

FOREST AND WOOD INDUSTRY IN ROMANIA

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GENERALITIES

With of 238,391 km² Romania is the 8th largest country of EU28 by surface and the 7th as population with 20 million. After the bloody Revolution of December 1989, fall of the Iron Curtain and path to the democracy; the market economy started. The GDP is approximately 274 USD billion (2012) and the GDP per capita (PPP) of 12,800 USD place Romania as an upper-middle income country economy after 5 years inside the European Union. The actual net average in the country is 387 €/month which is one of the lowest in the EU28. Industrial output growth reached 6.5% in 2013, which is the highest in the EU28. Romania's main exports are cars, software, clothing and textiles, industrial machinery, electrical and electronic equipment, metallurgic products, raw materials, military equipment, pharmaceuticals, fine chemicals, and agricultural products.

FORESTRY

The geographical and climate diversity has a high diversity of flora and fauna. Between Central and Eastern European countries, Romania has one of the lowest forest densities of about only 28% which means 6.7 million ha. The EU28 average is about 38%. The forest available for wood supply in 2010 was about 5.2 million ha. Compared to 1948 the increase of the forest surface was 5%. Calculated on person the forest amount is about 0.31ha/capita (which is close to the EU28 average of 0.35ha/capita) a bit higher than one decade ago primarily due to the decrease of population. The growing stock in Romania in 2010 was about 700 million m³ over bark, which placed the country in the top 10 in the EU. The growing stock on surface is above the EU28 (163m³/ha) and is about 212m³/ha. The structure of wood species in the Romanian forests is different to the Alps region with 69% deciduous. The most important species are beech (31%), spruce (23%), oak (18%) and fir (10%). Most of the forest is located in the Carpathian Mountains (66%). The owners of the forests today in Romania are 80% public (state and commune) vs. EU28 with 43%. Before World War 2nd commune had about 40% of the forest in Romania. The harvest decreased from 20 million m³ year in the late 80's to 13 million m³ in 1994 and increased again to 17 million m³, which placed the country in the upper third within EU28. About two third of this amount were deciduous species. Forestry exists as a General Direction of the Forests of the Ministers of Water, Forests and Environment Protection. The administration is made by the state National Administration of Forests. Each county has the local Forest Direction whom belongs to the Forest Offices of the regions. The Romanian forests and the Danube Delta host unique plants and animals including 60% of all European brown bears (over 6,000) and 40% of the wolves (about 2,500), respectively. Also 135,000 deer, 60,000 wild pigs, 45,000 stags, 7,000 chamois, 1,500 lynx, and fish and birds add to the paradise in the Danube Delta.

WOOD INDUSTRY

The Romanian wood economy consists of 53% furniture, 24% logging and wood processing, 23% wood based panels. 6% of the nation's production and 8% of the exportation are related the wood. Over 11% of employees in the country are working in the wood industry. Over 2.3 billion € were made from 75,000 people working with wood and wood products. The share of small to large enterprises in terms of employees is balanced. The main investors of the last decade in the wood processing are the big Austrian groups with over 12 billion € since 2008. The sawing industry for softwood and panels are by far controlled by the groups Schweighofer, Kronospan and Egger. They follow a development strategy for Eastern European countries which is related to the old state of wood processing business conglomerates. The agglomeration of sawmills, panel factories, resin and energy plants in urban areas are close to the forested regions. Modern companies are running in: Sebes (2003), where Schweighofer (1.3 million m³ logs), Kronospan (1 million m³ boards and 100,000t UF) are using together 100 MW biomass energy; Radauti (2008), where Schweighofer (1.3 million m³ logs), Egger (1 million m³ boards and 100,000t UF) are generating together 80 MW biomass energy. The former state controlled the "conglomerates of wood industrialization" were demolished to get plots for construction. Only a few are continuing with relatively old technologies at a low rate the veneer and furniture production.

Sawnwood

From the harvested logs about one third is used as fuel, another third is hardwood and the other proportion is softwood used for industrial purposes. They generate 3.6 million m³ in sawn wood from large sized companies (about two third in the Schweighofer group). Small size sawmills process larger diameter softwood and hardwoods. Traditional exportation of logs after 1990 decreased by 200,000m³/year. New industrial development imports logs from Ukraine and Russia, about 400,000m³ (95% softwood for sawing). The exportation of sawn wood increased again after the foreign investment and is about 2.3 million m³ to China, the Near East, and North of Africa. A new sawmill owned by Schweighofer is about 1 million m³ which was announced to start in 2014 in Brasov area (Reci).

Panels

The wood based panels industry in Romania received new equipment from the foreign investors such as Austria, Turkey and Germany and covered all types of boards (PY, PB, MDF, OSB, MB). About 1 million m³ PB (Kronospan in Sebes and Brasov, Egger in Radauti), 600.000m³ MDF (Kronospan in Sebes, Kastamonu in Reghin) and 900.000m³ OSB (Kronospan in Brasov and Egger in Radauti) are produced. Another large capacity for PB was announced by Kastamonu in Reghin, which also is producing molded doorskins from HDF in dry process. About 1.1 million m³ boards, especially PB and MDF are exported to foreign markets. In the recent years, especially before the new capacities, imports comprised 600,000m³ of the panels (half PB and OSB, half MDF). OSB is still used in the local markets for construction. About 50,000m³ PY is produced in a few factories mainly for exportation (80%). The traditional plywood production was partially replaced with molded shells. Also the well-known wet process for fiberboard were demolished altogether with the dozen small capacities PB plants erected with Western technologies in 70's and 80's. A continuation of one layer massive boards (block boards) traditional production was possible again by foreign capital at two main modern sites (160,000m³) in Comanesti (2010 bought by Schweighofer from FinForest) and Siret (2009 bought by Schweighofer from Ikea).

Decorative veneer

Traditional veneering was made by the furniture industry with one exception in Constanta harbor. Today the capacity is reduced by more than 50% at about 57,000m³, which gives Romania a place in the top 10 of Europe. Some companies mostly with foreign capital from Spain, Austria and Germany and modern equipment are continuing the success story. The capacity of such factories ranges between 2 and 20 million m²/year. Tropical wood is also imported via Black Sea and processed at the harbor. 35,000m³ of decorative veneers are also exported.

Furniture

Before 1989 Romania was in the top 10 furniture producers and exporters of Europe. Today it has worldwide rankings of 27 and 14 in Europe (also as exporting country). The entire furniture industry generates about 1 billion €/year within 1,000 small to large size companies employing about 50,000 people. About 65% of the production is for export, especially within EU28 but also to Russia and Near East (luxury segment) market. It is famous for its massive furniture made from precious hardwoods containing handmade decoration or sculpture especially for offices, dining rooms, dormitories for domestic or public use. A new generation of furniture for kitchen, bath rooms and public offices combining wood based panels and different coatings are emerging. Investors from Italy, The Netherlands, Germany, France and Sweden are notable. They are mostly co-owned and support the acquisition of modern technologies and finishing materials which are accepted on the European markets. The Romanian furniture industry is also supplying the main hotel chains, conference centers and top-end of cultural institution of the world and is competing in exhibitions recognized nationally and internationally. Furniture imports are 118 million € recorded. A successful continuation of the wooden based musical instruments production exists in Romania for all levels of arts.

Pulp and Paper

Romania lost the main part of its pulp industry in the last two decades producing only 15,000t of chemical pulp and become a net importer (60,000t). The cardboard and packaging paper has a significant value of about 180,000t developing together with the graphic (over 40,000t) and sanitary paper (about 20,000t). To process this amount, 470,000t paper are imported yearly (70,000 newsprint, 195,000t printing, 185,000t packaging papers). The only exportation made by Romania is 90,000t as packaging and sanitary paper.

Recycling and biomass energy

Romania is recycling about 800,000t of wood waste and 325,000t of paper and cardboard residues. About 200,000 t of pellets are produced mainly by foreign capital groups. Biomass based energy generation started at a small scale in the last years. Important installed capacities are inside of the saw mills and panels factories owned by Austrian groups.

HIGHER EDUCATION

History

The higher education in forestry has a long tradition in Romania. The Western territories (Banat) and Transylvania were managed by experts educated in the former Austrian-Hungarian Monarchy (Sibiu, Selmechánya, Vienna and Sopron). The Southern (Tara Româneasca) and Eastern territories (Moldova) got only after their unification (1860) a higher school for agriculture and forestry close to Bucharest (Branesti, 1894). The first forestry law in Romania (1881) was reviewed 1918 after the unification with Transylvania. Before World War 2 forestry science was integrated at the Technical University in Bucharest.

Skilled personal for the forestry and wood industry in Romania are educated today in technical colleges over 4 years in a dozen of recognized centers situated close to the forest or processing sites reach regions of the countries. Most of the teachers there are graduated from the Transylvania University of Brasov in one of the both faculties presented below.

Faculty of Forestry

As an independent institution the Faculty for Forestry started 1948 in Brasov within the Polytechnic Institute. Until 1990 it was the only higher education center for forestry in Romania. Today about a dozen of faculties, institutes and departments, some of them private were established on this field. The Faculty of Forestry from Brasov graduated about 60 generations with about 100 students each. The main study directions are forestry sciences, hunting, harvest and transportation, measurement technic and cadaster in bachelor and master courses. About 50 staff and a dozen emeritus professors are teaching the 1800 students of the faculty. Also PhD studies in different fields are possible at this faculty.

Faculty of Wood Engineering

The Faculty of Wood Industry was set up in 1959, being at present a unique faculty with specialization in Romania. During the 1980s, the faculty graduated 150 to 220 annually. This was largely based on a boom of the Romanian wood industry and in particular, furniture production. After 1997 the yearly number of graduates decreased to 100. In 2005 the higher education system underwent a restructuring and was adapted to European systems. At present, the faculty's main concern is in the training of specialists in wood processing, not only in the technological field, but also in the design and preservation of wood products. Currently it provides Forestry Engineering in fulfilling the Bologna regulations in the following specializations (Bachelor 4 years of full-time study): Wood Processing / Furniture Design, Wood Engineering and Management. After passing final examinations, the graduates get a diploma with an Engineering degree in one of these specializations. This undergraduate specialization trains 40 engineers yearly, these engineers being specialized in Furniture Design and in the Design of other Products in the Wood Industry and also in Wood Preservation and Products Renovation. The knowledge of design, decorative drawing, styles and ornaments, art furniture manufacturing, wooden product designing and manufacturing, indoor architecture and wood construction allows these graduates to be competitive. Postgraduate courses include specializations in Masters studies (2 years): Innovative Technologies and Advanced Wooden Products and Furniture Eco-Design, Restoration and Certification. The teaching staff, acting within the Wood Technology Department and the Machines for Wood Industry Department, is formed by 11 professors, 5 assistant professors, 6 lecturers, 3 assistants and 5 consultant professors. The total number of students in the undergraduate studies – full time and low-frequency numbers 535 undergraduate students and 53 additional graduate students in the master studies. More than 10 graduated students specialize themselves in the doctorate study program. In 2008, two up-to-date laboratories for the testing of physical and mechanical properties of wood-based composites and finishing have been accredited. The faculty is involved in 12 Erasmus exchange programs with different European countries, and are represented in many international organizations and participate at different levels in international research and teaching experience exchange projects. Over 7,200 engineers and about 80 doctors of engineering science graduated the Faculty of Wood Engineering.

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