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Atlas of the forest sector in Belarus

Yuri Gerasimov and Timo Karjalainen

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Abstract
This atlas is a collection of maps with a short description of the current situation of the forest sector in Belarus including regions of Brest, Gomel, Grodno, Minsk, Mogilev, and Vitebsk. The cartographic information is grouped in the following way: forest resources, silviculture, wood harvesting, production and the most important producers of wood-based products (sawnwood, plywood, wood-based panels, pulp, paper, paperboard), potential of energy wood, as well as producers of forest-related machinery, wood pellets and briquettes, forest education, and research institutions. This review serves the information needs of different stakeholders and those interested in the forest sector in Belarus.

Keywords
Belarus, forest resources, wood harvesting, forest industry, bioenergy, forest policy

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Preface

This work was done under the umbrella of the project "Central and Eastern European Forest Information Service". The aim of the project is to create an information service for the Estonian, Latvian, Lithuanian, Polish, Czech, Belarusian, Ukrainian, and Romanian forest sectors and to strengthen knowledge relating to the countries. The goal is to find business opportunities and new markets in the CEE[1]countries. The target groups of the project are Finnish forest sector enterprises and technology manufacturers planning to enter the business or expand it in the CEE countries. The project is funded by the European Social Fund (ESF) and will be executed in 2010–2012. The co-ordinator of the project is the Finnish Forest Research Institute (Metla). Other partners are the Mikkeli Small Business Centre at the Aalto University School of Economics, the School of Forest Sciences at the University of Eastern Finland, North Karelia University of Applied Sciences, and North Karelia College in Valtimo.

The project collects information about the business environment of the forest sector, wood availability, forest sector enterprises, and bioenergy markets of the CEE countries. The forest sector business environment part contains a description of forest resources, forest ownership and use, wood procurement, and wood trade. Related to this, in the case studies the requirements for the transfer of Eastern Finland technology and know-how are analysed. The bioenergy part covers the survey of bioenergy markets (energy production, infrastructure, and biomass potential) of the target countries. As a part of this, the present state and scenarios of the pellet industry and its effects on Finland and possibilities for the Eastern Finnish enterprises are mapped. The market for the Eastern Finnish forest technology is estimated with the help of case studies. The manufacturers' improving knowledge of the project countries opens export opportunities for technology with which it is possible to utilize all parts of woody biomass.

The project examines the possibilities to improve wood supply in the particular target countries, to calculate the availability of the appropriate bioenergy raw material, to determine the best delivery chains to the potential targets, and to determine training needs. In addition to this, in the project a wood energy online database will be created which will contain a map application and information about sawmills of the project countries, pellet manufacturers, and heat plants. In the project a cost accounting tool is also created with which costs of wood procurement in the project countries will be defined. The tools help to understand local circumstances which improve product and service marketing in the project area.

This atlas is the first publication within the project. The report is a collection of maps with a short description of the current situation of the forest sector in Belarus including regions of Brest, Gomel, Grodno, Minsk, Mogilev, and Vitebsk. The cartographic information is grouped to forest resources, silviculture, wood harvesting, production and the most important producers of wood-based products (sawnwood, plywood, wood-based panels, pulp, paper, and paperboard), potential of energy wood, as well as producers of wood pellets and briquettes, producers of forest-related machinery, forest roads, forest education, and research. This review serves the information needs of different stakeholders and those interested in the forest sector in Belarus. All maps can be downloaded from the Internet service for CEE forestry (www.metla.fi/metinfo/kie/). Project is going to provide a publication series about other CEE countries in the same form.

1 Belarus, Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia, Ukraine

1 Introduction

The Republic of Belarus, including the regions of Brest (*Brestskaya oblast*), Vitebsk (*Vitebskaya oblast*), Gomel (*Gomelskaya oblast*), Grodno (*Grodnenskaya oblast*), Minsk (*Minskaya oblast*), and Mogilev (*Mogilevskaya oblast*), has vast forest land areas and rich historical traditions in the area of forestry, as well as a high level of forest management and multiple-use of forest resources (Figs. 1.1–1.2 and Map 7.1). Forestry and the forest industry are essential parts of the republic's economy, having huge potential for development. In 2006, the share of the forest sector in GDP was about 4.2%. There are about 5 000 companies and enterprises of various forms of property (including over 470 large and medium enterprises), which employ more than 146 000 people (about 3.2% of the total number of employed people) in the forest sector.

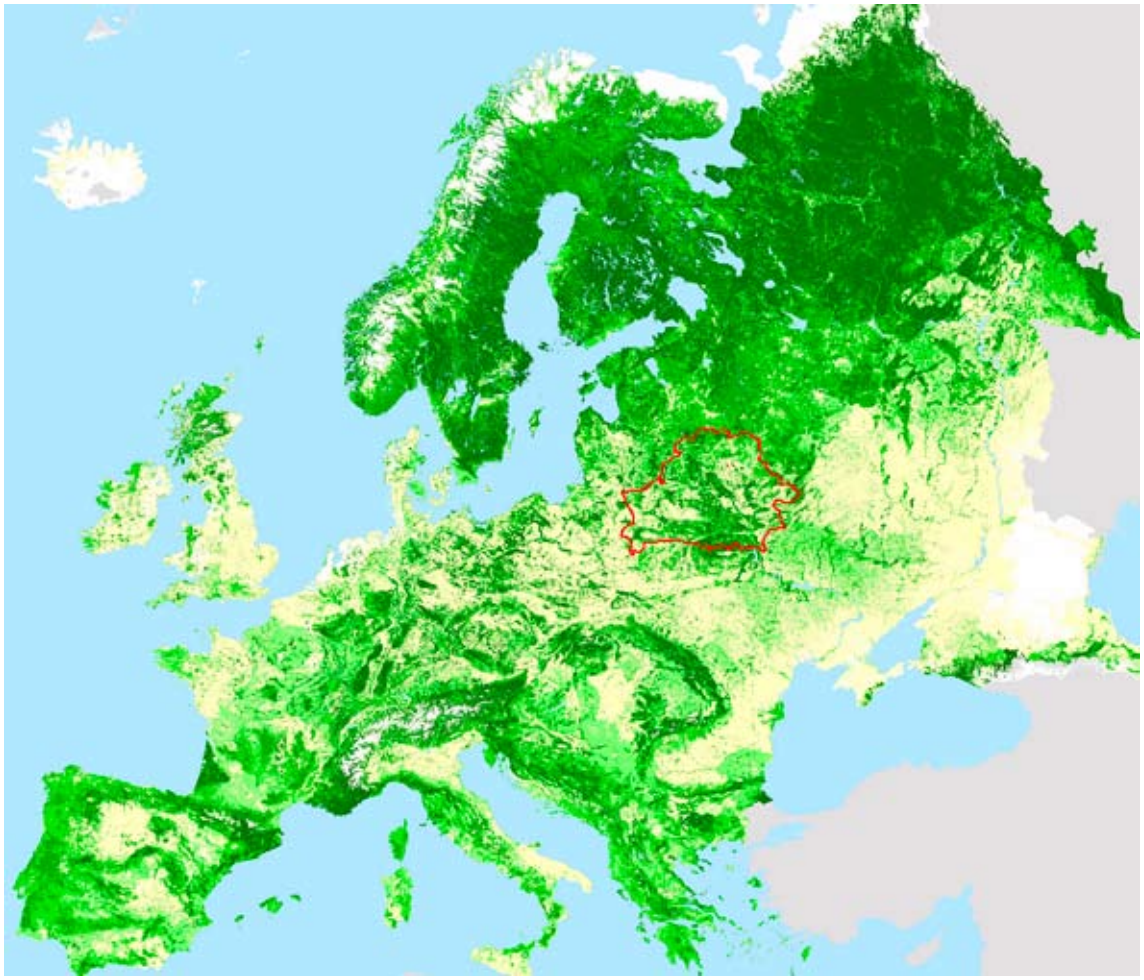

Fig. 1.1. The Republic of Belarus on the European Forest Map[2] (Schuck at al. 2002).

2 This information is based on outputs from the project "Forest tree groupings database of the EU-15 and pan-European area derived from NOAA-AVHRR data", which was awarded by the European Commission, Joint Research Centre (Institute for Environment and Sustainability), to a consortium of organisations under the contract number: 17223-2000-12 F1SCISPFI.

Fig. 1.2. The Republic of Belarus, the Belarusian regions, and main cities.

The country contributes to the conservation of forests and environmental stability at the regional and global levels, plays an important role in the CEE forest sector, and has been well developed in comparison with the rest of the former USSR republics. In 2009, Belarus produced 7% of the total industrial roundwood of CEE, 4% of its paper and cardboard, 9% of its plywood, and 9% of its sawnwood (UNECE 2010). In contrast, Belarus has 16% of the forest land and 16% of the growing stock of the whole of CEE. Nevertheless, the forest resources of the region have supplied not only the domestic forest industry but also the industrial roundwood export market. In fact, Belarus has been an important supplier of pulpwood to Europe, particularly for the Nordic countries. Finland was one of the key importers of Belarus pulpwood in 1992–1996 (0.3 million m^3 per year).

This review aims to give a comprehensive picture of the situation of the forest sector in Belarus, but in a very compact form presenting information mainly on maps. This review serves the information needs of different stakeholders and those interested in the forest sector in CEE.

2 Forest sector policy

2.1 Forest administration

The forests in the Republic of Belarus are state property. The stocked and unstocked forest lands (*земли покрытые и не покрытые лесом*) and other forest-related lands (*нелесные земли*) form the forest fund (*лесной фонд*). The forest fund is divided into exploitable forests (group II, 49% of the forest fund in 2009) and protected forests (group I, 51%) (Forest Code 2000).

Forests under the jurisdiction of the Ministry of Forestry (Minleshoz) cover 86% of the forest fund. Besides, a significant share of the forest fund is managed by the Administration of the President of the Republic of Belarus (8%) and by the Ministry of Emergency Situations of the Republic of Belarus (2%) (Table 2.1).

The forest administration is concentrated in the Ministry of Forestry of the Republic of Belarus. The Ministry is in charge of implementing national forest policy and enforcing forest legislation on the forest fund. The implementation and local administration are organised through six regional forest services (*GPLHO*) and 95 district forestry enterprises (*leskhoz*) which are responsible for the allocation of forest use rights. A list of the regional forest services in Belarus is presented in Table 2.2. Locations of district forestry enterprises belonging to the Ministry of Forestry are presented on Map 7.2.

Table 2.1. Distribution of forest resources by the Belarusian agencies in 2009–2010.

Agency	Forest fund area, 1000 ha				Number of legal entities performing forestry	
	2009	%	2010	%	2008	2009
Ministry of Forestry	8 244	87.6	8045	85.5	97	95
Administration of the President	714	7.6	750	8.0	8	8
Ministry of Emergency Situations	216	2.3	216	2.3	1	1
Ministry of Defence	90	1.0	90	1.0	2	2
Municipalities	72	0.8	36	0.4	5	4
National Academy of Science	41	0.4	41	0.4	3	3
Ministry of Education	28	0.3	28	0.3	2	2
JSC Vitebskdrev	-	-	200	2.1	-	1

Source: Loginov 2009

Table 2.2. Regional forest services in Belarus.

Region	Name of forest service	Number of district enterprises	Official website
Brest	Brestskoye GPLHO Брестское ГПЛХО	14	www.forest.brest.by
Vitebsk	Vitebskoye GPLHO Витебское ГПЛХО	17	www.vitebsk.mlh.by
Gomel	Gomelskoye GPLHO Гомельское ГПЛХО	21	forest.gomel.by
Grodno	Grodnenskoye GPLHO Гродненское ГПЛХО	11	www.mlh.by/ru/plho/grodno.html
Minsk	Minskoye GPLHO Минское ГПЛХО	19	www.mplho.by
Mogilev	Mogilevskoye GPLHO Могилевское ГПЛХО	13	www.mplho.mobyce.com

Source: Minleshoz 2010

2.2 Forest policy

Legislative frameworks to ensure high-level forest management in the Republic of Belarus have been developed. The most important documents are the Forest Code of the Republic of Belarus, adopted in 2000, the Declaration of the President of the Republic of Belarus on improving the forest management, and the National Forest Programme in 2007–2011, approved by the Council of Ministers of the Republic of Belarus on 29.12.2006, No. 1760, which has been successfully implemented, as well as other legislative acts (Semashko 2008).

Currently, the process of improving forestry is going in the following directions (FAO 2009):

- In order to further the development of forest policy and solving issues connected with forests a number of arrangements focused on the separation of supervisory and management activities are currently being implemented through improvement of the State control over such actions as the use, reservation, protection, and renewal of forest resources as well as by phased separation of logging activities from silviculture practices.
- In order to successfully carry out these actions some changes in the forest legislation were prepared to abolish the licensing for the harvesting and wood processing, which makes it possible develop the forestry services more rapidly, especially in logging, which is very vital in response to existing and expected lack of labour in rural areas and the need to reduce outlays related to forestry.
- Complex work has been carried out to improve the profitability of forestry, primarily through increased sales of forest and wood products on markets, development of hunting, and full use of the potential of forest resources.
- In order to carry out the principles of sustainable forest management and forestry governance, as well as to improve efficiency and multiple-use of forest resources on the base of sustainable forest management, the following issues are currently being solved:
  - improvement of current institutional and economic frameworks for forest management
  - increasing incomes from forests
  - development of a market-based mechanism of timber exchange trading, and the reduction of sale of wood on the stump
  - improvement of the system of sustainable forest management and forest governance, and implementation of works on forest certification

The concept of the National Forest Programme in 2011–2021 has been under development in Belarus (Lobas 2010). One of the priorities of forestry development activities will be the use of new selected plant material, ecologically adapted to local soil and climatic conditions. Currently, only about 20% of plantations are established based on selected seeds. The objective is that all new forest plantations should use selected plant material, and the establishment of forest plantations should be preceded by an autumn tillage. Another priority is the creation and development of nursery farms and the carrying out of silvicultural operations. Implementing of modern forest technology made by domestic and foreign producers is also named among the top tasks. Further development of wood harvesting operations is among the main priorities due to increases in mature forests stock, resulting in growth in harvesting volume.

2.3 Forest industry policy

Currently, the process of improving the organization is occurring not only in forestry but also in the entire forest industry. The main purpose of this is greater efficiency of reproduction and use of forest resources and better use of the woody biomass. Given the foregoing, three priority areas in the interaction of science and industry have been identified in the forest industry. The first area includes direct innovation, the second, applied research and development, and the third, training, that is, interaction of science and education. These issues need to address the various organizational and economic areas.

In this connection, several state programmes are being implemented, namely:

- The Forest Transport and Roads Development Programme of the Republic of Belarus for the period up to 2010 (approved by the Council of Ministers of the Republic of Belarus on 11.09.2006, No. 1172);
- The Nationwide Programme for Management and Use of Forest Resources in 2002–2010 (approved by the Council of Ministers of the Republic of Belarus on 11.10.2002, No. 1410);
- The State Scientific and Technological Programme on development and introduction of new techniques, machines, and technologies for multipurpose forest management and sustainable forest management, ensuring forest protection and reproduction, increasing the efficiency of the forest sector of the Republic, the improvement of timber processing, and increased revenue from the sale of timber.

The reconstruction and upgrading of wood processing industries and the utilization of small size commodity wood will be one of the main tasks in the concept for the development of the forest sector in the years 2011–2021 (Lobas 2010). All sawmills should be provided with drying chambers for the production of planed wood mouldings and lumber to meet the needs of the domestic market. Attention will be paid to energy efficiency on a forest enterprise level and to the development of small-scale power plants. This refers to the establishment of production facilities for producing wood fuel chips for mini-CHP. In the near future at least 20 such plants will be established in Belarus.

3 Forest resources and their utilization

3.1 Forest resources

In Belarus, forest land covers 8.56 million ha, stocked forest land covers 7.96 million ha, and the volume of the growing stock is 1.54 billion m^3 including 187.9 million m^3 in mature and over mature forests (Table 3.1). The average stock of mature forests is 242,8 m^3 per ha. The mean annual increment is about 28.6 million m^3. During the last three years the growing stock increased by 97 million m^3, and the growing stock of mature forests increased by 26 million m^3. Forests are quite evenly spread over the country's six regions with the average value of the forest cover (ratio between the stocked forest land and the total land) being 38% (Fig. 3.1). The highest forest cover is in the Gomel region (45% of the total territory) and the lowest is in the Grodno and Brest regions (35%) (Forestry 2010, Minleshoz 2010). Distribution of forest land by administrative districts is presented in Map 7.1.

About 21% of its forest fund area (2 million ha) continues to be affected by radiation fallout from the Chernobyl accident in 1986 (Woodfuels Program 2009). Chernobyl is located about 20 km south from the southeastern border of Belarus. Wood harvesting is not permitted in 6% of its forest fund area (0.5 million ha) with a density of contamination over 185 kBq/m² (5 Ci/km²) mostly in the south-eastern enterprises (Map 7.2).

Forest terrain is flat, favouring the mechanization of forest operations. About 20% of forests are in wetlands and drained wetlands, which sometime makes extraction of roundwood and forest regeneration in these areas difficult. Wetlands exploitation also raises ecological questions on appropriate use and sustainability (Podoliako et al. 2003).

Forest land in Belarus is distributed among two groups: 4.81 million ha (51%) belongs to forests of group I, and 4.60 million ha (49%) belongs to forests of group II. Forests of group II are exploitable forests and are meant for wood harvesting, while forests of group I are protected forests and conservation and recreation areas where commercial clear cutting is prohibited (Forest Code 2000).

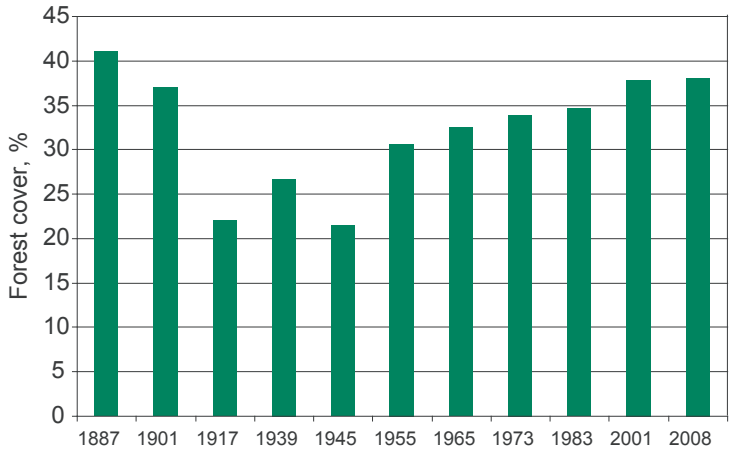

Fig. 3.1. Development of forest cover in Belarus since 1887 (Belarus 2008).

Table 3.1. Forest resources of Belarus in 2009.

Species	Stocked forest land[3]		Exploitable forests[4]		
	Area	Volume	2008	2009	2009 mature
	1 000 ha	mill. m³	mill. m³	mill. m³	mill. m³
Belarus	7 955	1 536	1 220.7	1250.2	146.7
Main tree species	7 920	1 535	1 220.7	1250.2	146.7
Pine	3 994	849	815.7	836.1	66.3
Spruce	747	176			
Oak	280	46	36.0	37.0	5.7
Birch	1 819	285			
Black alder	680	117	369.0	377.1	74.7
Aspen	168	30.8			
Other	231	31	0.008	0.008	0.002

Source: Minleshoz 2010, Loginov 2009

The age distribution of forests in Belarus is not good from a sustainable economical development point of view. This is the result of intensive harvesting from after the Second World War until 1960. The average age of the forests is about 51 years, with a very unbalanced distribution in age classes. The stocked forest land, covered by young and middle age stands, prevails over maturing and mature stands (73% vs. 27% of stocked forest land, Table 3.2). The share of mature stands is only 8% of the stocked forest land. The smoothing of age structure in Belarus needs at least 10 years (Forestry Programme 2006).

Table 3.2. Age structure of forest resources of Belarus in 2009.

Age class[5]	Stocked forest land		Pine and spruce		Oak		Birch, aspen and alder	
			Area	Share	Area	Share	Area	Share
	1 000 ha	%	1 000 ha	%	1 000 ha	%	1 000 ha	%
Young	1 678	21.2	1039.3	61.9	68.9	4.1	527.6	31.4
Middle	3 927	49.6	2343.1	59.7	138.4	3.5	1341.1	34.2
Maturing	1 570	19.8	1019.1	64.9	30.4	1.9	457.5	29.1
Mature	746	9.4	339.4	45.5	42.5	5.7	342	45.8

Source: Loginov 2009

[3] Young stands with the density of 0.4 or more, as well as stands of other age categories with the density of 0.3 or more (*покрытые лесной растительностью земли*)

[4] Forests where final fellings are allowed (*леса, возможные для эксплуатации*)

[5] The division is provided by a special algorithm depending upon the age of maturity (final felling), which is defined legislatively.

More than half of the stocked forest land (60% of forest cover) is covered by coniferous tree species such as pine (50%) and spruce (10%). A significant area is covered by soft deciduous species (34%) such as birch (23%), aspen (2%), and alder (9%). The share of hard deciduous species such as oak and ash is 4% of the stocked forest land. The tree species distribution is presented in Table 3.3.

Regarding productivity, 3.89 million ha of the forests in Belarus belong to the high-productivity class (bonity class I), 3.8 million ha to the middle-productivity classes (bonity classes II-IV), and 0.27 million ha to the low-productivity class (bonity class V) (Loginov 2009).

The distribution of forest resources by area, tree species, and volume of growing stock in Belarusian regions is presented on Maps 7.3–7.5.

Table 3.3. Tree species structure of forest resources of Belarus in 2009.

Species	Stocked forest land		Average age	Stocked forest land			
				Young	Middle	Maturing	Mature
	1 000 ha	%	years	1000 ha	1000 ha	1000 ha	1000 ha
Pine	3 994	50.4	58	809	2023	863	298
Spruce	747	9.4	54	230	319.8	156	41
Oak	280	3.5	68	69	138	30	42
Birch	1 819	23.0	40	388	996.9	293	142
Aspen	168	2.1	37	39	29	30	70
Black alder	680	8.6	41	100	315	134	131
Other	231	2.9	35	42	104	63	22

Source: Loginov 2009

3.2 Utilization of forest resources

Companies and private individuals can obtain forest use rights for a certain period of time. For wood harvesting, forests can be leased for 1–15 years. Furthermore, in some cases, rights for short-term use can be obtained for less than one year. In addition to wood harvesting, usage rights are given for collecting non-wood forest products or hunting. The right to use the forests can be obtained through auctions or by decision of the executive agency. Sub-leasing is prohibited (Forest Code 2000).

The development of forest resources utilization as a ratio between average increment and harvest is presented in Figure 3.2. Before the 1960s, harvesting exceeded the increment and resulted in a decrease in wood harvesting. The age structure changed significantly to domination of young stands. Nowadays the increment is increasing due to the average age approaching technical maturity. Currently half of the annual increment is harvested. Relatively low degree of harvesting of forest resources can be attributed to a number of reasons, namely:

- The structure of forest industry in Belarus has relatively low demand for pulpwood, especially soft deciduous tree species (birch, aspen, alder)
- The development of protected natural areas in the forests and the provision of its special protected forest areas: 18% of forest area is fully or partly restricted to wood harvesting

- Radioactive contamination of 22% of forest area; wood harvesting is permitted in forests with a density of contamination up to 185 kBq/m² (see also Map 7.2)
- Inaccessibility of swamp forests: wood harvesting in 17% of forest area is directly linked to weather conditions and is possible during frosty winters and dry summers

The current age structure of forests limits wood harvesting; however, the situation will change in the future (Baginsky 2004, Woodfuels Programme 2009, Forest Programme 2006).

The annual volume to be harvested is set on the basis of proposals by the Ministry of Forestry (Minleshoz) according to forest management plans. The current justified allowable harvesting volume in Belarus is about 16.3 million m^3 per year (Forestry Programme 2006, Forestry Programme 2009, Baginsky 2004), of which 81–96% is utilized. Annual actual harvesting volume is approximately 14 million m^3. The total annual harvest has been quite stable over the last years (Fig. 3.3).

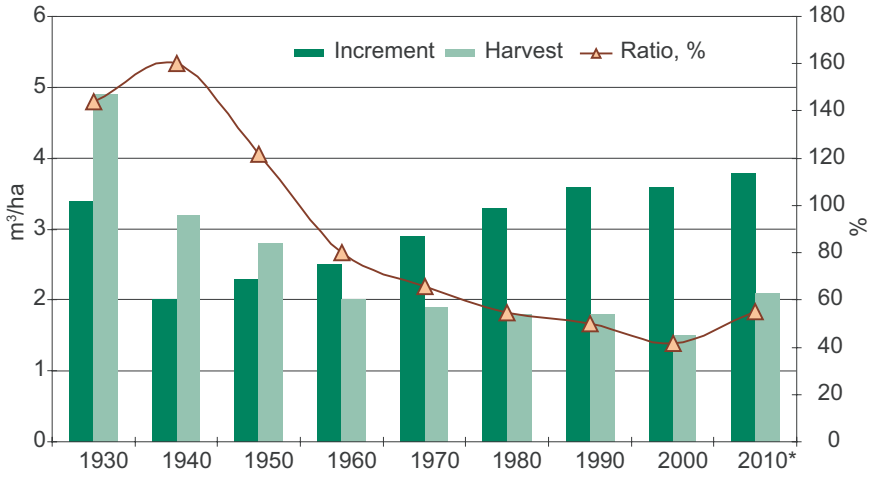

Fig. 3.2. Development of forest use in Belarus (Baginsky 2004).

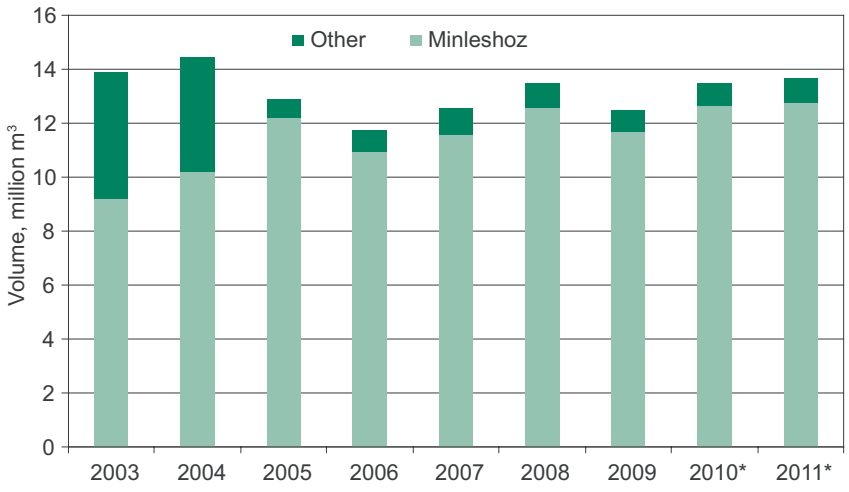

Fig. 3.3. Development of roundwood removals in Belarus in forests in the jurisdiction of the Ministry of Forestry (Minleshoz) and others (Forestry Programme 2006, Forestry Programme 2009).

The harvest includes final fellings (54% of the harvested volume), thinnings (35%), and other fellings (11%). The allowable cut for final fellings is about 8.9 million m^3 per year (Minleshoz 2010). The allowable cut for final fellings is highest in the Vitebsk region (2.3 million m^3) and lowest in the Grodno and Brest region (0.8 million m^3) (Table 3.4).

The actual wood harvesting distribution by area and volume is shown in Table 3.5. In 2008 roughly 500 000 ha were harvested in Belarus. The scale of harvesting was highest in the Minsk region (24.8% of the total harvested area and 23.4% of the total harvesting volume) and lowest in the Grodno region (8.0 and 8.4% respectively).

In wood harvesting, tree-length (TL) and cut-to-length (CTL) methods are applied in Belarus. These methods are different in relation to technology utilized. The typical TL system employs chainsaws for felling and delimbing, and a cable skidder for extraction; the typical CTL system employs chainsaws for felling, delimbing and cross-cutting, and a forwarder for extraction. The fully mechanized CTL system "harvester and forwarder" is becoming common practice in Belarus. For example, state forestry units (leskhozes) belonging to the Ministry of Forestry purchased 15 harvesters, 25 forwarders, and 82 short-wood trucks during 2009 and January-April 2010 (Minleshoz 2010). The total number of full mechanized CTL systems belonging to Minleshoz is 26, which harvest about 8% of the total harvesting volume of Minleshoz.

Table 3.4. Annual allowable cut of final fellings in Belarus in 2009–2010.

Tree species Authority Region	Annual allowable cut of final fellings, million m^3		
	2006	2009	2010
Belarus	7.236	8.571	8.897
		Distribution by tree species group	
Coniferous	3.019	3.525	3.697
Hard deciduous	0.132	0.140	0.144
Soft deciduous	4.084	4.906	5.054
		Distribution by managing organization	
Minleshoz	6.893	8.004	8.347
Other	0.343	0.567	0.550
		Distribution by regions	
Brest		0.808	0.808
Vitebsk		2.264	2.298
Gomel		1.795	1.798
Grodno		0.456	0.762
Minsk		1.485	1.485
Mogilev		1.196	1.196

Source: Minleshoz 2010

Table 3.5. Actual harvest in Belarus in 2008.

Region	Total	Type of felling		
		Final felling	Thinning	Other
		Area, 1000 ha		
Belarus	488.96	24.41	256.52	201.80
Brest	98.86	2.92	41.45	54.05
Vitebsk	71.64	5.83	43.30	21.31
Gomel	85.48	6.50	53.39	23.66
Grodno	39.04	1.52	22.60	14.72
Minsk	120.98	4.34	53.65	62.55
Mogilev	71.97	3.31	42.13	25.51
		Harvested volume, million m^3		
Belarus	15.05	5.47	5.67	2.74
Brest	1.69	0.57	0.80	0.25
Vitebsk	2.95	1.37	1.01	0.31
Gomel	3.28	1.39	1.14	0.34
Grodno	1.26	0.38	0.60	0.26
Minsk	3.52	0.95	1.22	1.25
Mogilev	2.36	0.82	0.91	0.34

Source: Belstat 2010, Loginov 2009

Utilization of forest resources in the Belarus regions is presented on maps 7.6–7.8. The biggest logging companies are shown on map 7.13 and in the Appendix.

About 30 forest enterprises were certified according to the international FSC system in 2006–2007 (2.5 million ha or 30% of the forest fund of the Ministry of Forestry). In 2008 another 20 forest enterprises (1.6 million ha) conducted a final audit of systems of forest management, and the supply chain of forest products. In addition, 56 forest enterprises have national certificates of conformity (Forestry 2010).

3.3 Silviculture

Clear felling has traditionally been the main method of final felling and its share is about half of the total felled volume (Minleshoz 2010). From the end of the Second World War until 1955 and in the beginning of the 1990s the forest regeneration area was larger than the clear felling area. Nowadays, however, almost every clear felled hectare has been regenerated (Fig. 3.4). A forest enterprise belonging to the Ministry of Forestry is responsible for silviculture.

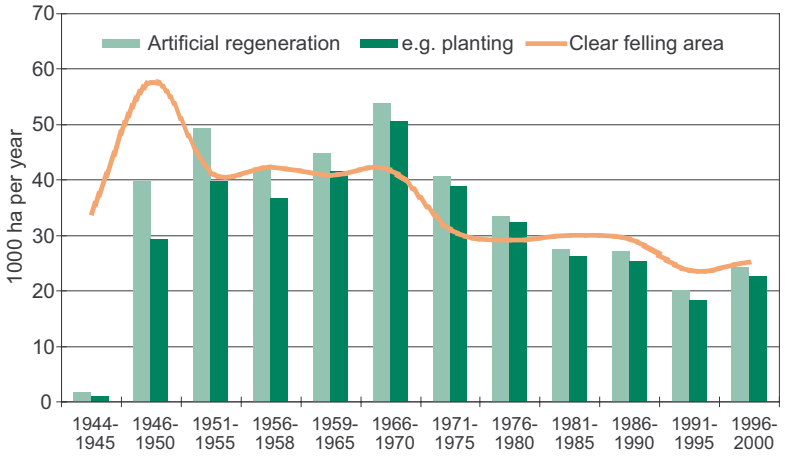

Fig. 3.4. Development of artificial forest regeneration and clear felling area in Northwest Russia during 1945–2000 (Kruk and Yushkevich 2008).

The dominant forest regeneration method in Belarus is artificial regeneration (86% of the total forest regeneration area). About 95% of the artificially regenerated area has been planted. In 2008, 34 561 ha was artificially regenerated and 6 452 ha was naturally regenerated (Minprirody 2010, Belstat 2010). Contrary to the widespread opinion that artificial forest regeneration has predominated in Belarus, the data obtained by Baginsky (1997) show that natural regeneration prevailed in 1922–1940 (85%) and 1945–1990 (65%) due to economic difficulties. Since the beginning of the 1990s, the area of artificial forest regeneration has increased three times as much as natural regeneration in Belarus.

Most of the regenerated areas have been regenerated by two or more tree species (52%). Pine is dominating in artificial regeneration (62%), and the share of spruce is 25%, oak 10%, birch 2%, and larch less than 1%.

Thinning of middle-age and maturing stands is quite common (Fig. 3.5). The proportion of thinning out of the felled volume has been 21–23%. The reasons why thinning has not been even more common are mainly due to concentration on more productive final fellings and lack of demand for pulpwood in many regions. The importance and benefits of thinnings are, however, largely recognized, and it is expected that their amount will grow when use of forest energy is intensified.

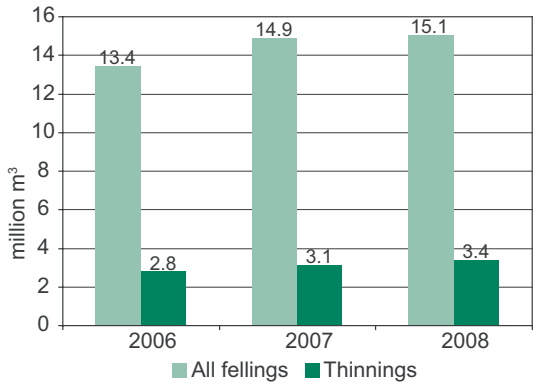

Fig. 3.5. Removals in all fellings and thinnings in Belarus in 2006–2008 (Forestry Programme 2006, Loginov 2009).

4 Forest industry

The forest industry forms 3.2% of the total industrial production in Belarus (Belstat 2010). In the structure of the forest industry, mechanical woodworking predominates (69.5% of the total forest industry production), while pulp and paper form the second largest branch (18.6%). The share of the logging industry is 10.5%. In the structure of mechanical woodworking, furniture production predominates (62.3% of the total mechanical woodworking production), and thus the production of wood-based boards (24%), sawnwood (6.6%), and matches (2.2%) is smaller. Maps of production amounts in Belarus regions are presented in Chapter 7.

About 80 % of the Belarusian forest industry remains state-controlled. The proportion of non-governmental companies in the total number of organizations of the concern Bellesbumprom, which produces 70% of forest products in Belarus, is 19% (Bellesbumprom 2010). However, the country has arguably handled the difficult transition since the collapse of the Soviet Union better than most of its peers.

The status of the forest industry has been at the centre of political discussions in recent years in Belarus. The forest industry is rather undeveloped given the vastness of the resources, the degree of processing is low, production facilities are outdated, and only minor investments have been made. The aim for Belarus, set at the highest governmental level, is to change from a roundwood exporter into a producer of high value-added products.

4.1 Use of wood

The industrial roundwood production and consumption by region are shown in Table 4.1. In 2008, 1748 companies operated in the forest industry in Belarus (Selitskaya et al. 2008b). The highest concentration of forest industry was in the Minsk region, with 525 companies (30%) and 1.4 million m^3 of wood consumption (25%). About 20% of the total wood consumption was in the Gomel region and less than 10% was in the Grodno region. The Vitebsk and Gomel regions have good potential for further development of the forest industry based on positive wood consumption balance.

Table 4.1. Industrial wood production and consumption in Belarus in 2007.

Region	Number of forest industry companies	Production		Domestic consumption		Difference (export, unused)
		1000 m^3	%	1000 m^3	%	1000 m^3
Belarus	1748	7431	100.0	5598	100.0	1833
Brest	279	970	13.1	927	16.6	43
Vitebsk	269	1467	19.7	722	12.9	745
Gomel	234	1540	20.7	1101	19.7	439
Grodno	215	665	8.9	506	9.0	159
Minsk	525	1566	21.1	1406	25.1	160
Mogilev	226	1223	16.5	936	16.7	287

The biggest wood consumers in Belarus are the concern Bellesbumprom (44.5% of the total consumption) and the Ministry of Forestry (11.1%). The biggest companies within Bellesbumprom are Pinskderv (consumption: about 360 000 m^3/yr), Svetlogorsk pulp and paper mill (300 000 m^3/yr), Vitebskdrev (200 000 m^3/yr), Mostovdrev (190 000 m^3/yr), Borisov DOK (180 000 m^3/yr), FanDOK (180 000 m^3/yr), and Rechitsadrev (130 000 m^3/yr). Belarus has 10 administrative districts with a strong forest industry (consumption over 200 000 m^3 per year): Ivatsevichi (23 mills), Pinsk (29), Vitebsk (63), Gomel (61), Svetlogorsk (14), Mostov (8), Borisov (47), Minsk (181), Bobruysk (33), and Mogilev (50) (Selitskaya et al. 2008b). The biggest wood consumers in Belarus are presented on Map 7.11 and in the Appendix.

About 2.25 million m^3 of roundwood, mainly birch pulpwood (754 100 m^3) and pine pulpwood (558 100 m^3), was exported mainly to pulp mills in the Kaliningrad region of Russia in 2009.

4.2 Production trends, exports, and imports

During the last ten years the forest industry has been developing steadily in Belarus. Fibreboard production has grown strongly, it has tripled. Other branches of the forest industry have doubled their production, excluding the sawmill industry, whose growth has been more modest. The Belarus forest industry is export oriented, as the majority of the plywood produced, half of the sawnwood and particle board, and one third of the paper and paperboard are exported. The global economic crisis also hit the Belarus forest sector, and production amounts started to decrease (Figs. 4.1–4.6). According to the Belarus Statistics Service, the production of forest industry products, except paper, decreased considerably during 2009 compared to the previous year. Decreases in production were 7% for sawnwood, 6% for plywood, 39% for fibreboard, 30% for particle board, and 21% for paperboards. In the first half of 2010 the production of forest industry products increased by 7 % for sawnwood, 8 % for particle boards, 10 % for fibreboards, 22 % for plywood, 67 % for paper and 12 % for paperboards compared to the first half of 2009 (Belstat 2010). The most important producers of forest products (sawnwood, plywood, wood-based boards, pulp, paper, and paperboard) in Belarus are presented on Maps 7.12–7.14 and in the Appendix. The production of sawnwood and particle board in different regions is presented on Maps 7.12–7.13.

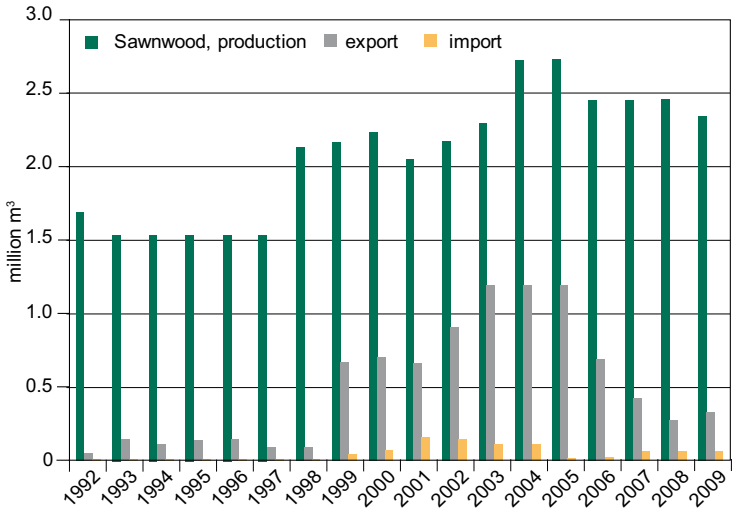

Fig. 4.1. Production trends, imports and exports of sawnwood (Belstat 2010, FAOSTAT 2010).

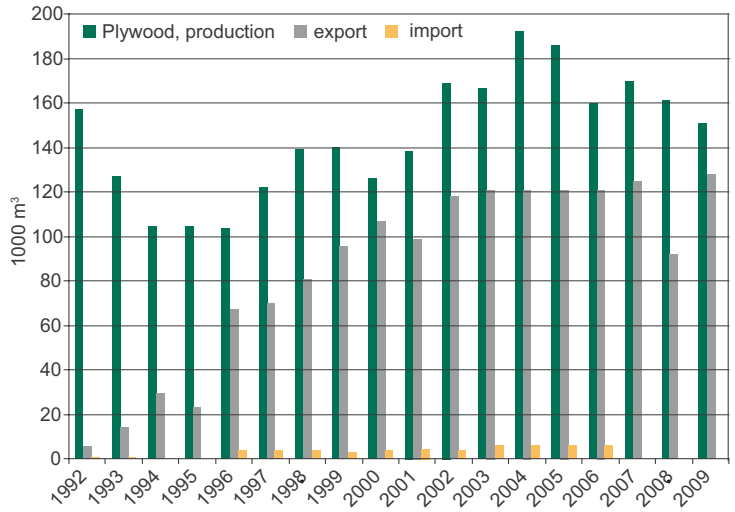

Fig. 4.2. Production trends, imports, and exports of plywood (Belstat 2010, FAOSTAT 2010).

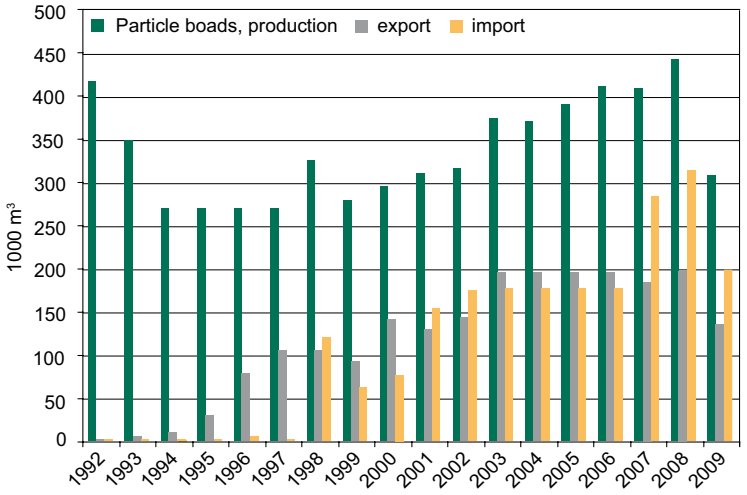

Fig. 4.3. Production trends, imports, and exports of particle boards (Belstat 2010, FAOSTAT 2010).

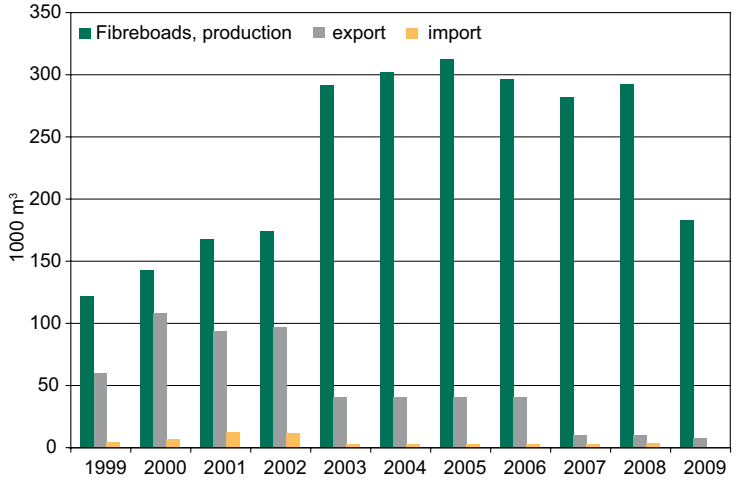

Fig. 4.4. Production trends, imports, and exports of fibreboards (Belstat 2010, FAOSTAT 2010).

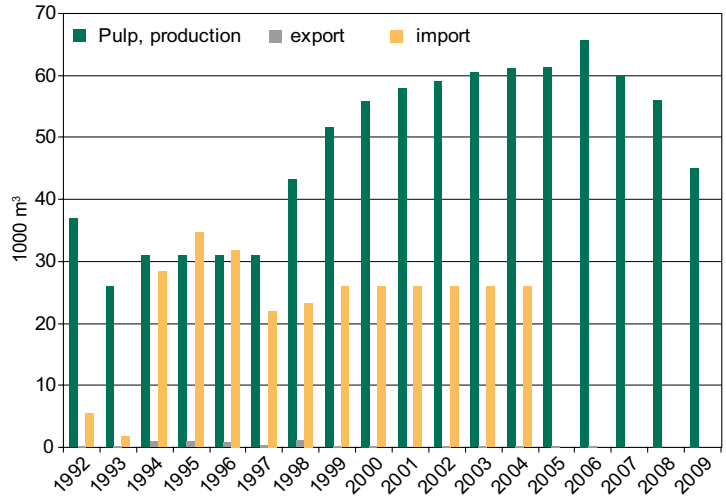

Fig. 4.5. Production trends, imports, and exports of pulp (Belstat 2010, FAOSTAT 2010).

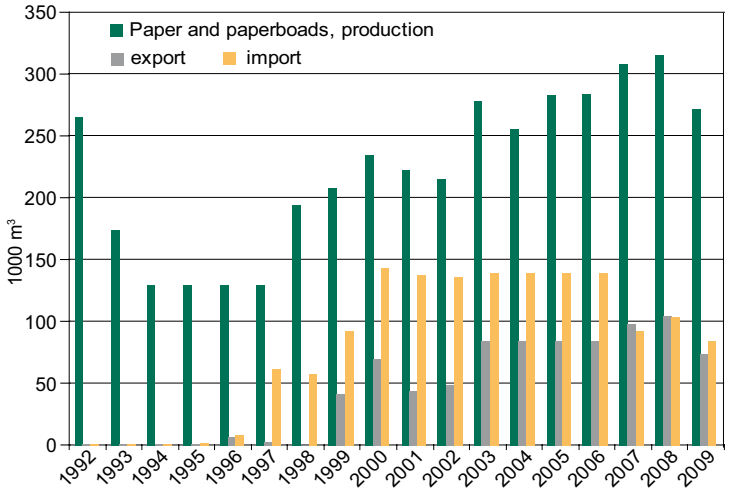

Fig. 4.6. Production trends, imports, and exports of paper and paperboards (Belstat 2010, FAOSTAT 2010).

Historically, sawmilling is one of the most essential types of business in Belarus. About 1 500 economic entities under 25 different ministries, agencies, concerns, and regional executive committees have received licences to produce sawnwood. The key players in sawmilling are the concern Bellesbumprom (25% of the total sawnwood production) and the Ministry of Forestry (21%) (Fig. 4.7). Most of the companies producing sawnwood combine sawmilling with mechanical woodworking (window sets, door sets, and frame houses) or wood harvesting. According to the Belarus Statistics Service, about 1 072 companies are attributed to sawmills[6] including 35 big and medium scale,[7] 581 small,[8] and 456 auxiliary[9] companies. Most sawmills are small with an average annual output of 2 000 m^3. The largest and most advanced sawmills belong to the concern Bellesbumprom with an average annual output of over 10 000 m^3. Over 70 sawmills belong to the Ministry of Forestry which processed 885 900 m^3 of sawlogs and produced 361 200 m^3 of sawnwood in 2009 (Minleskhoz 2010).

6 The share of sawnwood dominates over other products

7 The number of employees is more than 100

8 The number of employees is less than 100

9 Consisting of the balance of industrial, commercial, construction, and agricultural organizations

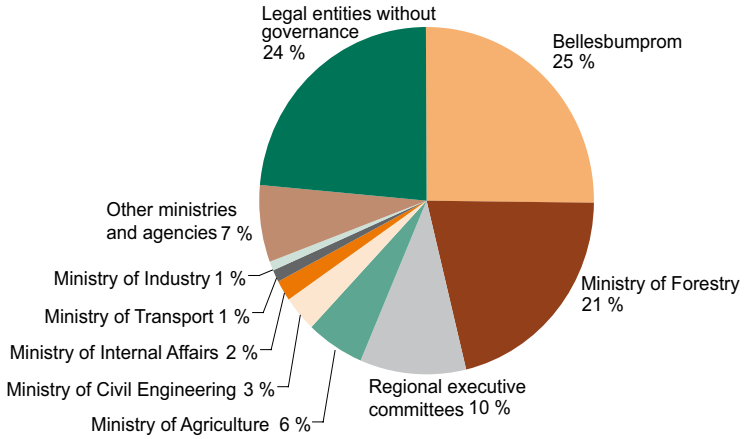

Fig. 4.7. Structure of sawnwood production according to governance in 2007 (Belstat 2010).

In connection with the implementation of a number of government programmes, demand for sawnwood on the domestic market has increased by 30% during the past decade. At the same time the production of sawnwood has increased by 9% and, as a result, the export has declined by 40%. Nevertheless, about 334 900 m^3 of sawnwood was exported in 2009. The most important markets are in Germany (32% of the total export volume), Belgium (24%), Lithuania (13%), and the Netherlands (13%). The most important international markets of Belarusian forest products (roundwood, sawnwood, particle board, plywood, fibreboard and paper and paperboard) are presented in Figures 4.8–4.13.

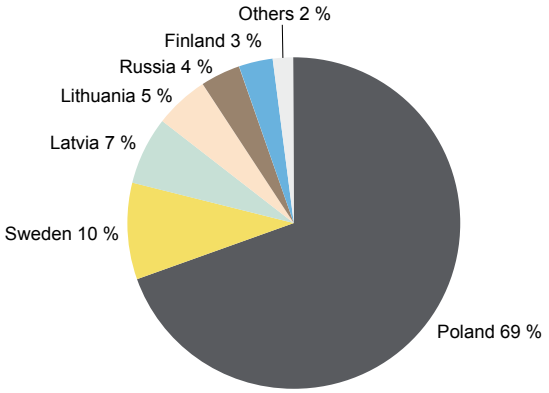

Fig. 4.8. Roundwood export according to country in 2009 (Belstat 2010).

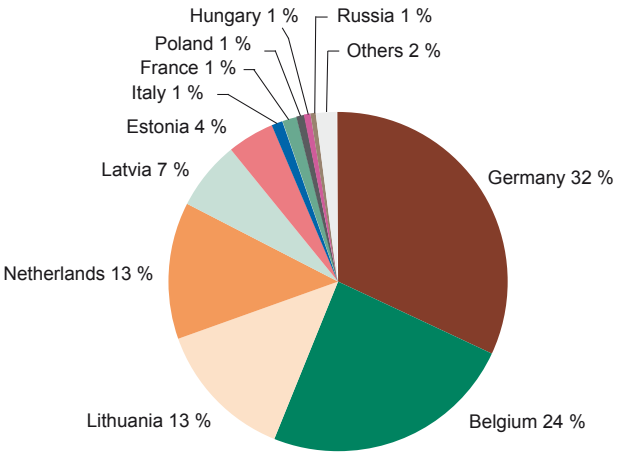

Fig. 4.9. Sawnwood export according to country in 2009 (Belstat 2010).

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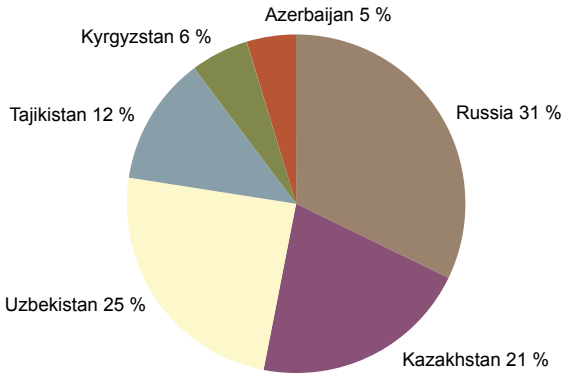


Fig. 4.10. Particle board export according to country in 2009 (Belstat 2010).

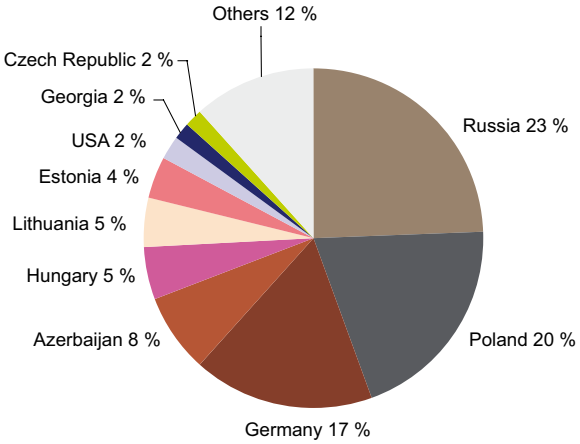


Fig. 4.11. Plywood export according to country in 2009 (Belstat 2010).

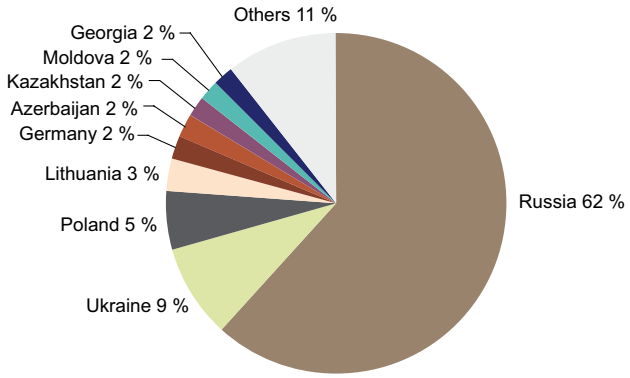


Fig. 4.12. Fibreboard export according to country in 2009 (Belstat 2010).

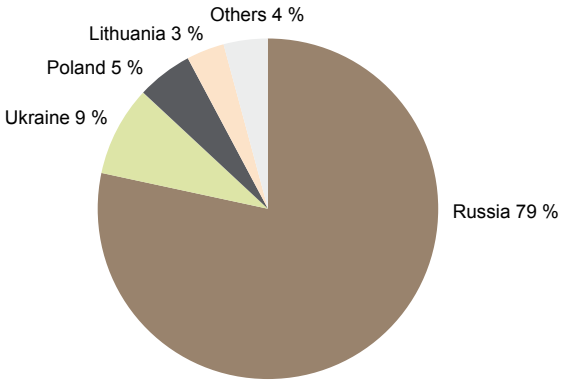


Fig. 4.13. Paper and paperboard export according to country in 2009 (Belstat 2010).

5 Forest infrastructure

5.1 Forest education

The Republic of Belarus has 26 forestry-related educational institutions under the Ministry of Education (Forest Programme 2006):

- Two universities, with about 300 graduates per year (Table 5.1)
- Five colleges, with about 350 graduates per year (Table 5.2)
- Nineteen training schools, with about 350 graduates per year (Table 5.3)

The abovementioned educational institutions also play an important role in continuous education. Moreover the Republic Training Centre for Continuous Education in Forestry provides training for over 500 workers annually.

The location of forest educational institutions in Belarus is presented on Map 7.15.

Table 5.1. Forest universities in Belarus.

Name	Field	Website
Belarusian State Technological University Беларусский государственный технологический университет	Forestry Forest Engineering Mechanical Woodworking Chemical Woodworking Forest Economics Forest Management	www.bstu.unibel.by
Francisk Skorina Gomel State University Гомельский государственный университет им. Ф. Скорины	Forestry	www.gsu.by

Source: www.bstu.unibel.by, www.gsu.by

Table 5.2. Forestry colleges in Belarus.

Name	Field	Website
Bobruysk State Forest Technical College Бобруйский государственный лесотехнический техникум	Forestry Forest Engineering Mechanical Woodworking Economics	www.tamby.info/college/bobruisk-glt.htm
Polock State Forest College Полоцкий государственный лесной техникум	Forestry	www.pglt.at.tut.by
Buda-Koshelevsky Agro Technical College Буда-Кошелевский аграрно-технический колледж	Energy, Mechanics	www.bkgatk.narod.ru
Orlovskogo Mogilev Professional Agro Forest Technical College Могилевский ордена Трудового Красного Знамени профессиональный агролесотехнический колледж им.К.П.Орловского	Forestry	www.paltk.info
Borisov State Professional Technical College for Forestry Борисовский государственный профессионально-технический колледж лесного хозяйства	Forestry	www.bgptklx.narod.ru
Gomel State Technical College Гомельский государственный политехнический колледж	Forest Engineering Mechanical Woodworking	www.ggpt.gomel.by

Source: Minleshoz 2010

Table 5.3. Most important forestry schools in Belarus.

Name	Field	Address
Vidzovskoye Professional School 169 Видзовское ГПТУ N 169	Forestry	Vitebsk region, Braslavsky rn, g.p.Vidzy, Lenin Street, 9 211990, Витебская обл., Браславский р-н, г.п.Видзы, ул. Ленина, 9
Pinskoye Professional School 161 for agriculture. Пинское ГПТУ № 161 сельскохозяйственного производства	Forestry	Brest region, Pinsk district, Zhabchitsy village 225766 Брестская обл., Пинский р-н, д. Жабчицы
Priborskoye Professional School 185 Приборское сельскохозяйственное ПТУ N 185	Forestry	Gomel region, Gomel district, d.Pribor, Sovetskaya, 9 Гом.обл., Гомельский р-н, д. Прибор,Советская, 9
Rechitskoye Professional School 178 for Agriculture. Речицкое ГПТУ № 178 сельскохозяйственного производства	Forestry	Gomel region, Rechitsky rn, d.Ozerschina st. Frunze 41 247520 Гомельская обл., Речицкий р-н, д.Озерщина ул. Фрунзе 41
Borisov Ecological Professional Lyceum Борисовский экологический профессиональный лицей	Forestry	Minsk region., Borisov, ul.III International, 182 222120, Минская обл., г.Борисов, ул.III Интернационала, 182
Svirsky Agricultural Professional Lyceum Свирский сельскохозяйственный профессиональный лицей	Forestry	Minsk region., Myadel rn, d.Komarovo 222394.Минская обл., Мядельский р-н, д.Комарово
Slavgorodsky Professional Lyceum 3 Славгородский профессиональный лицей N 3	Forestry	Mogilev region, Slavgorod, Kalinin, 57 213240 Могилевская обл., г. Славгород, ул.Калинина,57

Source: Minleshoz 2010

5.2 Forest research

Belarus has four forestry-related academic institutions under the National Academy of Science:

- The Forest Institute (www.forinst.basnet.by) in Gomel
- The Institute of Experimental Botany (biobel.bas-net.by/botany) in Minsk
- The Central Botanic Garden (hbc.bas-net.by/cbg) in Minsk
- The Institute of Zoology (biobel.bas-net.by/zoo/institut.htm) in Minsk

The Forest Institute employs 140 persons, of whom 4 have Doctor of Science degree and 22 have Doctor of Philosophy degree. The Institute has 3 forest research stations: Zhornovskaya (Osipovichi, the Mogilev region), Dvinskaya (Podsvilye, the Vitebsk region), and Korenevkskaya (Korenevka, the Gomel region), 6 research laboratories, support units, scientific library. The priority areas of basic and applied research are:

- Development of technologies for sustainable forest management
- Development of technologies for conservation and reproduction of forest genetics and breeding
- Development of technologies for reforestation, forestation, increasing productivity, and ecological sustainability of forests
- Development of technologies, methods, and means of protecting forests from fire, pests and diseases
- Development of technologies for assessment of forest resources, forest monitoring, and remote sensing of forests
- Development of technologies for the rehabilitation of forests and forest lands and forest management in areas contaminated with radionuclides

- The study of genetic, physiological, and biochemical mechanisms of formation of productivity and sustainability of forests
- The scientific basis of reproduction, rational use, and conservation of forest biological resources
- Biotechnology for industry, agriculture, medicine, and environmental protection

5.3 Forest roads

The current forest road density in Belarus is 1.67 m/ha of stocked forest area (Table 5.1). For comparison the optimal forest road network in Belarus should be 4.32 m/ha. This means about 11 800 km of main roads and 11 200 km of branch roads should be constructed additionally (Vyrko 2009). Only a small share (15.4%) of all-weather roads support continuous wood delivery. The prevalence of dirt roads (more than 90%) does not favour efficiency of wood transport due to dependence on climatic conditions. The Gomel and Mogilev regions have the highest forest road density, about 2.0 m/ha, while the forests in the Brest region have just 1.0 m/ha. The all-weather road density is about 0.24 m/ha in most regions. The Grodno region has the highest all-weather road density of 0.30 m/ha. Forest roads in Belarus regions are presented on Map 7.16.

Table 5.1. Forest roads in Belarus.

Region	Road density, m/ha	Length of roads, 1000 km		
		Total	All-weather	Dirt
Belarus	1.67	113.2	17.4	104.0
Brest	1.00	8.75	2.13	7.84
Vitebsk	1.35	15.40	2.77	13.65
Gomel	2.00	33.36	4.28	31.03
Grodno	1.73	13.29	2.27	12.18
Minsk	1.64	22.25	3.34	20.52
Mogilev	2.00	20.24	2.61	18.75

Source: Vyrko 2009

5.4 Producers of forest machinery

The heavy machinery industry is one of the major industries in Belarus. The flagship of the Belarusian agricultural machinery is the production association Minsk Tractor Plant, which is among the seven largest manufacturers of tractors in the world (belarus-tractor.com, www.mozyrmash.by). Today it produces over 50 models of different types of equipment in the power range from 8 to 150 hp and about a hundred modifications for all climatic conditions. The company has launched 10 models of forestry machines (Table 5.2).

The location of forest machinery producers in Belarus is presented on Map 7.17. Different kind of wood harvesting machines are produced by Amkodor (www.amkodor.by) in Minsk. These machines are designed for cut-to-length and tree-length methods (Table 5.3).

Table 5.2. Forest machines by Minsk Tractor Plant.

Model "Belarus"	Short description	Technical data (web-site)
TTR-401M	Forwarder for thinnings	belarus-tractor.com/ru/main.aspx?guid=1413&mode=shortinfo
ML-131	Basic forwarder	belarus-tractor.com/ru/main.aspx?guid=3933&mode=shortinfo
MLPT-354M	Basic forwarder	belarus-tractor.com/ru/main.aspx?guid=4613&mode=shortinfo
MPT-461.1	Basic forwarder	belarus-tractor.com/ru/main.aspx?guid=5863&mode=shortinfo
L82.2	Tractor for forestry	belarus-tractor.com/ru/main.aspx?guid=6343&mode=shortinfo
MR-40	Mobile chipper	belarus-tractor.com/ru/main.aspx?guid=21033&mode=shortinfo
MR-25	Mobile chipper	belarus-tractor.com/ru/main.aspx?guid=29603&mode=shortinfo
MLH-424	Basic harvester	belarus-tractor.com/ru/main.aspx?guid=32273&mode=shortinfo
1221MLH	Harvester for thinning	belarus-tractor.com/ru/main.aspx?guid=32293&mode=shortinfo
TTR-411	Forwarder for thinnings	belarus-tractor.com/ru/main.aspx?guid=32303&mode=shortinfo

Source: http://belarus-tractor.com

Table 5.3. Forest machines by Amkodor.

Model "Amkodor"	Short description	Technical data (website)
2551	Basic harvester with Kesla Foresteri 1395H and Kesla 25RH	www.amkodor.by/products/a2551.shtml
2661	Basic forwarder 6 x 6, 12t	www.amkodor.by/products/a2661.shtml
2661-01	Basic forwarder 6 x 6, 12t with Foresteri 600-1	
2243	Skidder with Foresteri R700	www.amkodor.by/products/a2243.shtml
2243B	Cable skidder	www.belmachexport.ru/trel2243B.htm
2243A	Cable skidder	www.belmachexport.ru/trel2243A.htm
352Л	Loader 5t	www.amkodor.by/products/a352l.shtml
352Л1	Loader 5t	www.amkodor.by/products/a352l.shtml
371-01	Loader 7t	
2902	Forwarder based chipper with Kesla crane	www.amkodor.by/products/a2902.shtml
2681	Forwarder 8 x 8	www.amkodor.by/products/a2681.shtml

Source: www.belmachexport.ru, www.amkodor.by

Different kinds of forest vehicles are available from Minsk Automobile Plant (www.maz.by) in Minsk. These trucks and trailers are designed for cut-to-length and tree-length methods (Table 5.4).

Gomselmash (www.gomselmash.by) in the Gomel region is a multi-profile manufacturer, producing a technologically interrelated line of agricultural technology for cultivating and harvesting main crops using the modern agrarian technologies, also for forestry purposes.

Bobruiskagromash (www.agromash.by) in the Mogilev region is a producer of machinery for fertilizers. In recent years, along with the manufacture of machines for making liquid and solid organic fertilizers, it has produced a number of machines for the application of solid and liquid fertilizers, also for forestry purposes.

Lidselmash (www.lidselmash.by) in the Grodno region is a producer of soil cultivating machines including the forest plough PKL-70D and forest cultivator L-129.

The main supplier of ploughs for powerful tractors in Belarus is Minsk Gear Works (www.mgw.by). The company produces ploughs for stony soils and for the smooth ploughing for tractors of hauling classes 1.4, 2.0, 3.0, and 5.0 tons. Ploughs for forestry are also produced at Kuzlitmash (www.kuzlitmash.by) in Pinsk, in the Brest region.

Table 5.4. Forest trucks by Minsk Automobile Plant.

Model “MAZ”	Short description	Technical data
543403-220	Tree-length truck	4x4, 184 kW, 16t
6303A8-326	Cut-to-length truck	6x4, 294 kW, 28.7t
641808-221-011	Tree-length truck	6x6, 294 kW, 28.7t
837810-020	Cut-to-length trailer	2 axles, 4.8t
892600-020	Cut-to-length trailer	2 axles, 3.97t
892620	Cut-to-length trailer	3 axles, 6.5t
900800-010	Cut-to-length trailer	2 axles, 4.85t
900800-012	Cut-to-length trailer	2 axles, 4.7t
998640-010	Cut-to-length semitrailer	3 axles, 8t

Source: maz.by/Lesovozy.pdf

6 Energy wood

The average annual consumption of energy in Belarus is about 967 PJ[10], and only 15% is covered by its own energy sources (Lednitsky 2009).

In accordance with the ongoing state programmes (Local Fuels Programme 2004, Energy Modernisation Programme 2005), at least 25% of the energy in Belarus should be produced from local fuels by 2012, and 16 mini-CHP[11] using wood should be constructed with an annual consumption of 1.2 million m^3 of energy wood. In addition, the programme "Development of Wood Pellets, Wood Briquettes, and Charcoal in the Ministry of Forestry in 2009–2011" has been adopted.

At the moment over 10 power plants in Belarus are using fuelwood, mostly wood chips (Map 7.18). In order to improve energy wood supply, the harvesting units for the production of wood chips have been created within the existing forestry enterprises under the Ministry of Forestry and the concern Bellesbumprom. The pilot energy supply system for Vileika mini-CHP was implemented under the project of the Government of Belarus and the UN Development Programme "Biomass Energy for Heating and Hot Water Supply in Belarus" (Fedoseev 2004).

Production of wood chips has been developed in 27 forestry enterprises with a total capacity of 398 000 m^3 per year. However, only 127 000 m^3 of chips were sold in 2008. Although wood pellets and briquettes are produced in 29 companies in Belarus with a total capacity of 133 000 tons per year, only 57 000 tons of pellets and briquettes were sold in 2008. This means that the capacity of energy wood production in the country is not used at full scale.

Thus, a new system of renewable energy based on energy wood was created including domestic machinery and equipment and the organization of production. Currently, attention is focused on reducing the production cost of energy wood and increasing its competitiveness relative to fossil fuels by developing the most effective systems of machines and optimizing the location of warehouses and logistic solutions for the fuel delivery.

The main source of energy wood in Belarus is wood from harvestings (85% of the total energy wood); the rest is from wood processing industry by-products. The output of energy wood from final fellings is 27–32%, from thinnings 53–55%, and from other fellings 58–60% (Belstat 2010, Forestry Programme 2006). Of the energy wood potential, 7.8 million m^3 per year is stem wood and at least 0.5 million m^3 per year is logging residues. Energy wood plantations of black alder (1 million m^3/yr) and overmature soft deciduous species[12] stands (1 million m^3/yr) offer additional energy wood potential (Lednitsky 2009).

10 967 PJ = 23 million tons of oil equivalent (toe) = 33 million tons of coal equivalent (tce)

11 CHP = combined heat and power plant

12 Birch, aspen, black alder

The actual harvest of energy wood during recent years has been 5.7–5.9 million m^3 per year. A substantial portion of the harvested energy wood was provided to the private people and budgetary organizations. According to data reported in 2008, 3.7 million m^3 of energy wood or 62% of the harvested energy wood was provided to the population. Thus, the remaining 2.2 million m^3 of energy wood was already used by CHP for the production of heat and electricity. According to the Forestry Programme 2007–2011, the actual energy wood production from the forests should be increased from 4.2 million m^3 in 2007 to 6.9 million m^3 in 2011 (Forestry Programme 2009) as shown in Figure 6.1.

The other source of energy wood in Belarus is wood residues from the local woodworking (15% of the total energy wood or 2 million m^3).

The energy wood potential in the Belarus regions is presented on Map 7.18. The largest power plants using wood as well as wood pellet and briquette producers are shown on Maps 7.19–7.20.

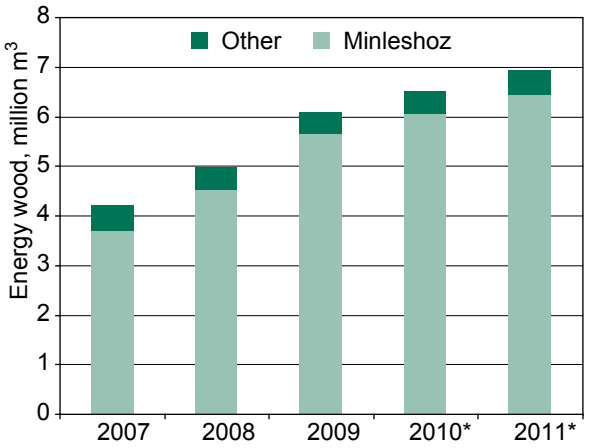
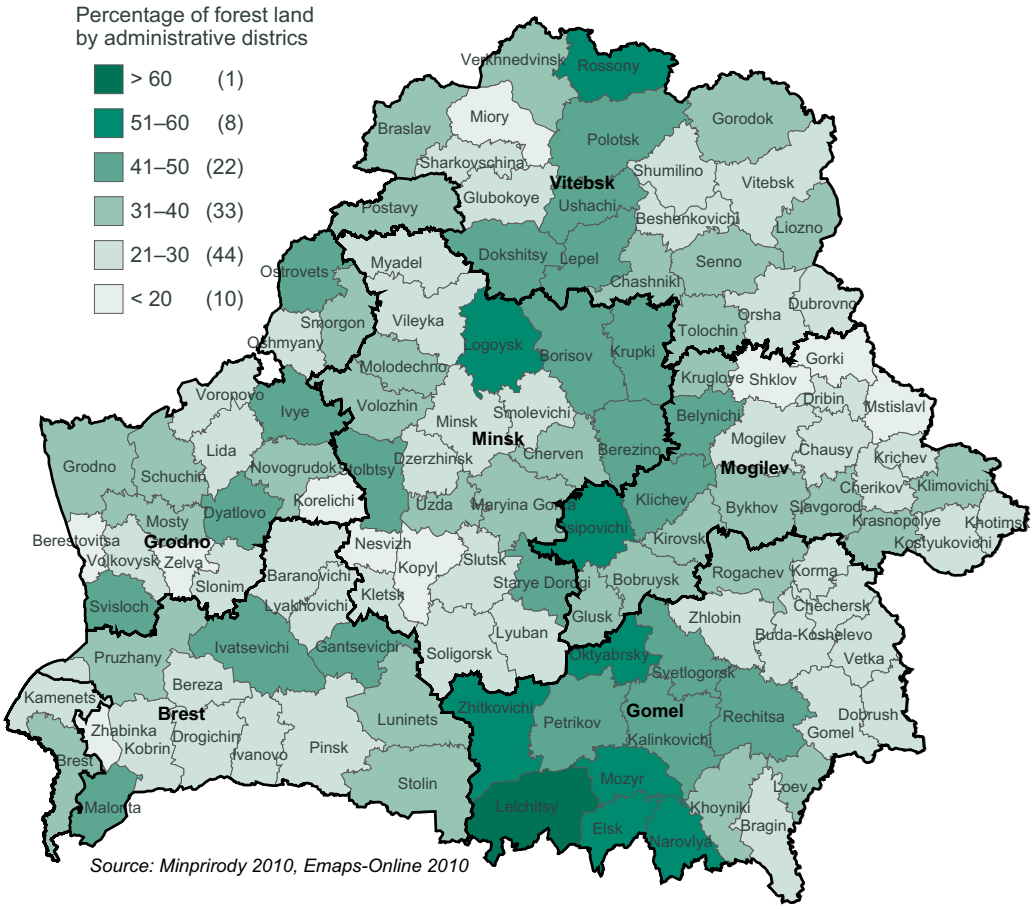


Fig. 6.1. Development of energy wood harvesting in Belarus in forests in the jurisdiction of the Ministry of Forestry (Minleshoz) and others (Forestry Programme 2009).

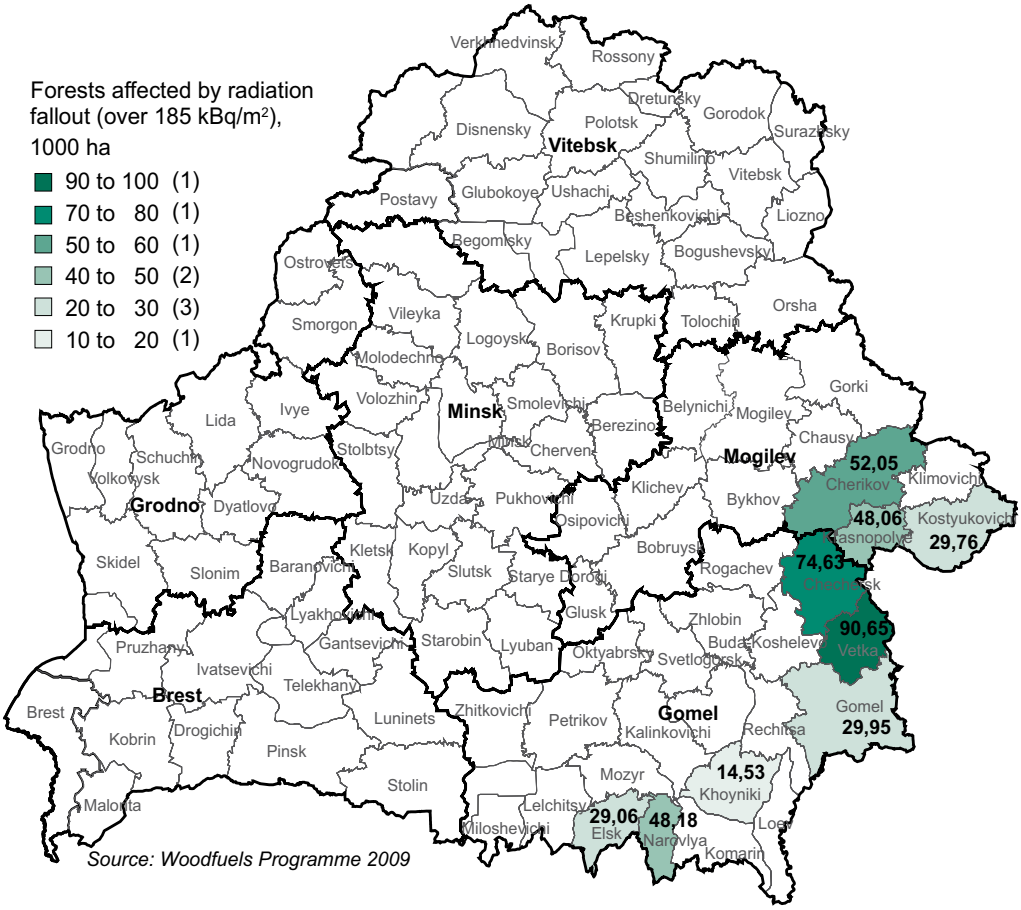
7 Maps

7.1 Distribution of forest land by administrative districts

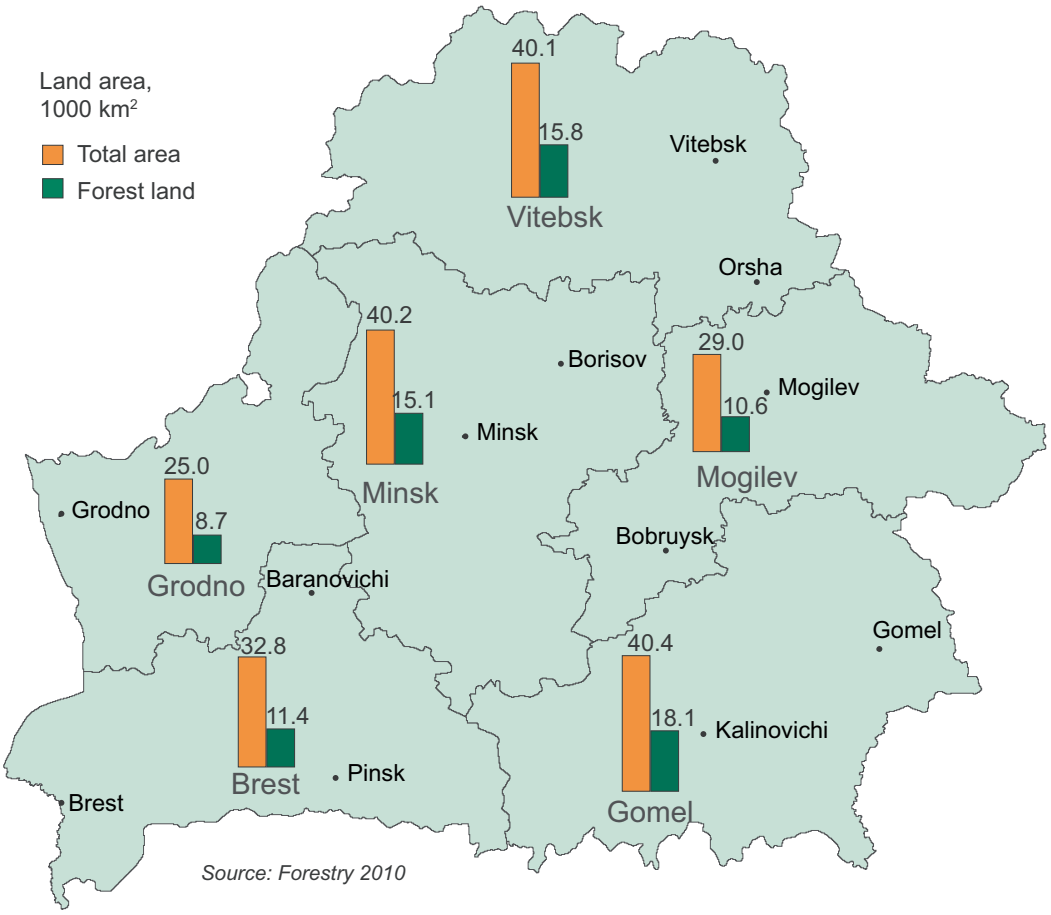


Source: Minprirody 2010, Emaps-Online 2010

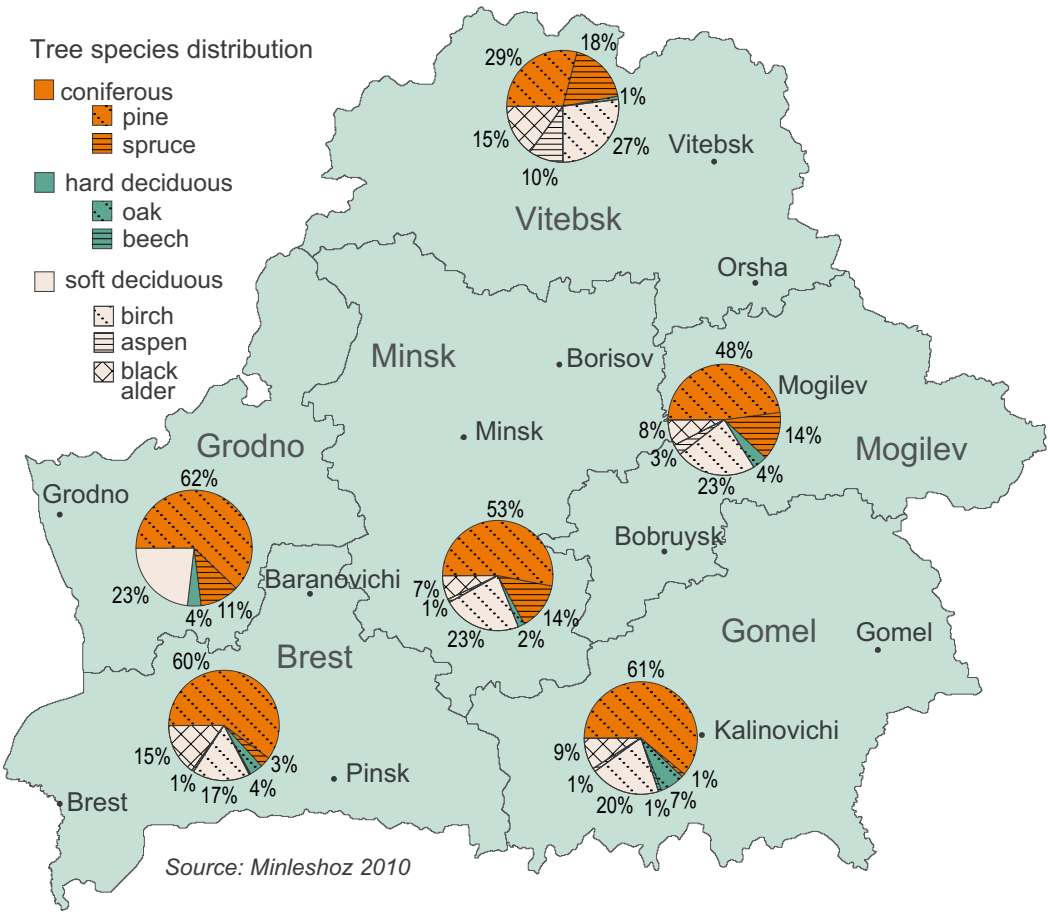
7.2 Location of forests affected by radiation fallout at forestry enterprises belonging to the Ministry of Forestry



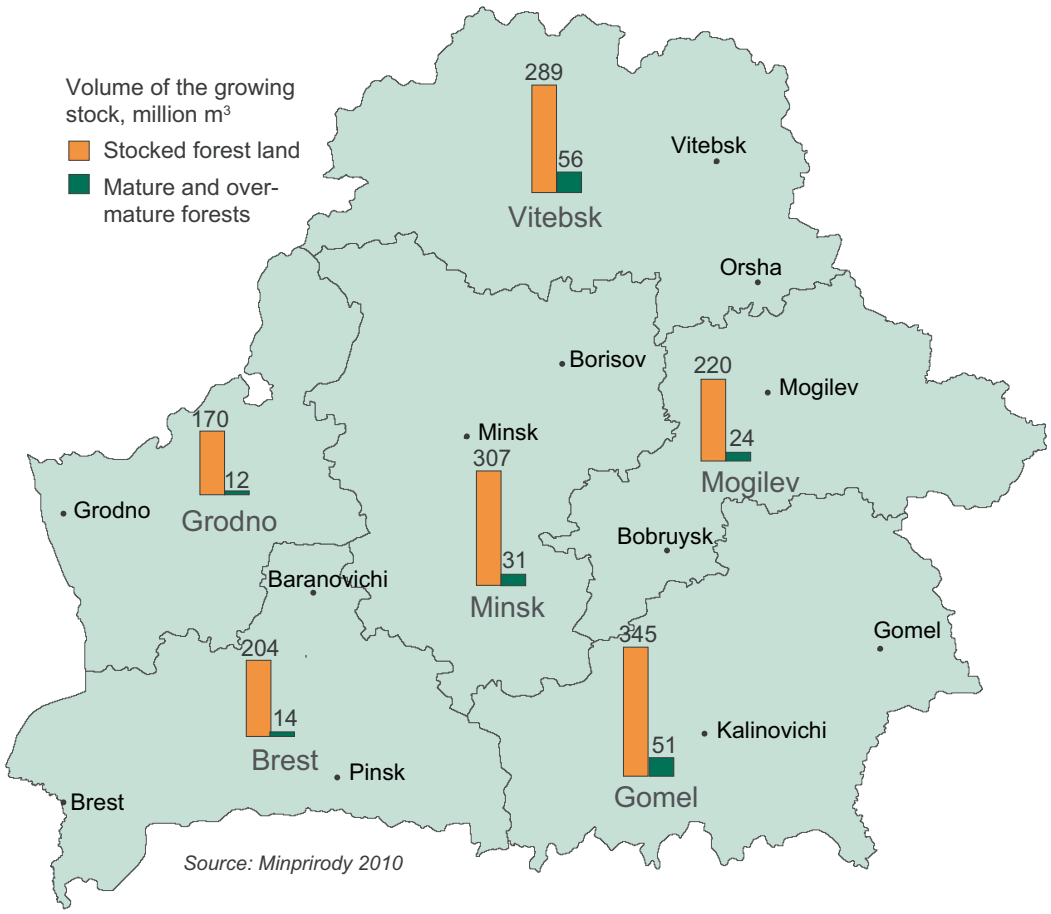
7.3 Forest area



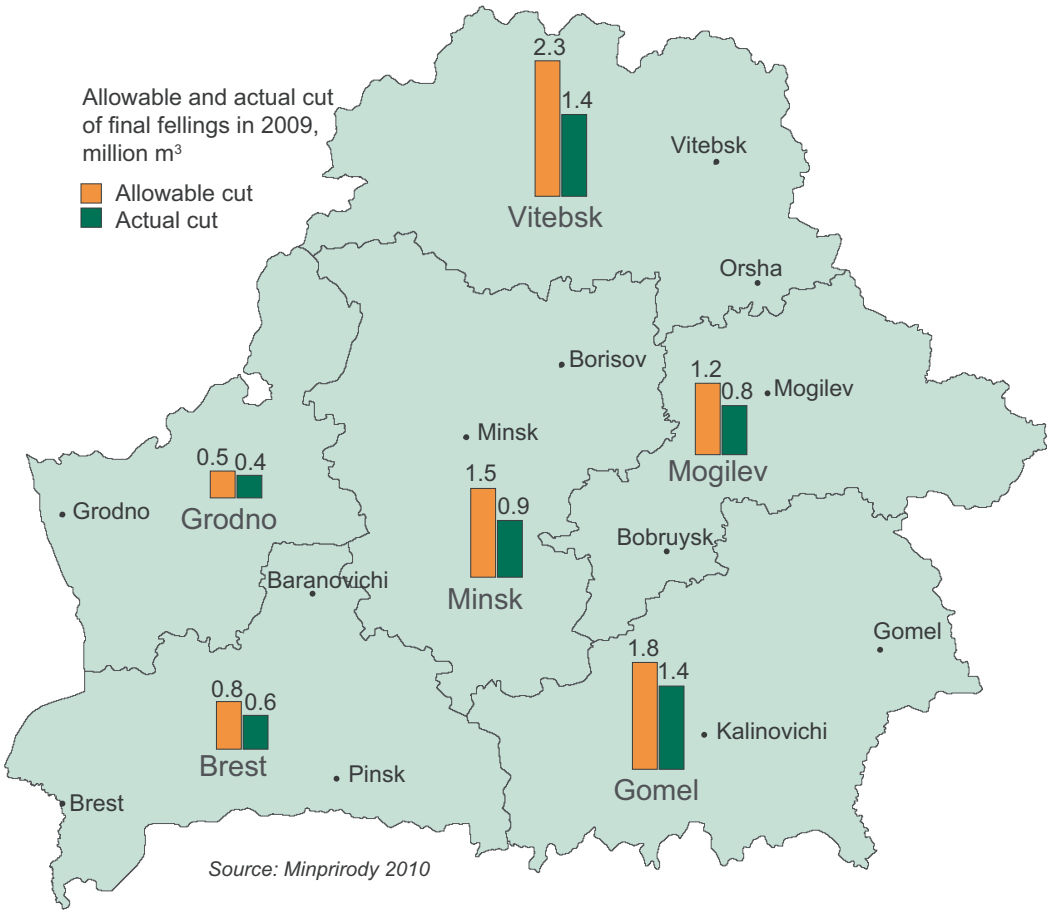
7.4 Main tree species



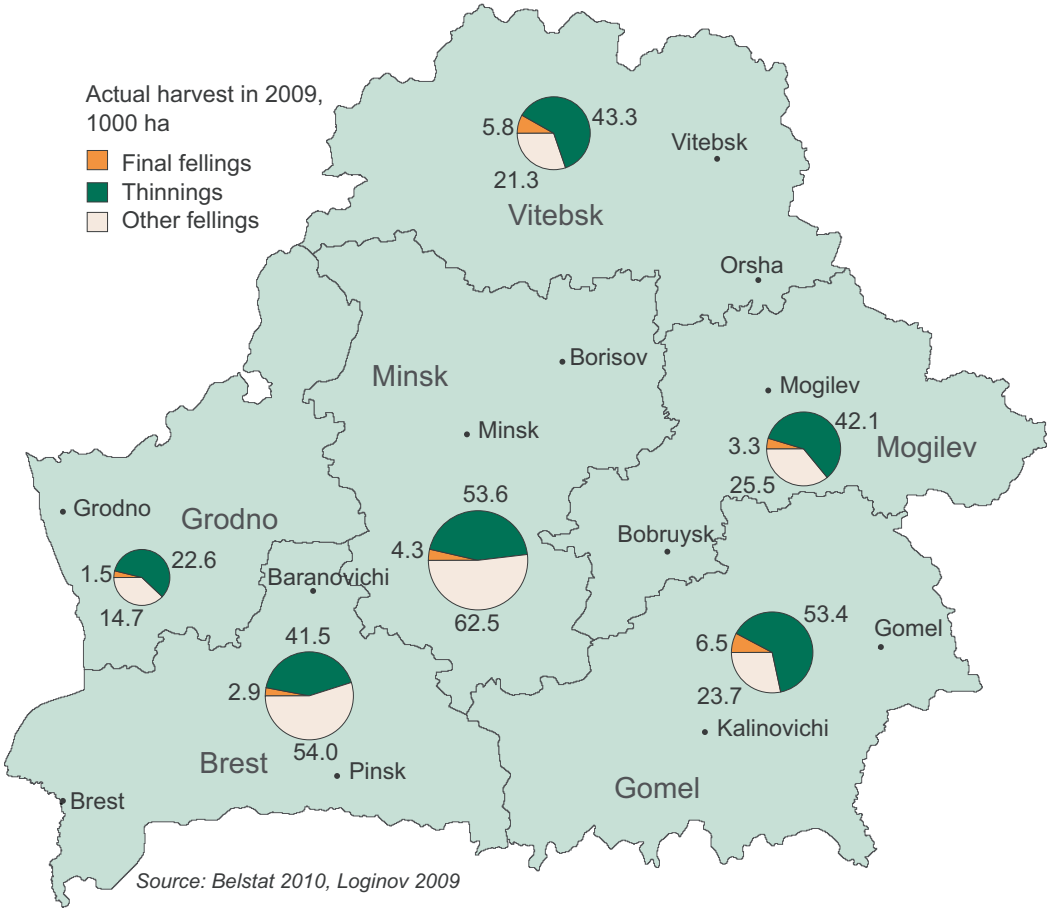
7.5 Volume of the growing stock



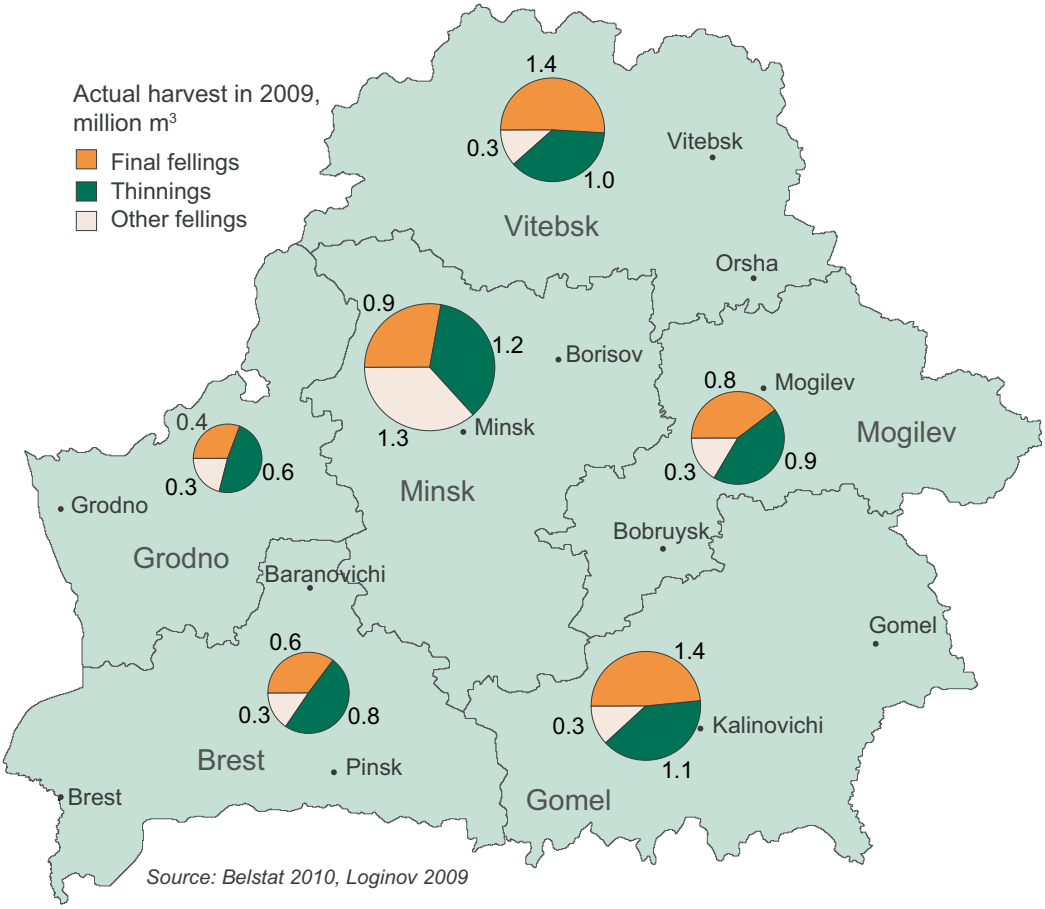
7.6 Allowable and actual cut of final fellings



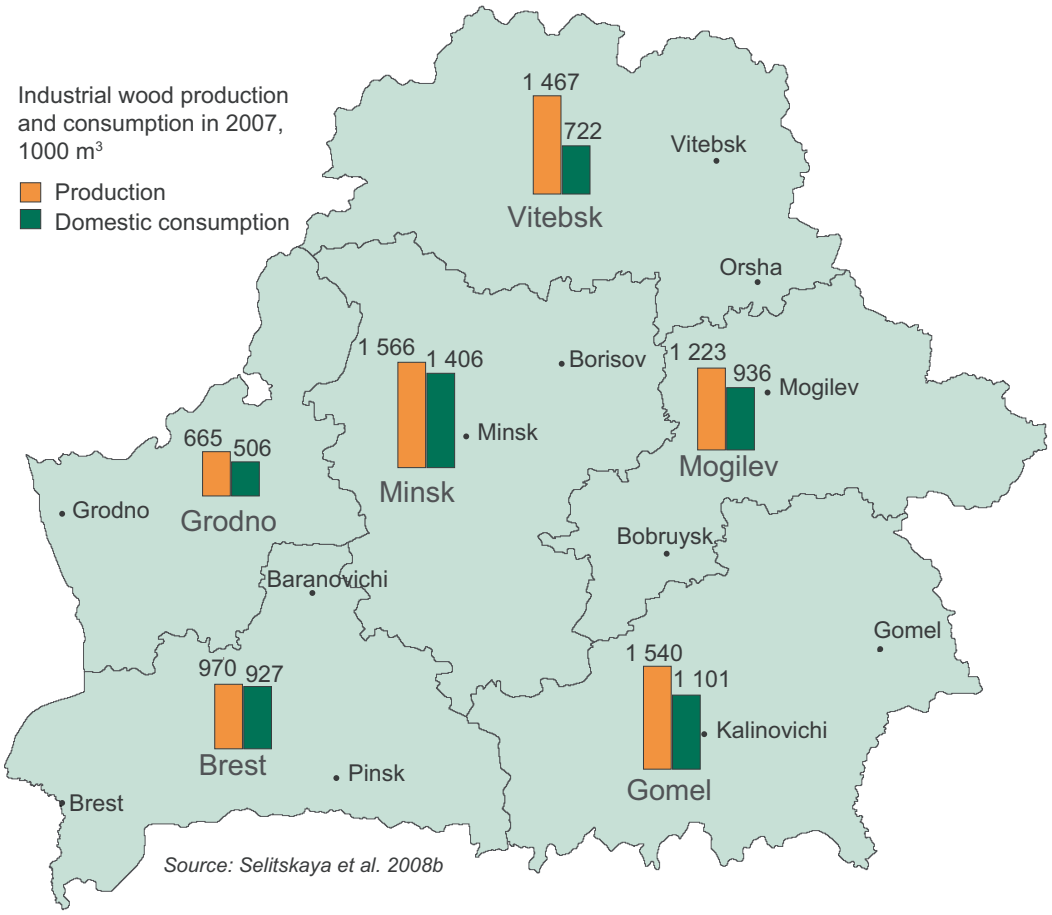
7.7 Actual harvest by area



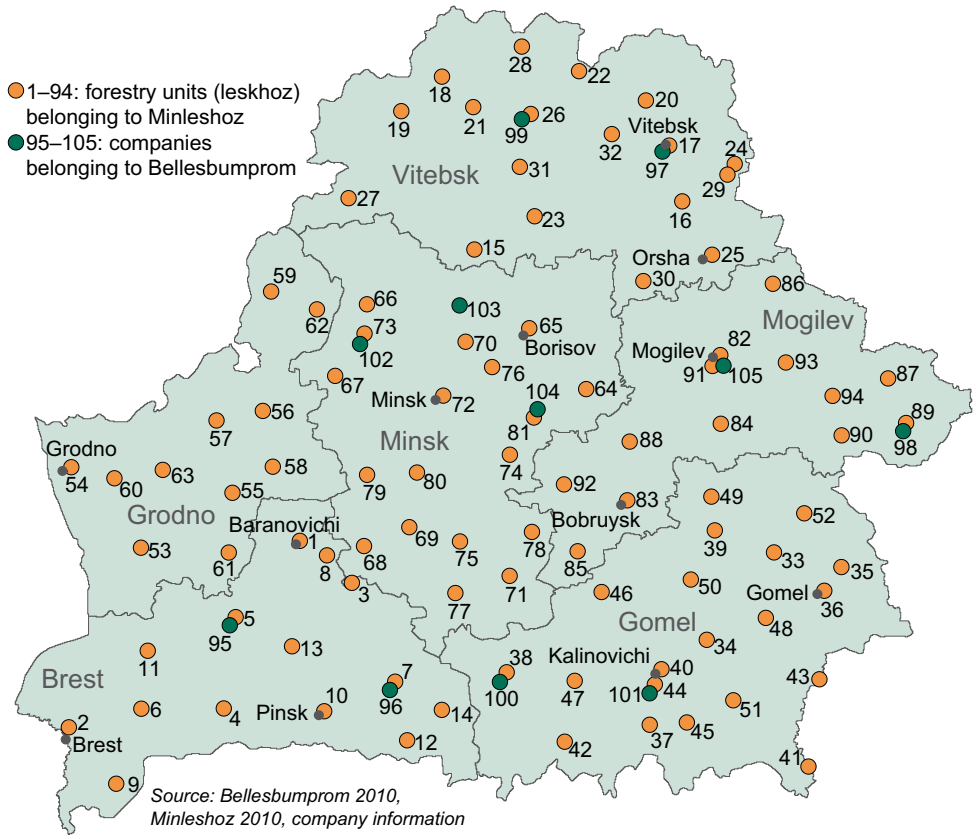
7.8 Actual harvest by volume



7.9 Industrial wood production and consumption



7.10 The biggest forestry units and logging enterprises

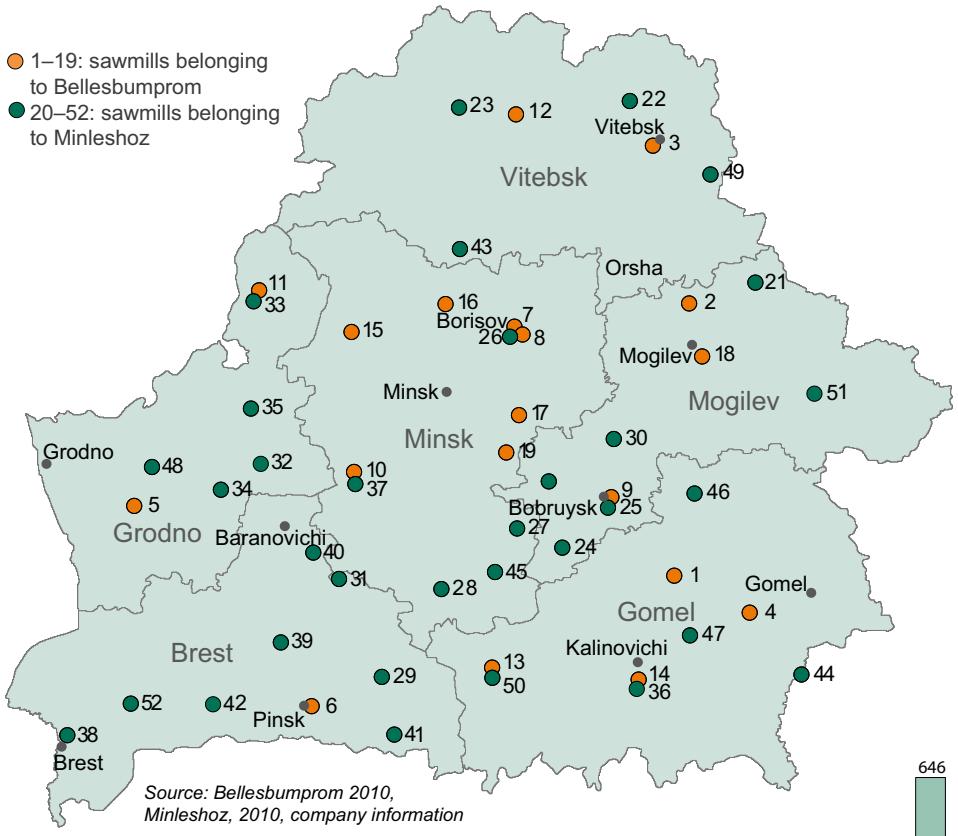


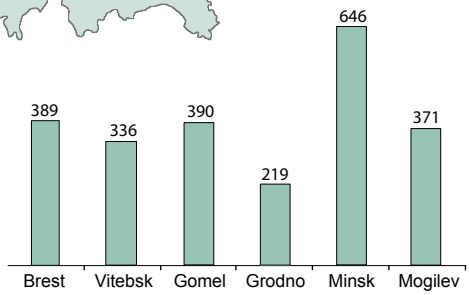
1–94: forestry units (*leskhoz*) belonging to Minleshoz; 95–105: companies belonging to Bellesbumprom

1	Baranovichi	22	Dretun	43	Miloshevichi	64	Berezino	85	Glussk
2	Brest	23	Lepel	44	Mozyr experimental	65	Borisov experimental	86	Gorki
3	Gantsevichi	24	Liozno	45	Narovlya	66	Vileika experimental	87	Klimovichi
4	Drogichin	25	Orsha	46	Octyabrsky	67	Volozhin experimental	88	Klichev
5	Ivatsevichi	26	Polotsk	47	Petrikov	68	Kleck	89	Kostiukovichi experimental
6	Kobrin experimental	27	Pastavy	48	Rechitsa	69	Kopyl	90	Krasnopolye
7	Luninets	28	Rossony	49	Rogachev	70	Logoisk	91	Mogilev
8	Lyakhavichy	29	Surazh	50	Svetlogorsk	71	Luban	92	Osipovichi experimental
9	Malorita	30	Tolochin	51	Khoiniki	72	Minsk	93	Chausy
10	Pinsk	31	Ushachy	52	Cieciersk	73	Molodechno	94	Cherikov
11	Pruzhany	32	Shumilino	53	Volkovysk	74	Pukhovichi	95	Ivatsevichi LPH
12	Stolin	33	Buda-Koshelevo	54	Grodno	75	Slutsk	96	Luninetsles
13	Telehany	34	Vasilevichi	55	Dyatlovsky	76	Smalyavichi	97	Vitebskles
14	Polessky	35	Vetka	56	Ivye	77	Starobin	98	Kostyukovichsky LPH
15	Begoml	36	Gomel	57	Lida	78	Starye Dorogi	99	Polotskles
16	Bogushevsk	37	Yelsk	58	Novogrudok	79	Stolbtsy	100	Zhitovichiles
17	Vitebsk	38	Zhitkovichi	59	Ostrovetsky	80	Uzda	101	Mozyrles
18	Verkhnedvinsk	39	Zhlobin	60	Skidel	81	Chervien	102	Molodechnoles
19	Glubokoe	40	Kalinkovichi	61	Slonim	82	Belynichi	103	Pleschenitsles
20	Gorodok	41	Komarin	62	Smorgon	83	Bobruysk	104	Chervensky LPH
21	Disna	42	Lelchitsy experimental	63	Shchuchin	84	Bykhov	105	Mogilevles

7.11 The biggest customers of industrial wood

7.12 Sawnwood production and the biggest sawmills



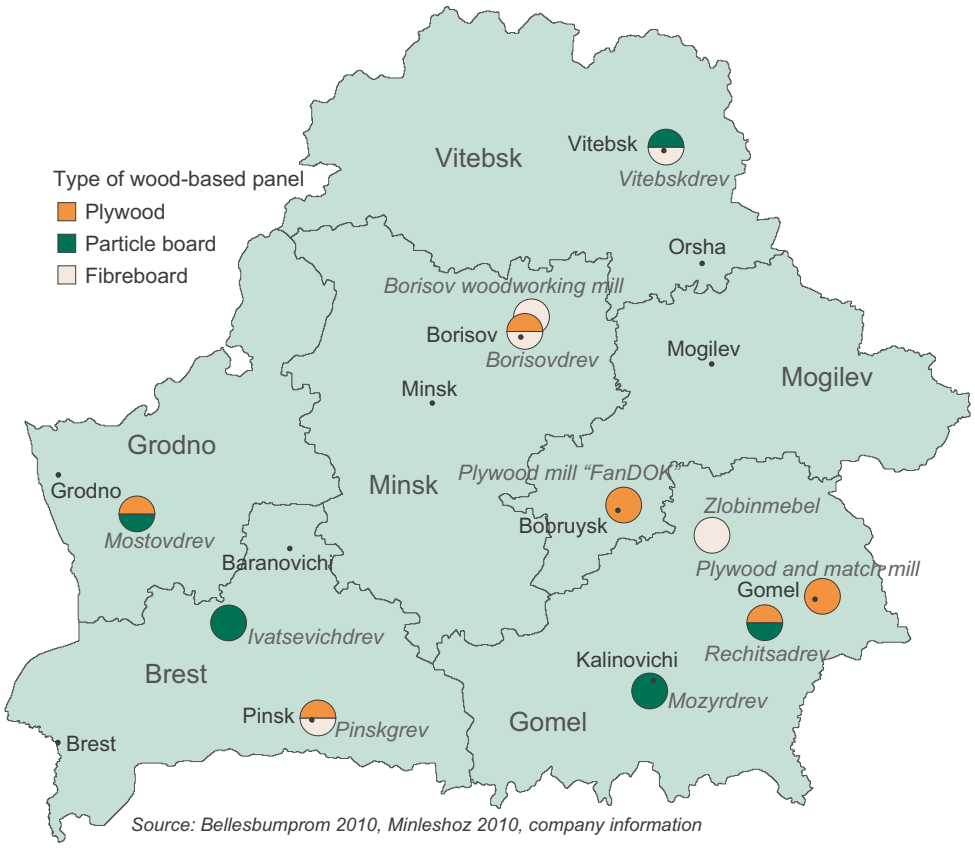


Production of sawnwood (1000 m^3) in different regions in 2009 (Kostevich et al. 2010).

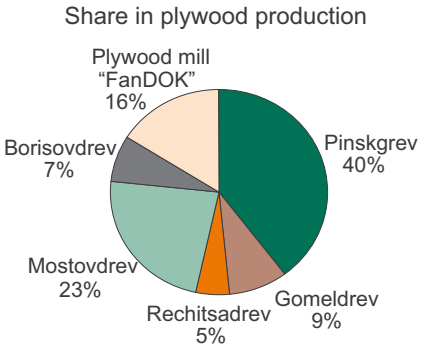
1–19: sawmills belonging to Bellesbumprom; 20–52: sawmills belonging to Minleshoz

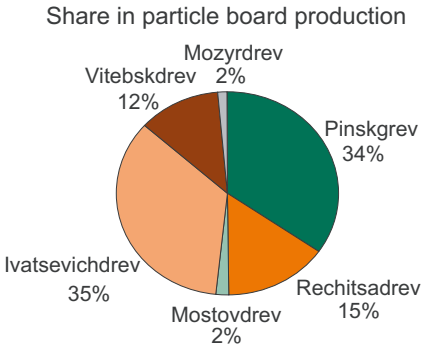
1	Newspaper mill	14	Mozyrles	27	Staryja leshoz	40	Lyakhovichi leshoz
2	Vitebskdrev	15	Molodechnoles	28	Starobinsky leshoz	41	Stolbin leshoz
3	Rechitsadrev	16	Pleschenitsles	29	Luninets leshoz	42	Drogichi leshoz
4	Mostovdrev	17	Chervensky LPH	30	Klichev leshoz	43	Begoml leshoz
5	Pinskgrev	18	Mogilevles	31	Gantsevichy leshoz	44	Milioshevichi leshoz
6	Borisovdrev	19	Pukhvich paperboard mill	32	Navahradak leshoz	45	Luban leshoz
7	Borisov woodworking mill	20	Osipovichsky leshoz	33	Ostrovetskii leshoz	46	Rogachev leshoz
8	Plywood mill “FanDOK”	21	Gorki leshoz	34	Dyatlovsky leshoz	47	Vasilevichi leshoz
9	Mozyrdrev	22	Gorodok leshoz	35	Ivye leshoz	48	Schuuchin leshoz
10	Novy Sverzhen sawmill	23	Disnensky leshoz	36	Mozyr leshoz	49	Surazh leshoz
11	Paperboad mill “Olkhovka”	24	Glussk leshoz	37	Stolbtsy leshoz	50	Zhitkovichi leshoz
12	Polotskles	25	Bobruisk leshoz	38	Brest leshoz	51	Cherikov leshoz
13	Zhitovichiles	26	Borisov leshoz	39	Telekhany leshoz	52	Kobrin leshoz

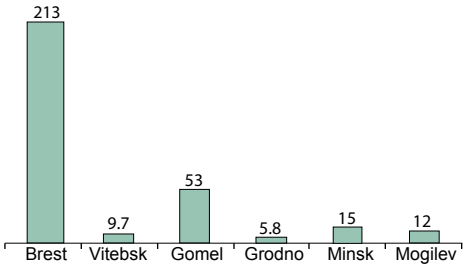
7.13 Wood-based panel production and producers



Source: Bellesbumprom 2010, Minleshoz 2010, company information

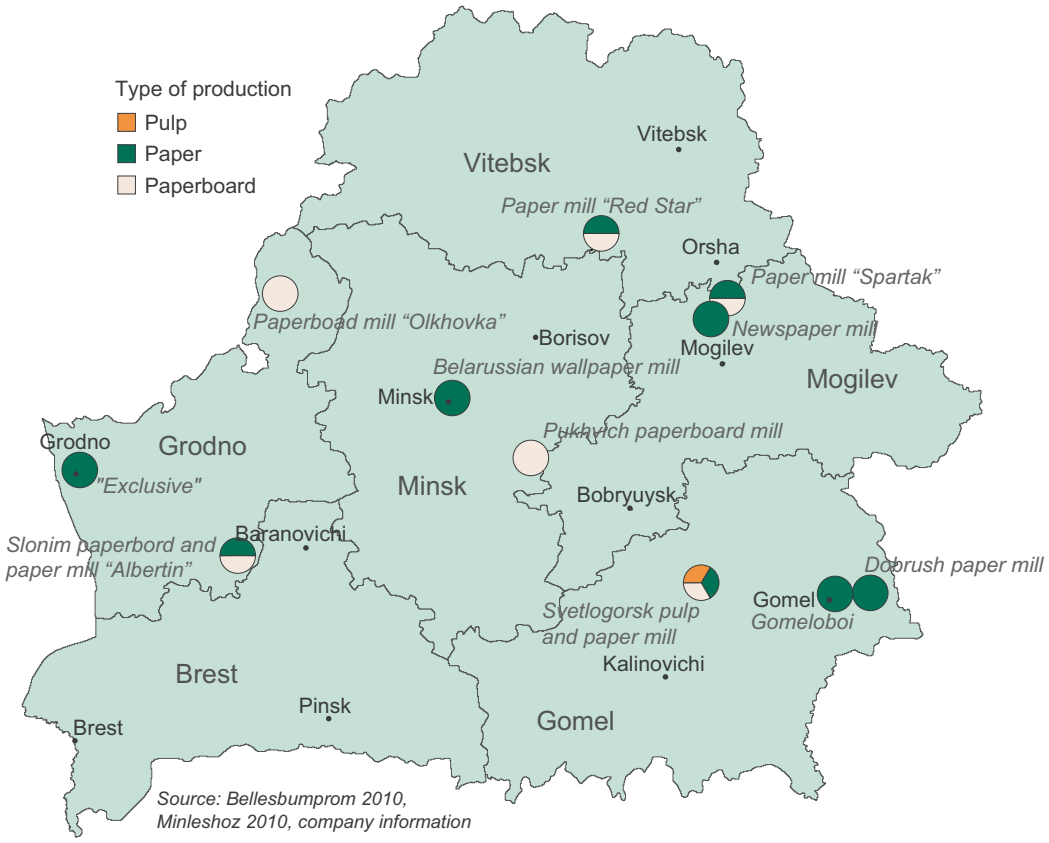




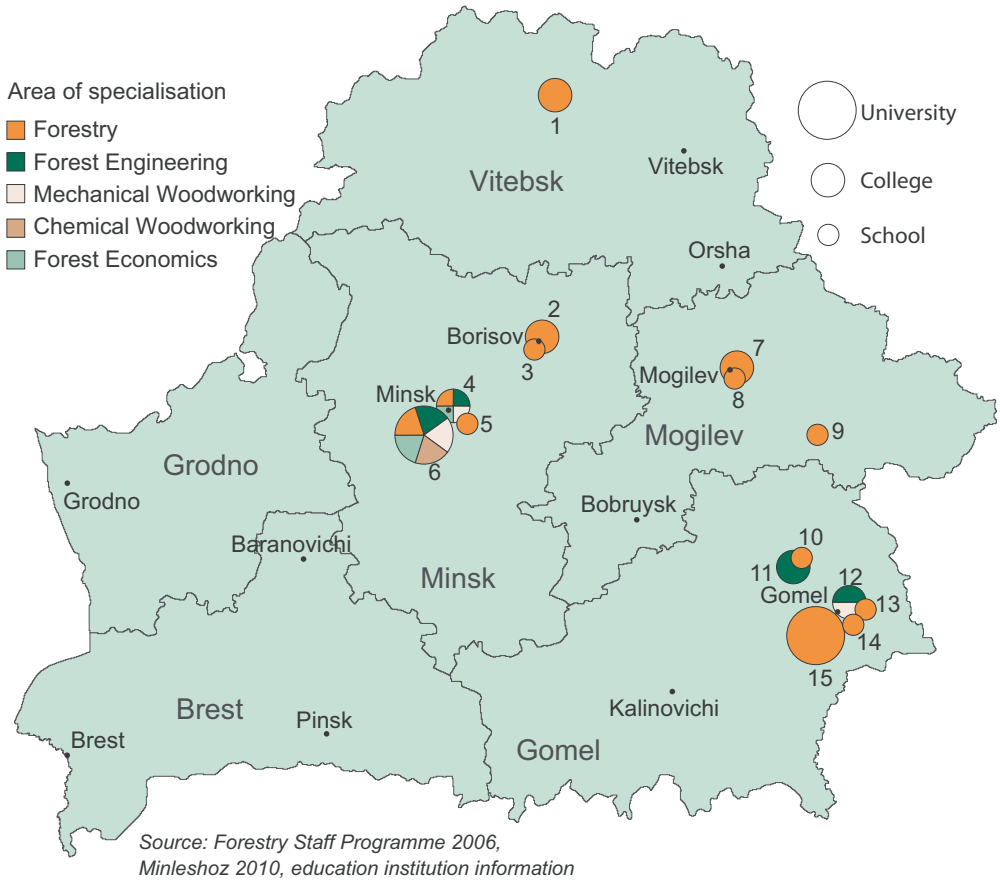


Production of particle board (1000 m^3) in different regions in 2009 (Kostevich et al. 2010).

7.14 Pulp, paper, and paperboard production and mills



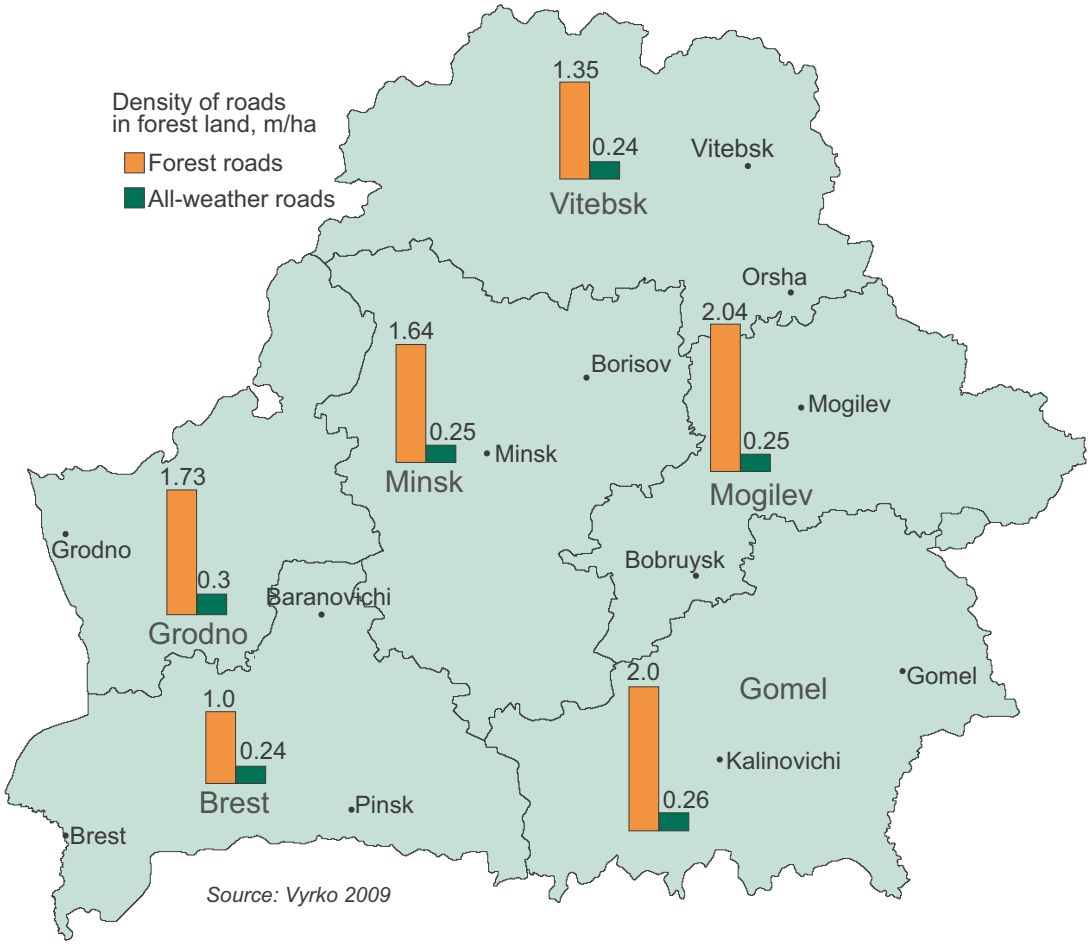
7.15 Education institutions in the forest sector



Source: Forestry Staff Programme 2006, Minleshoz 2010, education institution information

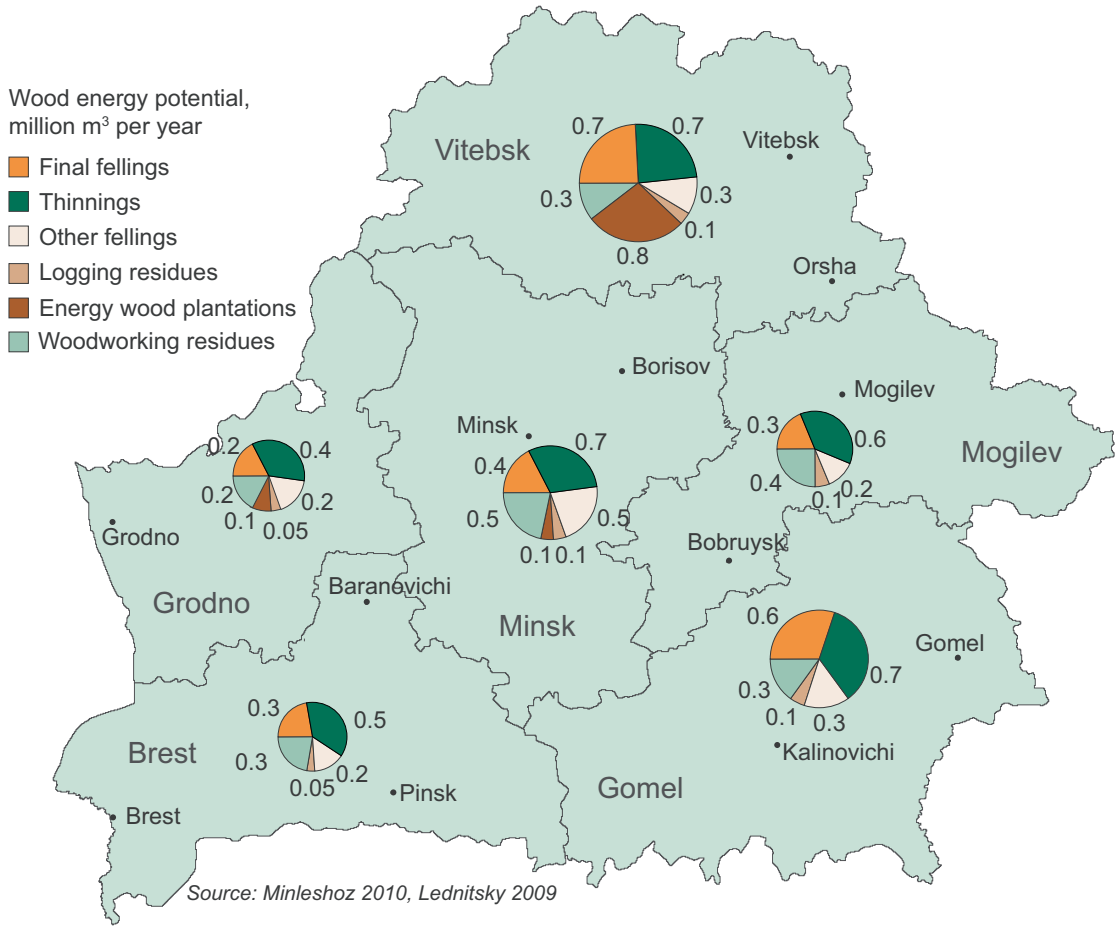
1 Polock State Forest College
2 Borisov State Professional Technical College for Forestry
3 Borisov Ecological Professional Lyceum
4 Bobruysk State Forest Technical College
5 Vidzovskoye Professional School 169
6 Belarusian StateTechnological University
7 Orlovskogo Mogilev Professional Agro Forest Technical College
8 Rechitskoye Professional School 178 for agriculture
9 Slavgorodsky Professional Lyceum 3
10 Priborskoye Professional School 185
11 Buda-Koshelevsky Agro Techical College
12 Gomel State Technical College
13 Pinskoye Professional School 161
14 Svirsky Agricultural Professional Lyceum
15 Francisk Skorina Gomel State University

7.16 Forest road density

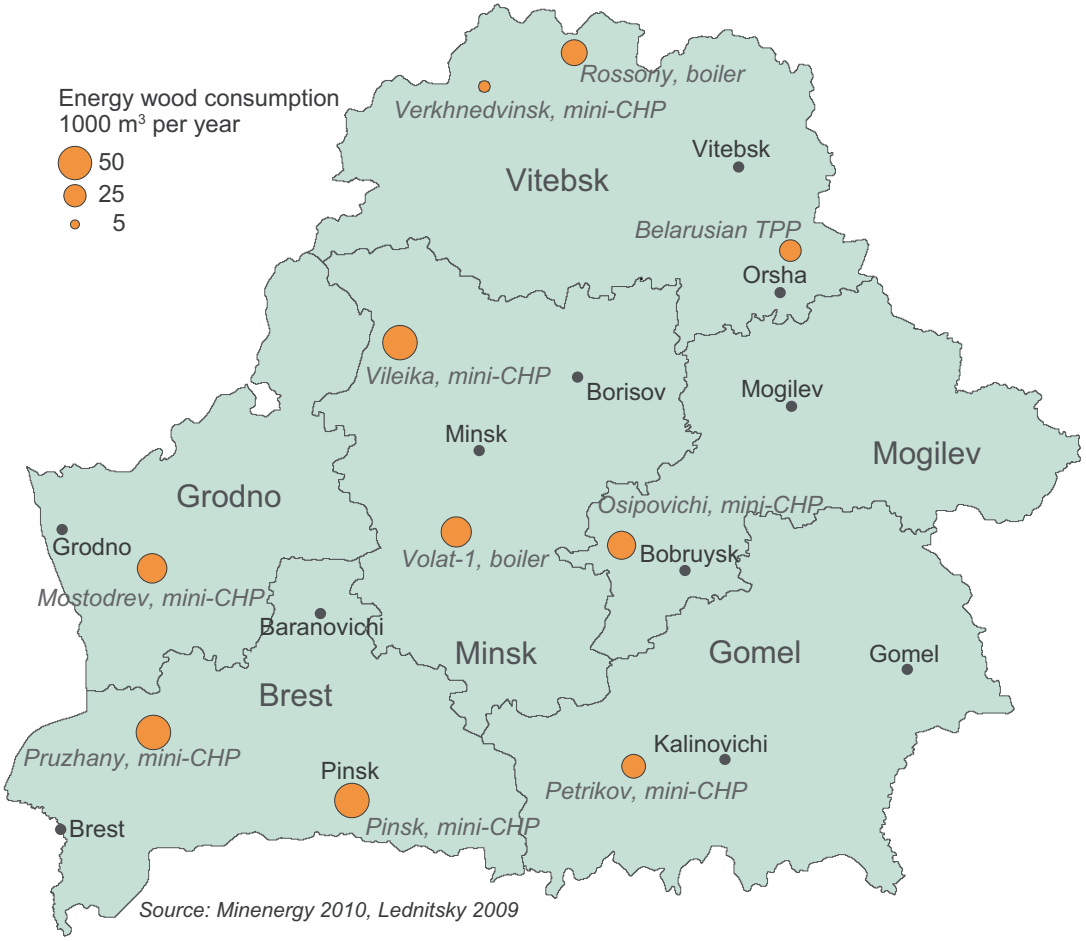


7.17 Machine manufacturers in the forest sector

7.18 Energy wood potential



7.19 Largest power plants using energy wood



7.20 Largest wood pellet and briquette producers

References

Baginsky V.F. 1997. Problems of the forest regeneration in Belarus. Natural Resources 2/1997: 64-72.

Baginsky V.F. 2004. Состояние и перспективы лесопользования в Республике Беларусь [Status and prospects of forest management in the Republic of Belarus]. Науковий вісник 14(5): 64–72 (in Russian).

Baginsky V.F. 2010. Средний прирост как показатель объемов лесопользования [Average increment as an indicator of wood harvesting]. Лесное и охотничье хозяйство 1(2010): 54–57 (in Russian).

Belarus 2008. Беларусь [Belarus]. Лесное и охотничье хозяйство 8(2008): 2–5 (In Russian).

Bellesbumprom 2010. Official website of the concern Bellesbumprom. Retrieved 7 April 2010 from http://www.bellesbumprom.by.

Belstat 2010. Official website of the National Statistical Committee of the Republic of Belarus. Retrieved 7 2010 April from http://belstat.gov.by.

Energy Modernization Programme 2005. "Государственная комплексная программа модернизации основных производственных фондов Белорусской энергетической системы, энергосбережения и увеличения доли использования в Республике собственных топливно-энергетических ресурсов в 2006–2010 годах". Утверждена Указом Президента Республики Беларусь от 25 августа 2005 года, No. 399. [State complex programme of modernization of basic production assets of the Belarusian energy system, energy efficiency, and increasing the share in the Republic of own energy resources in 2006–2010. Approved by Presidential Decree of 25 August 2005, No. 399] (in Russian).

Emaps Online 2010. Retrieved 7 April 2010 from www.emaps-online.com.

FAO 2009. Republic of Belarus. Country report. UNECE/FAO Team of Specialists on Forest Policy in Eastern Europe and Central Asia Budapest, Hungary, 4–6 March 2009. Retrieved 7 April 2010 http://www.fao.org/regional/SEUR.

FAOSTAT 2010. Data from the statistical database of the FAOSTAT. Retrieved 7 April 2010 http://faostat.fao.org.

Fedoseev V.F., Lednitsky A.V., Korzun I.I. 2004. Организация производства и снабжения топливной щепой мини-ТЭЦ г. Вилейка Минской области [Organization of production and supply of fuel chips mini-CHP in Vileika Minsk region]. Энергоэффективность 10(2004): 20–21 (in Russian).

Forest Code 2000. Лесной кодекс Республики Беларусь от 14.07.2000 No. 420-З [Forest Code of the Republic of Belarus from 4 July 2000 No. 420-3] (in Russian).

Forestry 2010. Official website of the President of the Republic of Belarus. Retrieved 7 April 2010 from http://www.president.gov.by/press44857.html.

Forestry Programme 2006. Программа развития лесного хозяйства на 2007–2011 годы. Постановление Совета Министров Республики Беларусь от 29.12.2006 No. 1760 [Forestry Development Programme 2007–2011. Resolution of the Council of Ministers of the Republic of Belarus of 29.12.2006 No. 1760] (in Russian).

Forestry Programme 2009. Постановление Совета Министров Республики Беларусь от 21 октября 2009 г. No. 1377. О внесении изменений и дополнений в постановления Совета Министров Республики Беларусь от 29 декабря 2006 г. No. 1760 и от 4 декабря 2008 г. No. 1858 и признании утратившим силу постановления Совета Министров Республики Беларусь от 11 октября 2002 г. No. 1410 [Resolution of the Council of Ministers on 21 October 2009 No. 1377. On making amendments and additions to the Council of Ministers of the Republic of Belarus of 29 December 2006, No. 1760, and on 4 December 2008, No. 1858, and the Invalidation of the Council of Ministers of the Republic of Belarus of 11 October 2002, No. 1410] (in Russian).

Forestry Staff Programme 2006. Программа Министерства лесного хозяйства Республики Беларусь "Кадры 2006-2010 годы". [The Programme of the Ministry of Forestry of the Republic of Belarus «Staff 2006–2010»]. Научно-техническая информация в лесном хозяйстве. Выпуск 3. [Scientific and Technical Information in forestry. Issue 3]. Minsk. 60 p (in Russian).

Innovation Forestry Programme 2007. Программа инновационного развития лесного хозяйства Республики Беларусь на 2007–2010 гг. [Programme of Innovative Development of Forestry of the Republic of Belarus for 2007–2010]. Научно-техническая информация в лесном хозяйстве. Выпуск 3. [Scientific and Technical Information in Forestry. Issue 3]. Minsk. 21 p (in Russian).

Kostevich I.A, Kangro I.S., Kukharevich E.I., Metezh V.S., Palkovskaya E.M.. 2010. Регионы Республики Беларусь. Статистический сборник [Belarus in figures. Statistical reference book]. National Statistical Committee of the Republic of Belarus. Minsk. 800 p.

Kruk N.K., Yushkevich G.S. 2008. Лесные культуры Беларуси: динамика, видовой состав, методы создания [Plantations of Belarus: dynamics, species composition, methods of making]. Лесное и охотничье хозяйство 3(2008):17–22 (in Russian).

Lednitsky A.B. 2010. Развитие лесной биоэнергетики в Республике Беларусь [Development of wood-energetics in the Republic of Belarus]. Proceedings of the 5th International Eurasian Symposium. Yekaterinburg, 10 p (in Russian).

Lobas T. 2010. Проект концепции развития лесного хозяйства на 2011–2021 годы [The project concept for the development of forestry in 2011–2021]. Retrieved 7 April 2010 from http://www.belta.by/ru/news/econom/?id=514094 (in Russian).

Local Fuels Programme 2004. "Целевая Программа обеспечения в Республике не менее 25 процентов объема производства электрической и тепловой энергии за счет использования местных видов топлива и альтернативных источников энергии на период до 2012 года". Утверждена Постановлением Совета Министров Республики Беларусь 30.12.2004 г., No. 1680 [Target Programme for the Republic of at least 25 percent of electricity and thermal energy through the use of local fuels and alternative energy sources for the period up to 2012. Approved by Decree of the Council of Ministers of 30.12.2004, No. 1680] (in Russian).

Loginov V.F. (ed.). 2009. State of the Environment in the Republic of Belarus: Ecological bulletin 2008. Ministry for Natural Resources and Environmental Protection of the Republic of Belarus. Minsk. 406 p (in Russian).

Minleshoz 2010. Official website of the Ministry of Forestry of the Republic of Belarus. Retrieved 27 August 2010 from http://www.mlh.by.

Minprirody 2010. Official website of the Ministry of the Natural Resources and Environmental Protection of the Republic of Belarus. Retrieved 7 April 2010 from http://minpriroda.by.

Podoliako V.M., Bambalov N.N., Vergejchik M.N., Kozulin A.V. 2003. Биосферно-совместимое использование лесных и болотных экосистем [Biosphere-compatible use of forest and wetland ecosystems]. Minsk. 190 p.

Selitskaya E.N. 2009. Становление малого предпринимательства в лесном секторе Республики Беларусь [Formation of small businesses in the forestry sector of Belarus]. Лесное и охотничье хозяйство 3(2009): 17–19 (in Russian).

Selitskaya E.N., Birukova V.F., Andrievskaya S.P. 2008a. Лесопильное производство Республики Беларусь: состояние, проблемы развития, место в международном разделении труда [Sawmill production of the Republic of Belarus: state, problems of development, place in the international division of labour]. Лесное и охотничье хозяйство 6(2008): 22–26 (in Russian).

Selitskaya E.N., Birukova V.F., Dren S.P. 2008b. Возможности размещения лесоперерабатывающих производств по регионам Республики Беларусь [Capabilities of wood-processing industries by regions of the Republic of Belarus]. Лесное и охотничье хозяйство 11(2008): 21–26 (in Russian).

Semashko P.M. 2008. Государственный подход [National approach]. Лесное и охотничье хозяйство 10(2008): 2–5 (in Russian).

Schuck, A., Van Brusselen, J., Päivinen, R., Häme, T., Kennedy, P. and Folving, S. 2002. Compilation of a calibrated European forest map derived from NOAA-AVHRR data. European Forest Institute. EFI Internal Report 13, 44 p plus Annexes

UNECE 2010. Trade and Timber Division. Forest Products Statistics 2004–2008. Retrieved 7 April 2010 from http://timber.unece.org.

Vyrko N.P. 2010. Проблемы транспортного освоения лесных массивов в условиях интенсивного ведения лесного хозяйства [Problems of transport development of forests under intensive forest management]. Proceedings of the 5th International Eurasian Symposium, Yekaterinburg, Russia, 25–28 May, 2010. 4 p (in Russian).

Woodfuels Program 2009. Программа создания производств по изготовлению древесных топливных гранул (пеллет), древесного брикета и угля в организациях Министерства лесного хозяйства на 2009-2011 годы [Program to set up the production of wood pellets (pellets), wood briquettes and coal in the organizations of the Ministry of Forestry 2009-2011]. Minsk, 46 p (in Russian).

Appendix: Companies on the maps

Logging companies	Name in Russian	Region	Internet
Ivatsevichi LPH*	Ивацевичский ЛПХ, ЧУПП	Brest	www.ivacevichdrev.by
Luninetsles	Лунинецлес, ОАО	Brest	www.bellesbumprom.by
Vitebskles	Витебсклес, ОАО	Vitebsk	www.bellesbumprom.by
Polotskles	Полоцклес, ОАО	Vitebsk	www.bellesbumprom.by
Zhitovichiles	Житковичлес, ОАО	Gomel	www.bellesbumprom.by
Mozyrles	Мозырьлес, ЗАО	Gomel	www.bellesbumprom.by
Molodechnoles	Молодечнолес, ОАО	Minsk	www.bellesbumprom.by
Pleschenitsles	Плещеницлес, ОАО	Minsk	www.bellesbumprom.by
Chervensky LPH	Червенский ЛПХ, ОАО	Minsk	www.bellesbumprom.by
Kostyukovichsky LPH	Костюковичский ЛПХ, ОАО	Mogilev	www.bellesbumprom.by
Mogilevles	Могилевлес, ОАО	Mogilev	www.bellesbumprom.by
Baranovichi leskhoz**	Барановичский лесхоз	Brest	forest.brest.by/lbar
Brest leskhoz	Брестский лесхоз	Brest	forest.brest.by/lbre
Gantsevichi	Ганцевичский лесхоз	Brest	forest.brest.by/lgan
Drogichin leskhoz	Дрогичинский лесхоз	Brest	forest.brest.by/ldra
Ivatsevichi leskhoz	Ивацевичский лесхоз	Brest	forest.brest.by/liva
Kobrin experimental leskhoz	Кобринский опытный лесхоз	Brest	forest.brest.by/lkob
Luninets leskhoz	Лунинецкий лесхоз	Brest	forest.brest.by/llun
Lyakhavichy leskhoz	Ляховичский лесхоз	Brest	forest.brest.by/llah
Malorita leskhoz	Малоритский лесхоз	Brest	forest.brest.by/lmal
Pinsk leskhoz	Пинский лесхоз	Brest	forest.brest.by/lpin
Pruzhany leskhoz	Пружанский лесхоз	Brest	forest.brest.by/lpru
Stolin leskhoz	Столинский лесхоз	Brest	forest.brest.by/lsto
Telehany leskhoz	Телеханский лесхоз	Brest	forest.brest.by/ltel
Polessky leskhoz	Полесский лесхоз	Brest	forest.brest.by/lpol
Begoml leskhoz	Бегомльский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/begoml
Bogushevsk leskhoz	Богушевский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/bogushevsk
Vitebsk leskhoz	Витебский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/vitebsk
Verkhnedvinsk leskhoz	Верхнедвинский	Vitebsk	vitebsk.mlh.by/ru/glhu/verhnedvinsk
Glubokoe leskhoz	Глубокский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/glubokoe
Gorodok leskhoz	Городокский лесхоз	Vitebsk	www.vitebsk.mlh.by
Disna leskhoz	Дисненский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/disna
Dretun leskhoz	Дретунский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/dretun
Lepel leskhoz	Лепельский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/lepel
Liozno leskhoz	Лиозненский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/liozno
Orsha leskhoz	Оршанский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/orsha
Polotsk leskhoz	Полоцкий лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/polotsk
Pastavy leskhoz	Поставский лесхоз	Vitebsk	www.vitebsk.mlh.by
Rossony leskhoz	Россонский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/rossony
Surazh leskhoz	Суражский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/postavi
Tolochin leskhoz	Толочинский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/tolochin
Ushachy leskhoz	Ушачский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/ushachi
Shumilino leskhoz	Шумилинский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/shumilino
Buda-Koshelevo leskhoz	Буда-Кошелевский лесхоз	Gomel	forest.gomel.by
Vasilevichi leskhoz	Василевичский лесхоз	Gomel	forest.gomel.by
Vetka leskhoz	Ветковский спецлесхоз	Gomel	forest.gomel.by

Gomel leskhoz	Гомельский лесхоз	Gomel	forest.gomel.by
Yelsk leskhoz	Ельский лесхоз	Gomel	forest.gomel.by
Zhitkovichi leskhoz	Житковичский лесхоз	Gomel	forest.gomel.by
Zhlobin leskhoz	Жлобинский лесхоз	Gomel	forest.gomel.by
Kalinkovichi leskhoz	Калинковичский лесхоз	Gomel	forest.gomel.by
Komarin leskhoz	Комаринский лесхоз	Gomel	forest.gomel.by
Lelchitsy leskhoz	Лельчицкий опытный лесхоз	Gomel	forest.gomel.by
Miloshevichi leskhoz	Милошевичский лесхоз	Gomel	forest.gomel.by
Mozyr experimental leskhoz	Мозырский опытный лесхоз	Gomel	forest.gomel.by
Narovlya leskhoz	Наровлянский спецлесхоз	Gomel	forest.gomel.by
Octyabrsky leskhoz	Октябрьский лесхоз	Gomel	forest.gomel.by
Petrikov leskhoz	Петриковский лесхоз	Gomel	forest.gomel.by
Rechitsa leskhoz	Речицкий лесхоз	Gomel	forest.gomel.by
Rogachev leskhoz	Рогачевский лесхоз	Gomel	forest.gomel.by
Svetlogorsk leskhoz	Светлогорский лесхоз	Gomel	forest.gomel.by
Khoiniki leskhoz	Хойникский лесхоз	Gomel	forest.gomel.by
Cieciersk leskhoz	Чечерский спецлесхоз	Gomel	forest.gomel.by
Volkovysk leskhoz	Волковысский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Grodno leskhoz	Гродненский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Dyatlovsky leskhoz	Дятловский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Ivye leskhoz	Ивьевский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Lida leskhoz	Лидский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Novogrudok leskhoz	Новогрудский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Ostrovetsky leskhoz	Островецкий лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Skidel leskhoz	Скидельский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Slonim leskhoz	Слонимский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Smorgon leskhoz	Сморгонский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Shchuchin leskhoz	Щучинский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Berezino leskhoz	Березинский лесхоз	Minsk	www.mplho.by
Borisov leskhoz	Борисовский опытный лесхоз	Minsk	www.mplho.by
Vileika leskhoz	Вилейский опытный лесхоз	Minsk	www.mplho.by
Volozhin leskhoz	Воложинский опытный лесхоз	Minsk	www.mplho.by
Kleck leskhoz	Клецкий лесхоз	Minsk	www.mplho.by
Kopyl leskhoz	Копыльский лесхоз	Minsk	www.mplho.by
Logoisk leskhoz	Логойский лесхоз	Minsk	www.mplho.by
Luban leskhoz	Любанский лесхоз	Minsk	www.mplho.by
Minsk leskhoz	Минский лесхоз	Minsk	www.mplho.by
Molodechno leskhoz	Молодечненский лесхоз	Minsk	www.mplho.by
Pukhovichi leskhoz	Пуховичский лесхоз	Minsk	www.mplho.by
Slutsk leskhoz	Слуцкий лесхоз	Minsk	www.mplho.by
Smalyavichi leskhoz	Смолевичский лесхоз	Minsk	www.mplho.by
Starobin leskhoz	Старобинский лесхоз	Minsk	www.mplho.by
Starye Dorogi leskhoz	Стародорожский лесхоз	Minsk	www.mplho.by
Stolbtsy leskhoz	Столбцовский лесхоз	Minsk	www.mplho.by
Uzda leskhoz	Узденский лесхоз	Minsk	www.mplho.by
Chervien leskhoz	Червенский лесхоз	Minsk	www.mplho.by
Belynichi leskhoz	Белыничский лесхоз	Mogilev	www.mplho.mobyce.com
Bobruisk leskhoz	Бобруйский лесхоз	Mogilev	www.mplho.mobyce.com
Bykhov leskhoz	Быховский лесхоз	Mogilev	www.mplho.mobyce.com

Glussk leskhoz	Глусский лесхоз	Mogilev	www.mplho.mobyce.com
Gorki leskhoz	Горецкий лесхоз	Mogilev	www.mplho.mobyce.com
Klimovichi leskhoz	Климовичский лесхоз	Mogilev	www.mplho.mobyce.com
Klichev leskhoz	Кличевский лесхоз	Mogilev	www.mplho.mobyce.com
Kostiukovichi leskhoz	Костюковичский опытный лесхоз	Mogilev	www.mplho.mobyce.com
Krasnopolye leskhoz	Краснопольский лесхоз	Mogilev	www.mplho.mobyce.com
Mogilev leskhoz	Могилевский лесхоз	Mogilev	www.mplho.mobyce.com
Osipovichi leskhoz	Осиповичский опытный лесхоз	Mogilev	www.mplho.mobyce.com
Chausy leskhoz	Чаусский лесхоз	Mogilev	www.mplho.mobyce.com
Cherikov leskhoz	Чериковский лесхоз	Mogilev	www.mplho.mobyce.com

* LPH = lespromhoz = logging enterprise; **leskhoz = forestry enterprise belonging to the Ministry of Forestry

Sawmills	Name in Russian	Region	Internet
Pinskgrev	Пинскдрев, ЗАО Холдинговая компания	Brest	www.pinskdrev.by
Mozyrdrev	Мозырьдрев, ОАО	Gomel	www.mozyrdrev.by
Rechitsadrev	Речицадрев, ОАО	Gomel	www.rechdrev.com
Mostovdrev	Мостовдрев, ОАО	Grodno	www.wood.by
Borisovdrev	Борисовдрев, ОАО	Minsk	www.borisovdrev.com
Borisov woodworking mill	Борисовский ДОК, ОАО	Minsk	www.borisovdok.by
Novy Sverzhen sawmill	Новосверженский лесозавод, РУПП	Minsk	www.bellesbumprom.by
Paperboad mill “Olkhovka”	Картонная фабрика ”Ольховка”, ОАО	Grodno	www.bellesbumprom.by
Newspaper mill	Завод газетной бумаги, РУП	Mogilev	www.asnova.name
Plywood mill “FanDOK”	ФанДОК, ОАО	Mogilev	www.fandok.com
Polotskles	Полоцклес, ОАО	Vitebsk	www.bellesbumprom.by
Zhitovichiles	Житковичлес, ОАО	Gomel	www.bellesbumprom.by
Mozyrles	Мозырьлес, ЗАО	Gomel	www.bellesbumprom.by
Molodechnoles	Молодечнолес, ОАО	Minsk	www.bellesbumprom.by
Pleschenitsles	Плещеницлес, ОАО	Minsk	www.bellesbumprom.by
Chervensky LPH	Червенский ЛПХ, ОАО	Minsk	www.bellesbumprom.by
Mogilevles	Могилевлес, ОАО	Mogilev	www.bellesbumprom.by
Pukhvich paperboard mill	Пуховичская картонная фабрика, ОАО	Minsk	www.karton.by
Stolbtsy leskhoz	Столбцовский лесхоз	Minsk	www.mplho.by
Osipovichsky leskhoz	Осиповичский лесхоз	Mogilev	www.mplho.mobyce.com
Gorki leskhoz	Горецкий лесхоз	Mogilev	www.mplho.mobyce.com
Gorodok leskhoz	Городокский лесхоз	Vitebsk	www.vitebsk.mlh.by
Disnensky leskhoz	Дисненский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/disna
Glussk leskhoz	Глусский лесхоз	Mogilev	www.mplho.mobyce.com
Bobruisk leskhoz	Бобруйский лесхоз	Mogilev	www.mplho.mobyce.com
Borisov leskhoz	Борисовский лесхоз	Minsk	www.mplho.by
Staryja leskhoz	Стародорожский лесхоз	Minsk	www.mplho.by
Starobinsky leskhoz	Старобинский лесхоз	Minsk	www.mplho.by
Luninets leskhoz	Лунинецкий лесхоз	Brest	forest.brest.by/llun/lp
Klichev leskhoz	Кличевский лесхоз	Mogilev	www.mplho.mobyce.com
Gantsevichy leskhoz	Ганцевичский лесхоз	Brest	forest.brest.by/lgan
Navahradak leskhoz	Новогрудский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Ostrovetskii leskhoz	Островецкий лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Dyatlovsky leskhoz	Дятловский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html

Ivye leskhoz	Ивьевский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Mozyr leskhoz	Мозырьский лесхоз	Gomel	forest.gomel.by
Brest leskhoz	Брестский лесхоз	Brest	forest.brest.by/lbre/lp
Telekhany leskhoz	Телеханский лесхоз	Brest	forest.brest.by/ltel/lp
Lyakhovichi leskhoz	Ляховичский лесхоз	Brest	forest.brest.by/llah/lp
Stolin leskhoz	Столинский лесхоз	Brest	forest.brest.by/lsto/lp
Drogichi leskhoz	Дрогичинский лесхоз	Brest	forest.brest.by/lsto/lp
Begomlsky leskhoz	Бегомльский лесхоз	Vitebsk	www.vitebsk.mlh.by/ru/glhu/begoml
Miloshevichi leskhoz	Милошевичский лесхоз	Gomel	forest.gomel.by
Luban leskhoz	Любанский лесхоз	Minsk	www.mplho.by
Cherikov leskhoz	Чериковский лесхоз	Mogilev	www.mplho.mobyce.com
Rogachev leskhoz	Рогачевский лесхоз	Gomel	forest.gomel.by
Vasilevichi leskhoz	Василевичский лесхоз	Gomel	forest.gomel.by
Shchuchin leskhoz	Щучинский лесхоз	Grodno	www.mlh.by/ru/plho/grodno.html
Kobrin leskhoz	Кобринский опытный лесхоз	Brest	forest.brest.by/lkob/lp
Surazh leskhoz	Суражский лесхоз	Vitebsk	vitebsk.mlh.by/ru/glhu/postavi
Zhitkovichi leskhoz	Житковичский лесхоз	Gomel	forest.gomel.by
Plywood producers			
Pinskgrev	Пинскдрев, ЗАО Холдинговая компания	Brest	www.pinskdrev.by
Gomeldrev	Гомельдрев, ОАО	Gomel	www.gomeldrev.by
Rechitsadrev	Речицадрев, ОАО	Gomel	www.rechdrev.com
Plywood and match mill	Фанеро-спичечный комбинат, ЧПУП	Gomel	www.gomelfsk.com
Mostovdrev	Мостовдрев, ОАО	Grodno	www.wood.by
Borisovdrev	Борисовдрев, ОАО	Minsk	www.borisovdrev.com
Plywood mill “FanDOK”	ФанДОК, ОАО	Mogilev	www.fandok.com
Particle board producers			
Ivatsevichdrev	Ивацевичдрев, ОАО	Brest	www.ivacevichdrev.by
Vitebskdrev	Витебскдрев, ОАО	Vitebsk	www.vitebskdrev.com
Mozyrdrev	Мозырьдрев, ОАО	Gomel	www.mozyrdrev.by
Rechitsadrev	Речицадрев, ОАО	Gomel	www.rechdrev.com
Mostovdrev	Мостовдрев, ОАО	Grodno	www.wood.by
Fibreboard producers			
Pinskgrev	Пинскдрев, ЗАО Холдинговая компания	Brest	www.pinskdrev.by
Vitebskdrev	Витебскдрев, ОАО	Vitebsk	www.vitebskdrev.com
Zlobinmebel	Жлобинмебель, ОАО	Gomel	zlobin-mebel.by
Borisovdrev	Борисовдрев, ОАО	Minsk	www.borisovdrev.com
Borisov woodworking mill	Борисовский ДОК, ОАО	Minsk	www.borisovdok.by
Pulp producers			
Svetlogorsk pulp and paper mill	Светлогорский целлюлозно-бумажный комбинат, ОАО	Gomel	www.sckk.by

Paper and paperboard producers			
Paper mill “Red Star”	Бумажная фабрика ”Красная Звезда”, ОАО	Vitebsk	www.red-star.by
Gomeloboi	Гомельобои, ОАО	Gomel	www.gomeloboi.com
Dobrush paper mill	Добрушская бумажная фабрика ”Герой труда”, ОАО	Gomel	geroytruda.by/
Paperboad mill “Olkhovka”	Картонная фабрика ”Ольховка”, ОАО	Grodno	www.bellesbumprom.by
Slonim paperbord and paper mill “Albertin”	Слонимский картонно-бумажный завод ”Альбертин”, ОАО	Grodno	albertin.by/
”Exclusive”	”Эксклюзив”, СООО	Grodno	www.excl.by
Belarussian wallpaper mill	Белорусские обои, ОАО	Minsk	www.oboi.by
Pukhvich paperboard mill	Пуховичская картонная фабрика, ОАО	Minsk	www.karton.by
Paper mill “Spartak”	Бумажная фабрика ”Спартак”, ОАО	Mogilev	www.bfs.by
Newspaper mill	Завод газетной бумаги, РУП	Mogilev	www.asnova.name
Machine manufacturers			
Minsk Tractor Plant	Минский тракторный завод, ПО	Minsk	belarus-tractor.com
Amkodor	Амкодор, ОАО	Minsk	www.amkodor.by
Minsk Automobile Plant	Минский автомобильный завод, ОАО	Minsk	www.maz.by
Minsk Gear Works	Минский завод, ПРУП	Minsk	www.mgw.by
Gomselmash	Гомельмаш, ПО	Gomel	www.gomselmash.by
Bobruiskagromash	Бобруйскагромаш, ОАО	Mogilev	www.agromash.by
Lidselmash	Лидсельмаш, ОАО	Grodno	www.lidselmash.by
Kuzlitmash	Кузлитмаш, РУМП	Brest	www.kuzlitmash.by
Borisov repair and mechanical plant	Борисовский РМЗ, ОАО	Minsk	www.brmz.by
Wood pellet and briquette producers			
Borisov woodworking mill	Борисовский ДОК, ОАО	Minsk	www.borisovdok.by
Luninetsles	Лунинецлес, ОАО	Brest	www.bellesbumprom.by
Mozyrles	Мозырьлес, ЗАО	Gomel	www.bellesbumprom.by
Pinskdrev-CPD	Пинскдрев-ДСП	Brest	www.pinskdrev.by/pellets
Lidastroymaterialy	Лидастройматериалы, ОАО	Grodno	www.lida-by.com
Stolbtsy leskhoz	Столбцовский лесхоз	Minsk	www.mplho.by
Zhitkovichi leskhoz	Житковичский лесхоз	Gomel	forest.gomel.by
Profitsystem, Ivantsevichy	Профитсистем, СООО	Brest	
Lihtarik	Лихтарик, ООО	Brest	
Pillet-Master	Пиллет-Мастер	Brest	
Granuldrev	Гранулдрев, ООО	Grodno	
Regional Environmental Company	Региональная экологическая компания, ЧПТУП	Grodno	
Leader-Ritual	Лидер-Ритуал, ЧПТУП	Grodno	briket-grodno.narod.ru
Grandor	Грандор, ИООО	Grodno	
Biovtorresurs	Биовторресурс	Gomel	
BelAvantik	БелАвантик, СП ЗАО	Gomel	
Ekoformresurs,	Экоформресурс, ОДО	Gomel	
Belarusian Pellets	Белорусские Пеллеты	Minsk	
Biofuels	Биотопливо, ООО	Minsk	
Dimsaniya	Димсания, СООО	Minsk	
Evroholts	Еврохольц	Minsk	
Ekolin and K	Эколин и К, СООО	Minsk	
Profitsystem	Профитсистем, СООО	Minsk	
Yupokom	Юпоком, УП	Minsk	www.medena-group.de

Interforest	Интерфорест, СП ЗАО	Vitebsk	www.interforest.by
Quantum	Квант, ПК ОДО	Vitebsk	
Pastavy furniture center	Поставский мебельный центр, ЧПУП	Vitebsk	www.pmc.by
Vittopgran	Виттопгран, ОДО	Vitebsk	
BelLatGaz	БелЛатГаз, СООО	Vitebsk	
Tehnobat	Технобат, ЧТУП	Mogilev	
Ecogran	Экогран, СООО	Mogilev	ecogran.org
Belbiotop	Белбиотоп, ИЧПТУП	Mogilev	www.holzpellets.by
Topgran	Топгран, ООО	Mogilev	
Yugum	Югум, ООО	Mogilev	
Power plants using energy wood			
Belarusian TPP	Белорусская ГРЭС	Vitebsk	
Osipovichi mini-CHP	Осиповичская мини-ТЭЦ	Mogilev	
Vileika mini-CHP	Вилейская мини-ТЭЦ	Minsk	
Pinsk mini-CHP	Пинская мини-ТЭЦ	Brest	
Verkhnedvinsk mini-CHP	Верхнедвинская мини-ТЭЦ	Vitebsk	
Petrikov mini-CHP	Петриковская мини-ТЭЦ	Gomel	
Rossony, boiler	Россоны, котельная	Vitebsk	
Volat-1, boiler Mostodrev, mini-CHP	Мостодрев, мини-ТЭЦ	Grodno	
Volat-1, boiler	Волат-1, котельная	Minsk	
Pruzhany, mini-CHP	Пружаны, мини-ТЭЦ	Brest	