	6,150.3
Irkutsk district	11.3	59.9	railway, western part of BAM, automobile road Moscow-Vladivostok	Angara River, Irkut River	Irkutskaya HPP	196.5
Sludyansk district	6.3	43.9	railway, automobile road Irkutsk-Ulan-Ude	Baykal Lake	Irkutskaya HPP	11.4
Cheremkhovo district	36.5	81.2	railway, automobile road Moscow-Chita		Irkutskenergo	342.1
Angarsk district	1.2	262.8	railway, automobile road Moscow-Chita	Angara River	Irkutskenergo	35.4
Kazachinsk-Lensk district	33	21.1	western part of BAM	Kirenga River	Bratskaya HPP, Ust-Ilimskaya HPP	3,077.5
Usolye district	6.4	56.2	railway, automobile road “Moscow tract”	Angara River	Irkutskenergo	373.9
Bratsk district	33.2	64.1	western part of BAM, automobile road Bratsk-Tulun	Angara River	Bratskaya HPP	4,222
Kirensk district	43.8	26.9	railway, western part of BAM, automobile road Irkutsk-Kachug-Zhigalovo	Lena River	Irkutskenergo, Bratskaya HPP	5,307.3

The goal posed by Irkutsk regional authorities – the manufacture of modern products: chemico-thermomechanical pulp, MDF and OSB panels, etc. Consequently, investors offering to locate facilities in the Irkutsk region will have priority in allocation of the forest fund.



# BUSINESS OFFERS TO FOREIGN INVESTORS IN THE IRKUTSK REGION

## PROJECTS ON THE CHEMICAL TECHNOLOGY OF WOOD, PULP AND PAPER PRODUCTION

### 1 CONSTRUCTION OF A PULP AND PAPER MILL INCLUDING FACILITIES FOR:

- cardboard and bag paper, output - 280thsd tons;
- bleached pulp, output - 250thsd tons.

**Location:** Ust-Kut (Ust-Kut district)

**Total project cost:** USD900mln.

**Payback period:** 108 months.

**Internal rate of return:** 40%.

**Brief description of the business proposal:**

The construction of the mill is to be accomplished in two-phases:

1st phase –cardboard and bag paper facilities with a rated capacity of 280thsd tons.

2nd phase – sulphate bleached pulp production facilities with a rated capacity of 250thsd tons.

Total raw material consumption– 2.9–3mln cu m of softwood and hardwood timber.

**Financial proposal to the investor:**

USD900mln are supposed to be raised, the period of payback is 6–7 years; the interest rate and payback terms are to be agreed between the parties.

### 2 ORGANIZATION OF CHEMICO-THERMOMECHANICAL PULP PRODUCTION (CTMP) WITH THE RATED CAPACITY OF 200–300THSD TONS. PREFERRED SPECIES ARE SPRUCE, FIR AND ASPEN.

**Location:** Tayshet (Tayshet district)

**Total project cost:** USD200–250mln

**Payback period:** 48 months

**Internal rate of return:** 50%

**Brief description of business proposal**

Chemico-thermomechanical pulp (CTMP) refers to fiber semi-finished high-output products obtained by the mechanical treatment of wood. CTMP production is boosting in countries with a developed pulp and paper industry. The growth of demand for bleached pulp is especially notable, which can be explained by the improved properties of the pulp and wider ranges of paper and cardboard products, using this semi-product. The popularity of CTMP in comparison with other fiber materials (bleached pulp is accounted for by a number of advantages):

- less capital expenditures;
- high output of pulp (85–9%), which is two times higher than bleached pulp (42–52%);
- high degree of lightness (85% ISO for hardwoods);
- high degree of bulkiness, hardness and opacity;
- significant decrease of harmful discharge into the atmosphere in comparison with pulp production;
- fully automated technological processes.

Chemico-thermomechanical pulp is widely used in compositions for newsprint, writing and printing paper, various cardboard types and sanitary paper.

**Financial proposal to the investor**

USD200–250mln are to be raised (depending on the supposed production capacity), the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.

### 3 ORGANIZATION OF CHEMICO-THERMOMECHANICAL PULP PRODUCTION (CTMP) WITH A RATED CAPACITY OF 200–300THSD TONS. PREFERRED SPECIES ARE SPRUCE, FIR AND ASPEN.

**Location:** town of Chuna (Chuna district)

**Total project cost:** USD200–250mln

**Payback period:** 48 months

**Internal rate of return:** 50%

**Brief description of business proposal:**

Chemico-thermomechanical pulp (CTMP) refers to fiber semi-finished high-output products obtained by the mechanical treatment of wood. It is widely used in compositions for newsprint, writing and printing paper, various cardboard types and sanitary paper.

**Financial proposal to the investor**

USD200–250mln are to be raised (depending on the supposed production capacity), the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.

### 4 MDF PANEL PRODUCTION WITH A RATED CAPACITY OF 35THSD CU M

**Location:** Yantal settl. (Ust-Kut district)

**Total project cost:** USD18–20mln

**Payback period:** 30 months

**Internal rate of return:** 60%

**Brief description of business proposal:**

MDF panels are modern, high-quality and strong materials in comparison with fiber and chipboards, offering a wider range of uses. The panel format is 2100\*2750 mm, thickness – 4–28 mm. The panels are used to produce furniture, as well as in building construction, car production and shipbuilding. Thanks to their strength and good workability, MDF panels can be used as a material having the strength equal to the strength of massive wood, with such advantages as absence of defects, homogeneous dense structures and large surface areas. Wood consumption is 1.9–2 cu m per 1 cu m of panel. MDF panel production in Russia is limited.

**Financial proposal to the investor:**

USD18–20mln are to be raised (depending on the production capacity), the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.

### 5 MDF PANEL PRODUCTION WITH A RATED CAPACITY OF 35THSD CU M

**Location:** town of Zima (Zima district)

**Total project cost:** USD18–20mln

**Payback period:** 30 months

**Internal rate of return:** 60%

**Brief description of business proposal:**

MDF panels are a modern, high-quality and strong material in comparison with fiber and chipboards, offering a wider range of uses.





Financial proposal to the investor:

USD18–20mln are to be raised (depending on the supposed production capacity), the period of payback is 3–4 years; the interest rate and payback terms are to be upon agreed between the parties.

6 ORGANIZATION OF OSB PANEL PRODUCTION WITH A RATED CAPACITY OF 35THSD CU M

Location: town of Ust-Ilimsk (Ust-Ilimsk district)

Total project cost: USD18mln

Payback period: 24 months

Internal rate of return: 80%

Brief description of business proposal:

OSB panels are composed of three layers of chips oriented longitudinally in outer layers and across in the inner layers, glued with phenol or melamine-carbamide-phenol layers. OSB panels with thicknesses from 5 to 50 mm are used for the internal and external cladding of houses, floor structures and roofs, interior walls, furniture, etc.

OSB panels have superior quality and lower costs in comparison with plywood and traditional boards.

OSB advantages over plywood are as follows:

- less materials/ output ratio (1.9 cu m of wood/1 cu m of panel instead of 2.5–2.7 cu m of wood/1 cu m of panel);
- less strict quality requirements for raw wood;
- a wide range of thicknesses (up to 100 mm) and a wide range of panel dimensions.

OSB panel production may use various species, though aspen and pine are preferable, both long and short (1–2 m) stems can be used.

Financial proposal to the investor:

A USD18mln credit is to be raised; the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.

7 ORGANIZATION OF OSB PANEL PRODUCTION WITH A RATED CAPACITY OF 35THSD CU M

Location: town of Ust-Kut (Ust-Kut district)

Total project cost: USD18mln

Payback period: 24 months

Internal rate of return: 80%

Brief description of business proposal:

OSB panels are composed of three layers of chips oriented longitudinally in outer layers and across in the inner layers, glued with phenol or melamine-carbamide-phenol layers.

Financial proposal to the investor:

A USD18mln credit is to be raised, the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.

8 ORGANIZATION OF OSB PANEL PRODUCTION WITH A RATED CAPACITY OF 35THSD CU M

Location: town of Chuna (Chuna district)

Total project cost: USD18mln

Payback period: 24 months

Internal rate of return: 80%

Brief description of business proposal:

OSB panels are composed of three layers of chips oriented longitudinally in outer layers and across in the inner layers, glued with phenol or melamine-carbamide-phenol layers.

Financial proposal to the investor:

A USD18mln credit is to be raised; the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.

9 ORGANIZATION OF CORRUGATED BOARD PRODUCTION AND PACKING. RATED CAPACITY IS 20 MLN M² PER YEAR; KNOBBY LINING FROM WASTE – 7 MLN ITEMS PER YEAR.

Location: Irkutsk (Irkutsk district)

Total project cost: USD 12 mln

Payback period: 60 months

Internal rate of return: 40%

A brief description of the business proposal:

Corrugated cardboard is produced from a semi-finished product – a cardboard for the thin layers of corrugated board (manufacturer OOO “CKK,” Bratsk town) and paper for crimping (manufacturer – OAO “Eniseyskiy Paper mill,” Krasnoyarsk city). The starch glue is used for gluing together the layers of corrugated board. The corrugated board is processed into packing of many sizes and types.

Nowadays, the packing made from corrugated board is brought to the Irkutsk region from the Nobosibirsk region and from Buriatiya. The requirement of the Irkutsk region in the corrugated board packing is around 30 mln m² per year, including the need of Irkutsk city – 50%, of Angarsk – 23% and Usolye-Sibirskoye – 14%.

The project advantages are as follows:

- the presence of raw materials in the region and nearby districts;
- the presence of a stable and growing demand (around 20% per year) for the product;
- the environmental safety of the production.

We propose a corrugator with a capacity of 20 mln m² per year and a processing line. All of the waste from the production of corrugated boards and the packing from it are processed into knobby linings.

Financial proposal to the investor:

A USD12 mln credit is to be raised; the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.

10 ORGANIZATION OF BAG PAPER PRODUCTION AND BAGS WITH A RATED CAPACITY OF 25–30 MLN UNITS.

Location: Baykalsk town (Slyudyansk district)

Total project cost: USD 3mln

Payback period: 42 months

Internal rate of return: 60%

A brief description of the business proposal:

It is supposed to organize a bag paper manufacture on the existing paper-making machine after the modernization of the cellulose production and the paper-making machine at “Baykalskiy Paper Mill” joint-stock company. We also propose to organize the manufacture of bags at the existing production facilities of “Baykalskiy Paper Mill” or Baykal city.

Advantages:

- the presence of production facilities;
- environmental safety of the production;
- meeting the needs of the Irkutsk region in paper bags;
- creating new work stations (bag production) in Baykalsk towns.

Financial proposal to the investor:

A USD 3mln credit is to be raised; the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.







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ORGANIZATION OF PAPER PRODUCTION FOR  
SANITARY DOMESTIC USE AND PRODUCTS MADE  
FROM IT WITH A RATED CAPACITY OF 10 TONS  
PER 24 HOURS (3.390 TONS PER YEAR).

**Location:** Irkutsk city (Irkutsk district) **Total project cost:** USD 1,2mln  
**Payback period:** 20 months **Internal rate of return:** 70%

A brief description of the business proposal:

It is supposed to organize a high quality paper-base manufacture for the production of goods from cellulose for sanitary domestic use. The paper-base is made in Baykalsk, and the production facilities are on the existing paper mill. The paper-base is delivered to Irkutsk city or other nearby towns and is processed into goods (rolls, towels, tissue paper, napkins).

Advantages:

- the high request of the region;
- free area.

Financial proposal to the investor:

A USD 1,2mln credit is to be raised; the period of payback is 2–3 years; the interest rate and payback terms are to be agreed upon between the parties.

12

ORGANIZATION OF CARDBOARD MANUFACTURE  
FOR THE FOLLOWING PRODUCTION OF GYPSUM-  
CARDBOARD WITH A RATED CAPACITY OF 20.000  
TONS PER YEAR AT “CHEREMKHOVKROVLYA”  
STOCK-JOINT COMPANY

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**Location:** Cheremkhovo town (Cheremkhovo district) **Total project cost:** USD 2,9mln  
**Payback period:** 36 months **Internal rate of return:** 55%

A brief description of the business proposal:

It is supposed to reconstruct cardboard-making machine K-3M, to fulfill its modernization for the cardboard-base production of the following manufactures of corrugated board. The coating machine is installed.

Advantages:

- production facilities including warehouses and engineering communications (network system and roads);
- manufacturing of cheap and competitive constructional material – the base for corrugated board production.

**Raw materials:** mackle-paper.

Financial proposal to the investor:

A USD 2,9mln credit is supposed to be raised; the period of payback is 3–4 years; the interest rate and payback terms are to be agreed upon between the parties.

13

DIHYDROQUERCITINUM PRODUCTION WITH  
A RATED CAPACITY OF 3 TONS PER YEAR

**Location:** Angarsk city (Angarsk district) **Total project cost:** USD 1mln  
**Payback period:** 12 months **Internal rate of return:** 100%

A brief description of the business proposal:

The project is supposed to be fulfilled at one of Angarsk’s enterprises processing larch. Dihydroquercitinum (takcifolin) i.e. natural flavonoid, is related to vitamin P. Nowadays it is widely used as

a drug in medicine, as a preservative and the second helping in the food industry, also for preparations of different treatment – and-prophylactic food compositions that are relevant under conditions of higher risk of aggravation of the processes of peroxide lipids oxidation (when poisoned, during ionizing radiation, etc.) Dihydroquercitinum is a valuable product of larch extraction from the bottom part of the wood.

Financial proposal to the investor:

A USD 1mln credit is to be raised; the period of payback is 2 years; the interest rate and payback terms are to be agreed upon between the parties.

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PRODUCTION OF DIHYDROQUERCITINUM  
WITH A RATED CAPACITY OF 3 TONS PER YEAR

**Location:** Zima town (Ziminsk district) **Total project cost:** USD 1 mln  
**Internal rate of return:** 100%

A brief description of the business proposal:

The project is to be fulfilled at one of the enterprises processing larch in Zima. Dihydroquercitinum (takcifolin) i.e. natural flavonoid, is related to vitamin P.

Financial proposal to the investor:

A USD 1mln credit is to be raised; the period of payback is 2 years; the interest rate and payback terms are to be agreed upon between the parties.

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PRODUCTION OF DIHYDROQUERCITINUM  
WITH A RATED CAPACITY OF 3 TONS PER YEAR

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**Location:** Kazachinsk town (Kazachinsk-Lensk district) **Total project cost:** USD 1 mln  
**Payback period:** 12 months **Internal rate of return:** 100%

A brief description of the business proposal:

The project is to be fulfilled at one of the enterprises processing larch in Kazachinsk. Dihydroquercitinum (takcifolin) i.e. natural flavonoid, is related to vitamin P.

Financial proposal to the investor:

A USD 1mln credit is to be raised; the period of payback is 2 years; the interest rate and payback terms are to be agreed upon between the parties.

16

PRODUCTION OF DRYING OIL  
AND PAINT-AND-LACQUER MATERIALS  
WITH A RATED CAPACITY OF 4.500 TONS

**Location:** Ust-Ilimsk town (Ust-Ilimsk district) **Total project cost:** USD 4,5mln  
**Payback period:** 50 months **Internal rate of return:** 28%

A brief description of the business proposal:

One proposes to organize production of drying oil and paint-and-lacquer materials on the basis of the processing of by-products left over from paper manufacturing (i.e. tall oil).

**Financial proposal to the investor:** A USD 4,5mln credit is to be raised; the period of payback is 3 years; the interest rate and payback terms are to be agreed upon between the parties.



# BUSINESS OFFERS TO FOREIGN INVESTORS IN THE IRKUTSK REGION

## PROJECTS FOR FURNITURE AND WOOD-WORKING PRODUCTION

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### 17 PRODUCTION OF GLUED CONSTRUCTIONS FROM LARCH WOOD WITH A RATED CAPACITY OF 14.000 M<sup>2</sup> PER YEAR

**Location:** Usolye-Sibirskoye town (Usolsk district) **Total project cost:** USD 0,9 mln  
**Payback period:** 12 months **Internal rate of return:** 100%

**A brief description of the business proposal:**

**The project fulfillment provides for:**

1. Procurement of equipment for the glued construction production of 14.000 m<sup>3</sup> per year of glued timber – 7.000 m<sup>3</sup>, glued sawn timber – 3.000 m<sup>3</sup>, glued molded strips – 4.000 m<sup>3</sup>.
2. Putting into operation the manufacture of glued constructions at the existing production facilities using the existing engineering systems, transport, unloader-and-loader machines and equipment with an annual volume of processed raw materials equal to 20.000 m<sup>3</sup>.
3. Putting into operation a larch timber-sawing workshop.
4. Putting into operation 3 drying kilns with the single unloading of 100 m<sup>3</sup>.
5. Application of the international specifications for product quality (ISO 9000).

The rates of the products in other markets are as follows: glued timber with a length of 12–15 m costs USD 800 per m., glued sawn timber – USD 350, glued molded strips – USD 450.

**Financial proposal to the investor:**

A USD 0,9 mln credit is to be raised; the period of payback is 2 years; the interest rate and payback terms are to be agreed upon between the parties.

### 18 PRODUCTION OF GLUED CONSTRUCTIONS FROM LARCH TIMBER WITH A RATED CAPACITY OF 14.000 M<sup>3</sup> PER YEAR

**Location:** Irkutsk city (Irkutsk district) **Total project cost:** USD 0,9 mln  
**Payback period:** 12 months **Internal rate of return:** 100%

**A brief description of the business proposal:**

Production of glued constructions made from larch timber with a rated capacity of 14000 m<sup>3</sup> per year.

**Financial proposal to the investor:**

A USD 0,9 mln credit is to be raised; the period of payback is 2 years; the interest rate and payback terms are to be agreed upon between the parties.



### 19 PRODUCTION OF GLUED CONSTRUCTIONS FROM LARCH TIMBER WITH A RATED CAPACITY OF 14.000 M<sup>3</sup> PER YEAR

**Location:** Bratsk (Bratsk district) **Total project cost:** USD 0,9 mln  
**Payback period:** 12 months **Internal rate of return:** 100%

**A brief description of the business proposal:**

Production of glued constructions made from larch timber with a rated capacity of 14.000 m<sup>3</sup> per year.

**Financial proposal to the investor:**

A USD 0,9 mln credit is to be raised; the period of payback is 2 years; the interest rate and payback terms are to be agreed upon between the parties.

### 20 JOINT MILL FOR THE PRODUCTION OF FURNITURE PANELS WITH A RATED CAPACITY OF 30.000 M<sup>3</sup>

**Location:** Irkutsk (Irkutsk district) **Total project cost:** USD 1,8 mln  
**Payback period:** 24 months **Internal rate of return:** 60%

**A brief description of the business proposal:**

Rate for the ready-to-use product on the international market is USD 350-450 per m<sup>3</sup>.

**Financial proposal to the investor:**

A USD 1,8 mln credit is to be raised; the period of payback is 3 years; the interest rate and payback terms are to be agreed upon between the parties.

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### 21 SAWN TIMBER PRODUCTION WITH A RATED CAPACITY OF 60.000 M<sup>3</sup>

**Location:** Ust-Ilimsk town (Ust-Ilimsk district) **Total project cost:** USD 8–10 mln  
**Payback period:** 36 months **Internal rate of return:** 15%

**A brief description of the business proposal:**

Additional wood-sawing facilities are to be put into operation at “PIK-89” Ltd, with a rated capacity of 60.000 m<sup>3</sup>.

**Financial proposal to the investor:**

A USD 8–10 mln credit is to be raised; the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.

### 22 SAWN TIMBER PRODUCTION WITH A RATED CAPACITY OF 70.000 M<sup>3</sup>

**Location:** Alekseevka village (Kirenskiy district) **Total project cost:** USD 5–7 mln  
**Payback period:** 36 months **Internal rate of return:** 15%

**A brief description of the business proposal:**

Additional wood-sawing facilities are to be put into operation at Alekseevskaya REB with a rated capacity of 70.000 m<sup>3</sup>.

**Financial proposal to the investor:**

A USD 5–7 mln credit is to be raised; the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.



## 23 SAWN TIMBER PRODUCTION WITH A RATED CAPACITY OF 25.000 M<sup>3</sup>

**Location:** Tolstiy Mis village (Ust-Kutskiy district)

**Total project cost:** USD 1–1,5 mln

**Payback period:** 20 months

**Internal rate of return:** 15%

### A brief description of the business proposal:

Additional wood-sawing facilities are to be put into operation at “Volga” Ltd. with a rated capacity of 25.000 m<sup>3</sup>.

### Financial proposal to the investor:

A USD 1–1,5 mln credit is to be raised; the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.

## 24 SAWN TIMBER PRODUCTION WITH A RATED CAPACITY OF 80.000 M<sup>3</sup>

**Location:** Ust-Ilmsk (Ust-Ilmsk district)

**Total project cost:** USD 5–7 mln

**Payback period:** 36 months

**Internal rate of return:** 15%

### A brief description of the business proposal:

Additional wood-sawing facilities are to be put into operation at “Kata” joint-stock company with a rated capacity of 80.000 m<sup>3</sup>.

**Financial proposal to the investor:** A USD 5–7 mln credit is to be raised; the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.

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## 25 SAWN TIMBER PRODUCTION WITH A RATED CAPACITY OF 90.000 M<sup>3</sup>

**Location:** Melnichniy village (Kirenskiy district)

**Total project cost:** USD 7–9 mln

**Payback period:** 36 months

**Internal rate of return:** 15%

### A brief description of the business proposal:

Additional wood-sawing facilities are to be put into operation at Kirenskaya REB with a rated capacity of 90.000 m<sup>3</sup>.

### Financial proposal to the investor:

A USD 7–9 mln credit is to be raised; the period of payback is 4–5 years; the interest rate and payback terms are to be agreed upon between the parties.

### CONTACT INFORMATION OF THE PROJECTS:

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- **contact person in FGUP Sibgiprobum:** Goncharov Alexey Ivanovich; 6, Stepana Razina St., Irkutsk, 664025; tel.: (3952) 33-23-78, 24-22-81; e-mail: office@sbg.irk.ru.

## SOME OF THE ENTERPRISES PRESENTED IN RUSSIAN FORESTRY REVIEW



### LENINGRADSKAYA OBLAST

#### St. Petersburg Cartonboard and Printing Mill (a part of Ilim Pulp)

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**Web:** www.ilimpulp.ru

#### Kommunar Paper Mill (a part of Ilim Pulp)

**Address:** 1, Fabrichnaya St., town of Kommunar, Gatchino District, Leningradskaya oblast, 188320, Russia  
**Phone:** +7 (812) 460-0667  
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#### Ilim Gofropak (a part of Ilim Pulp)

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#### Kamennogorsk Offset Paper Mill (KOPM, a part of Northwest Timber Company)

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### VOLOGDA REGION

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**Phone:** +7 (39535) 925-40  
**Fax:** +7 (39535) 704-31  
**E-mail:** demidova@dz.ilm.ru  
**Web:** www.ilimpulp.ru

Bratsk Pulp and Containerboard Mill (a part of Ilim Pulp)

**Address:** P.O.Box 467, 1 Mira St., Bratsk, Irkutsk Region, 665718, Russia  
**Phone:** +7 (3953) 41-18-35  
**Fax:** +7 (3953) 49-68-48  
**E-mail:** office@blpk.ru  
**Web:** www.ilimpulp.ru

Ust-Ilimsk Pulp Mill (a part of Ilim Pulp)

**Address:** P.O.Box 353, Ust-Ilimsk-14, Irkutsk Region, 666684, Russia

**Phone:** +7 (39535) 922-66  
**Fax:** +7 (39535) 715-05, 770-48  
**E-mail:** lpk@uilpk.ru  
**Web:** www.ilimpulp.ru

OJSC Pik-89

**Phone:** +7 (39535) 94882, (39535) 93406  
**E-mail:** pik@ilim.ru

OJSC Irkutsklesprom

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OJSC Lesogorskles

**Phone:** +7 (39567) 91133

JSC Yantalles

**Phone:** +7 (3952) 211711, (39565) 66433  
**E-mail:** yantalles@irtel.ru

Ltd. SP Sibexportles-Tayriku

**Phone:** +7 (3952) 511888, (39566) 22682

Ltd. Ruslesprom-Trading

**Phone:** +7 (39535) 98100, (39535) 98139  
**E-mail:** ruslesprom@irmail.ru

Ltd. SP TM Baykal

**Phone:** +7 (39573) 21810

Ltd. Eastern Siberian Plant of Ferroconcrete Constructions

**Phone:** +7 (39510) 93678  
**E-mail:** post@jbk.ru

Ltd. Siberian Plywood

**Phone:** +7 (39543) 44250  
**E-mail:** post@sib-fanera.ru

Ltd. Ust-Ilimskiy Plant of Joiner’s Items

**Phone:** +7 (39535) 99654, +7 (39535) 99510

If you find in the list a company that interests you or wish to receive the full information about the markets players described in the Russian Forestry Review, please contact us at [lesprom@lesprom.spb.ru](mailto:lesprom@lesprom.spb.ru)



# BRIEFLY ABOUT US



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**Dear readers of the RUSSIAN FORESTRY REVIEW digest! If you were so patient as to have read our bulky magazine from cover to cover, you seem to be really interested in the Russian forestry market.**

For four years, our editorial staff has been successfully attaining informational support on the forest industry in the RF and the CIS countries. The prospects for the development of the national timber industry complex (TIC), and the industry's image abroad, are of tremendous importance to us. We will surely do our best for our companies to develop, update their facilities, and find new approaches to in-depth wood processing. The most valuable aspect of business is information that is necessary and timely. This is just the product we offer our readers – specialists and managers of pulp & paper, TIC, and furniture companies, and anyone wishing to open their own business in this sector. Our editorial office is an information center, a connecting link between Russian equipment buyers and foreign suppliers, and between Russian exporters and international users of our raw materials and products.

In accordance with the old Russian tradition, where the presenter is the last to be introduced, we decided to dedicate the last pages of this digest to the description of our projects.

We are a team of competent, energetic, creative, and driven young professional publishers, whose principal goal is the informative support of the Timber Industry Complex. Our editorial office is located in St. Petersburg, and our reports and reviews cover all of Russia, from Kaliningrad to Vladivostok, and countries abroad.



**LesPromInform**, an industrial magazine for those associated with the TIC, is our core product, and we have been publishing it for four years. Over the years, **LPI** has become one of the most influential journals in the country, having won the recognition of specialists and experts of different levels: production supervisors, managers, researchers, lawyers, financiers, officials, legislators, etc.

## WHAT ARE WE DOING TO PROGRESS?

Nothing special! Only high-qualified information and well-planned distribution! We have covered all of the sub-branches of the Russian timber industry complex, starting with forest management, reforestation, wood harvesting, pellet producing, mechanical and chemical wood processing, the pulp and paper sector and wooden house-building. Additionally, we discuss "hot topics" of the country's forestry. For example – the new Forest Code, problems of certification, the transportation of wooden materials, ecological topics, branch education, questions of leasing and credits for enterprises of the Russian TIC, and scientific research articles in the field of new technologies. Each issue is devoted to one of the Russian forest regions and contains all of the information about forests, mills and factories, profile associations, researching institutes, new projects and investments in this region. Such information can be useful if you are searching for dealers in Russia or conducting market research for your product's promotion. We also publish articles about the leading timber enterprises as examples of well-organized businesses. Enterprises like this might already be working successfully thanks to the equipment made by your company. If so, inform the Russian market about it!

We do our best to present new technologies and ideas for high management, specialists and researchers of the Russian TIC! Our readers have a chance to get the exclusive information necessary for their business. We are ready to help you promote your brands in Russia!

## HOW WILL WE DO IT?

First, by preparing attractive advertisements for your company, translating and publishing the technical articles to catch the attention of your potential clients (Russian readers prefer to receive detailed information about new technologies and their opportunities).

Then, we will organize the distribution of our journal to find as wide an audience of readers as possible! 15,000 samples of **LesPromInform** will be waiting for your clients in their own offices and in the offices of their partners and clients, profile associations, regional administration offices, institutes and other educational centers, as well as sea ports; they will meet your clients during more than 60 timber fairs in Russia, CIS, the Baltic countries and Europe and during different events: seminars, conferences, openings of the new enterprises, competitions, etc. Your customers will be found! The life expectancy of our samples is not less than one year, because our readers keep our journal and always return to its pages in search of necessary information!

We should add that **LesPromInform** is not just useful for your business to deal with our magazine. It is also a pleasure, since we take on many related matters. For example, the price of an ordered advertisement (see the price list on the next page) already includes artwork/layout design, translation into Russian, proofreading, bonus articles, and journalist work.

The magazine's editors, with their extensive contacts among Russian companies in the industry, can provide you with agent assistance, for instance in the sale of used equipment to particular mills, or, if desired, arrange a seminar on your technologies for potential customers in Russia. We know the market, and the market knows and respects our magazine, therefore, apart from being an advertising/information resource, we can serve as event promoters, consultants, and intermediaries.



The **LesPromFORUM** newspaper is a relatively new project, which will be one year old in the autumn of 2006. This is a unique publication especially for Russia's largest exhibition events and is officially supported by their organizers.

An exhibition is a complex product, which usually comprises, apart from the exposition itself, a business program including seminars, conferences, etc. The larger an exhibition is, the more it is laden with events of every kind, and practice shows that its market standing, in today's severely competitive environment, can be improved by making your exhibition-related program more sophisticated. Under such circumstances, the informational support of an exhibition event becomes especially important for maximum coverage of its guests as an audience. This is the main idea of the **LesPromFORUM** newspaper.

It is published to suit a particular exhibition only, and in the number of copies to suit the expected number of guests (6,000 to 10,000). On its pages you will find the organizers' greetings, the official program of events, presentation announcements, special offers by exhibitors and their profiles, and all kinds of useful analytical and reference information.

The high printing quality of the publication (a full-color pages A3 (12- to 20-pages) newspaper printed on good coated paper), and skillful distribution pattern (handed to EACH guest personally) have yielded maximum success. Our project has covered all of the major exhibition events in Russia, and the overall circulation of **LesPromFORUM** issues in 2006 will be 32,000 copies.

This is a really unique chance to get maximum access to market players in a particular region (this year, we are publishing the newspaper in Novosibirsk, Perm, St. Petersburg, Moscow, and Vologda). Our newspaper is attractive in its appearance, and useful for exhibition guests, as it contains the full program of events, a list of participants, interesting articles – and hopefully, your advertisement, which they simply won't be able to miss!

Therefore, to get high-quality massive PR at an exhibition that you find interesting, and to invite its guests to your stand or seminar, **LesPromFORUM** is your best and smartest opportunity! You will find a full schedule of issues and prices for the newspaper in our price list below.



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## RUSSIAN FORESTRY REVIEW

The first issue of the **RUSSIAN FORESTRY REVIEW** that you are holding in your hand is our brand-new informational product. Before we launched the project, we had carefully studied the potential demand for such information outside Russia, in the first place, and secondly, the readiness and willingness of Russian forestry companies to interact with foreign partners. Our idea happened to be in demand, and was eagerly accepted by both parties.

Working on the contents of this issue, we did not aim to publish a global analytical review of the Russian TIC all at once. Such an ambitious effort would require several volumes, and would therefore focus on research rather than practical interest. Besides, Russia's forestry sector is one of the most dynamic sectors of the national economy today, and information that seemed up-to-date a year ago may become hopelessly obsolete tomorrow.

We find it more advisable to focus on the most crucial aspects of the Russian TIC's current development, not trying to cover all of its sub-sectors, but giving all of the attention to a few. Any disadvantages of this approach will be amply compensated for in the following issues, which will follow at a rate of 1 or 2 per year. They will discuss other segments of wood processing, new lines of activities, and novel improvements.

For instance, a new Forest Code will at last be adopted (by the end of this year), and the governmental forest policy will undergo serious changes. We will surely analyze its impact on the market in the next issue of **RFR**, which is scheduled for early 2007. In this issue, we also intend to cover the infrastructure problem in the regions, including forest road construction; to review novelties in forest resources accounting; to discuss in more detail all of the segments of wood processing, including sawn timber, glued/lam materials, construction materials, etc.; and give serious attention to legal aspects of the national forestry business, especially mergers.

We sincerely hope that you will find this first issue interesting and useful. Following the instructions on the next page, you may subscribe for an additional copy for your partners, or for issue #2, which will be published in the spring of 2007. We would be delighted for you to become a loyal reader. In addition, we will be happy to prepare information materials especially for you. Tell our office what aspect of the Russian TIC you would like to see seriously reviewed, and such material will be sure to appear in our next issue!

## 2006 LESPROMINFORM RATES (journal)

Advertising place		Size (page)	Size (mm)	Price (EURO)
Cover	Face cover	1/1	210x250	2 500
	The 2nd cover + A4	2/1	420x275	2 800
	The 2nd cover	1/1	210x275	1 995
	The 3rd cover	1/1	210x275	1 800
	The 4th cover	1/1	210x275	2 190
Pages inside	VIP-place (page in front of: – the 2 <sup>nd</sup> cover, – content – list of exhibitions)	1/1	210x275	1 630
	Two pages A4	2/1	420x275	1 890
	Place in VIP-block (first 15 pages)	1/1	210x275	1 440
		1/2	162x118	900
	Page A4	1/1	210x275	1 090
		1/2	162x118	630
		1/4	78x118; 162x57	360
Table of proposals		One line	19x190	110

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			Tekhnodrev. Ural. Povolzhye	Lesdrevmash 2006	International Forestry Forum	Russian forest 2006
			Perm, 20–23 June Circulation: 6 000 samples	Moscow, 11–15 Semtember Circulation: 10 000 samples	St.Petersburg, 10–13 October Circulation: 8 000 samples	Vologda, 6–8 December Circulation: 5 000 samples
1-st cover – 1/2 A3		262x187	1 220	1 810	1 450	1 070
Last cover – A3		262x379	48 000	2 360	1 890	1 490
Inside pages	A3 page		262x379	1 180	1 995	1 595
	1/2	horizontal	262x187	695	1 130	910
		vertical	128x379			
	1/4	horizontal	262x91	450	695	575
		vertical	128x187			

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(Table of exhibitions 2006 you may find on the last page)

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PROFILE EXHIBITIONS IN RUSSIA, CIS AND EUROPE

Date	City/ Organizer	Name of a fair	Contacts
May, 16–19	Lviv, Ukraina/ AO “Gal-EXPO”	Woodworking 2006	(+38-032) 297-0628, 297-1369 exhib@galexpo.lviv.ua, www.galexpo.lviv.ua
May, 16–20	Moscow/ Krokus Expo	HOLZHAUS 2006	(495) 105-3497, www.mvk.ru
May, 16–20	Milan, Italy/ Fiera Milano, Eumabois	XYLEXPO 2006	(+39-02) 89210200, 8259009, info@xylexpo.com, www.xylexpo.com
May, 17–19	Vladivostok/ OOO “Dalexpocentr”	Lesdrevprom 2006	(4232) 300-418, 300-518, dalexpo@vlad.ru, www.dalexpo.vl.ru
May, 23–26	Izhevsk, Udmurtiya/ Izhevskiy expocentr	Furniture. Woodworking	(+7-3412) 51-1315, 52-6440, leppo@izhexpo.ru, www.izhexpo.ru
May, 23–26	Kemerovo/ ZAO VK “Expo-Siberia”	LESOREVPRO	(+7-3842) 36-2119, maslova@exposib.ru, www.exposib.ru
May, 23 – 27	Moscos/ Krokus Expo	Construction machinery and technologies 2006	(495) 961-2262; 203-4100, info@mediaglobe.ru www.ctt-expo.ru
May, 25–27	Stavropol/ VC “Progress” Stavropol	Furniture salon	(+7-8652) 353770, 563310, reklama@progrexpo.ru, www.progrexpo.ru
May, 30 – June, 1	Jongkoping, Sweden/ Elmia AB	World Bioenergy 2006	(+46-36) 15 20000, 16 4692, www.worldbioenergy.se
May, 30 – June, 2	Minsk, Belorussia/ NVC “Belexpo”	Lesdrevtech	(+375-17) 234-0131, 234-2678, kirya@belexpo.by, ww.belexpo.by
May, 31– June, 2	Tomsk/ OAO International Business Xenter o Tomsk “TEKHNO-PARK”	Forest. Woodworking. Furniture	(+7-3822) 41-9470, 41-9768 fair@t-park.ru, www.t-park.ru
June, 1–3	Volgograd/ VC “Tsaricinskaya yarmarka”	Tsaricinskiy furniture salon. Woodworking	(8442) 23-3377, 96-5034 zarexpo@avtlg.ru, www.zarexpo.ru
June, 7–9	Tver/ OAO “Expo Tver”	Expoles	(+7-4822) 32-1513, 34-9667, expotv@elnet.msk.ru, www.expotver.ru
June, 14–16	Kirov/ OOO “Vyatskiy bazar & CO”	Forest. Woodworking. Furniture	(8332) 24-19-38, 58-30-60 vbazar-k@rambler.ru, www.vystavka.narod.ru
June, 13–16	St.Petersburg/ VO “Restec”	Interles 2006	(+7-812) 320-9684, 320-9694, wood@restec.ru, www.restec.ru
June, 16–18	Saint Bonnet de Joux (71), Франция/ c/o Aprovalbois	EUROFOREST 2006	(+33 (0) 38044378 info@euroforest2006.com, www.euroforest2006.com
June, 20–22	St. Petersburg/ VO “Sivel”	Biotopexpo	(+7-812) 324-6416, 596-3781, sivel@sivel.spb.ru, www.sivel.spb.ru
June, 20–23	Perm/ VC “Permskaya yarmarka” and VO “Restec”	Woodworking/ Teknodrev. Perm 2006	(+7-812) 320-9684, 320-9694, wood@restec.ru, www.restec.ru (+7-342) 262-5833, 262-5847, fair@fair.perm.ru, www.fair.perm.ru
July, 12–16	Muenchen, Germany/ Muenchen Messe	INTERFORST 2006	(+49 89) 949-20630, 949-20639 info@interforst.de, www.interforst.de
August 31 – September 2	Helsinki, Finland/ FinnMetko Oy	FinnMETKO – fair of wood-logging machinery	(+358 9) 566 0010, 563 0329 info@finnmetko.fi, www.finnmetko.fi
August 31 – Sept-ember 3	Klagenfurt, Austria/ Klagenfurter Messe GmbH	Holzmesse	(+43 463) 568 000, 568 0029 info@kaerntnernessen.at, www.holzmesse.info
September, 5–8	Irkutsk/ OAO “SibExpoCentr”	Siblesopolzovaniye. Woodworking	(+3952) 352-239, 352-398, sibexpo@mail.ru, www.sibexpo.ru
September, 6–8	Naberezhniye Tchelni/ VP “EXPO-KAMA”	Furniture 2006	(8552) 346-753, 359-243, info@expokama.ru, www.expokama.ru
September, 11–15	Moscow/ ZAO “Expocentr”	Lesdrevmash 2006	(+7 495) 255-3799, 255-3946, centr@expocentr.ru, www.expocentr.ru
September, 19–22	Kazan/ VC “Kazanskyja yarmarka”	Woodworking	(+78432) 570-5108, 570-5111 d6@vico.bancorp.ru, www.expokazan.ru
September, 19–22	Minsk, Belorussia/ VC “Minskexpo”	Woodworking 2006	(+375-17) 226-9193, 226-9192 derevo@minskexpo.com, www.minskexpo.com
October, 2–6	Kiev, Ukraine/ BK “Primus”	Woodworking industry	(+38-044) 537-6999/96, info@theprimus.com, www.theprimus.com
October, 3–6	Krasnoyarsk/ VK “Krasnoyarskaya yarmarka”	Wood. Woodworking: equipment and output	(3912) 36-22-00 zarubin@krasfair.ru, www.krasfair.ru
October, 10–13	St.Petersburg/ VO “Restec”	International Forestry Forum “Timber Industry Complex of Russia of XXI century”	(+7-812) 320-9684, 320-9694 wood@restec.ru, www.restec.ru
October, 18–21	Belgorod/ “Belexpocentr”	Furniture. Woodworking	(+7-4722) 58-29-40, 58-29-41, belexpo@mail.ru
November, 8–11	Tchelyabinsk/ VC “Vostochnie vorota”	Woodworking. House and office- furniture saloon	(+7-3512) 78-7605, 63-7512 expo@chelsi.ru, www.chelsi.ru
November, 21–24	St.Petersburg/ VO “Lenexpo”	PAP-FOR 2006	(+7-812) 321-2819, 321-2851 molostvov@mail.lenexpo.ru, www.lenexpo.ru
November, 21–24	Kharkov, Ukraine/ “Харьков ІнфоЕкспо”	Мебель-экспо и деревообработка	(+38-057) 719-4834 fed@tns.org.ua www.infoexpo.kharkov.ua
December, 5–8	Moscow/ MVK	Lestekhprodukcija/ Woodex 2006	(+7-495) 105-3413, 268-1407, v_v@mvk.ru, www.woodexpo.ru
December, 6–8	Vologda/ VC “Russkiy dom”	Russian forest 2006	(+7-8172) 72-9297, 75-7709 rusdom@vologda.ru, www.rusdom.region35.ru
December, 7-10	Moscow/ Krokus Expo	HOLZHAUS 2006	(495) 105-3497, www.mvk.ru



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