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**P O L A N D
STATEMENT ON THE WOOD MARKET
REVIEW AND PROSPECTS**

Ministry of the Environment

1. GENERAL ECONOMIC TRENDS AFFECTING THE FOREST AND FOREST INDUSTRIES SECTOR

In Poland the year 2011 was another year of restoring the potential of the economy after a slowdown in 2009. The actual economic growth rate was 4.3% in this period. However, the growth in GDP was smaller than in the previous year (by 0.4 basis points compared to 2.3 basis points in 2010).

The main determinants of the GDP growth were investments and domestic demand, including mainly individual consumption expenditure (an increase by, respectively, 9.4%, 3.6%, and 3.1%). Export also had a positive effect on economic growth. A significant increase (by more than 60%) in foreign direct investments, which in 2011 amounted to € 10.9 billion (in 2010 they equalled € 6.7 billion), was also of great importance. Nevertheless, due to the instability of economic situation in the world, it is forecasted that in the years to come the dynamics of the economic growth in Poland will decrease. It is anticipated that in the period 2012-2013 the GDP growth rate will not exceed 3% (it is estimated to be 2%-2.5%; in the first half of 2012 it was 2.9%). In this period domestic demand may grow at a rate of, respectively, 1.7%, whereas the investment dynamics will visibly drop to less than 2% in 2012 and 0.8% in 2013.

The situation in construction industry has a great bearing on the condition of the forestry-wood sector in Poland. In 2011 construction and assembly production increased by 12.4% (compared to 4.6% in 2010). However, again, there was a 3.6% drop in the number of dwellings completed (compared to a 15.1% drop in 2010), while the number of dwellings under construction and construction permits concerning new dwellings increased by, respectively, 4.5% and 5.2%. It is forecasted that in 2012 the dynamics of construction and assembly production will slow down to approximately 7% (and this will mainly be continuation of the investment projects connected with the Euro 2012 and investments co-financed by the European Union funds). Relatively good results of housing construction obtained in the first half of 2012 (an increase by approximately 25% in relation to corresponding period of the previous year) also suggest that this year the number of dwellings completed should continue to be at a level similar to the level of the previous year. On the other hand, the situation in the second half of 2012 indicates a probable strong deterioration of the results of construction in 2013.

In 2011 the economic prosperity was also noticed in industry. Sold production of industry increased by 7.5% compared to the previous year (in fixed prices; nevertheless, in 2010 it was 9%). Sold production of the wood sector increased as well and amounted to more than PLN 90 billion (€ 21.9 billion). A high production dynamics was recorded for the furniture industry (18.2% increase) and the pulp and paper industry, where the growth was 7.2%, whereas an increase in the wood industry was less than 1%. In 2011 the share of the wood industries within total sold production of industry was almost 8%, and within manufacturing over 9%. It is assumed that in the near future the dynamics of sold production will be lower than in previous years. In 2012 it will probably be approximately 3%-4% (in the first half sold production of industry increased by 3.8%, in fixed prices, compared to corresponding period of the previous year, and sold production of manufacturing by 4.4%).

The positive changes which occurred in 2011 in economy were not observed on the labour market. It was another year of an increase in the registered unemployment rate, which reached 12.5% at the end of the year (i.e. the rate was higher by 0.1 basis points than at the end of the previous year). However, similarly to 2010, the number of the employed in national economy increased by 1%, and the number of the employed in the enterprise sector by 3.2%. An average employment in the wood sector also rose by approximately 1% (to 309 thou. people). An employment increase was observed primarily in the pulp and paper industry (5%)

and the furniture industry (1.4%), whereas in the wood industry the number of the employed decreased by almost 2%. The share of the wood sector within total number of the employed in industry remained at a level similar to levels recorded in previous years and was 11%, and within manufacturing it was almost 14%. The employment in forestry remained at a level similar to a level of the previous year and amounted to 37.7 thou. people. In the near future no improvement of situation on the labour market is anticipated, both in terms of an increase in the number of the employed and a decrease in the number of the unemployed (the registered unemployment rate at the end of 2013 – 13%). Nevertheless, situation on the labour market will strongly depend on situation of the Polish economy in its entirety, which is to a large extent determined by economic situation in the European Union states and in the world.

In 2011 foreign trade recorded an increase in turnover both in exports (PLN 559 billion, \$ 190 billion, € 137 billion) and imports (PLN 623 billion, \$ 212 billion, € 153 billion). In fixed prices this increase amounted to, respectively, 7.5% and 5,5%. The negative balance of foreign trade recorded an increase as well and equalled PLN 64.6 billion (\$ -22.1 billion and € -15.9 billion). Approximately 78% of the value of Polish product exports was supplied to the markets of the European Union states, and the value of imports from this area amounted to almost 60% of total imports value. It is forecasted that in the period 2012-2013 export dynamics will be higher than import dynamics (in this period exports may actually rise by 3% and 4%, respectively, and imports by 1.3% and 2,8%, respectively). Wood products account for 9% of Polish exports (82% to the European Union) and 4% of imports (81% from the European Union). Unlike situation in the entire Polish foreign trade, the balance of export and import of wood products is positive (their export exceeds import).

In 2011 price index of consumer goods and services was 4.3%, i.e. 1.7 basis points higher than in the previous year. A price increase concerned mainly food and goods and services connected with use of dwellings and with transport (in the first place fuels). It is anticipated that in 2012 the inflation rate will drop to approximately 4%, and in 2013 to 2.7% (assuming that prices on the raw material markets stabilize).

It is believed that in the near future the rate of economic growth in Poland will mainly depend on domestic demand and situation on international markets. The forecasted slowdown of the European Union economies is the factor that in particular does not raise optimism, especially the possible recession in the euro zone.

2. POLICY MEASURES TAKEN IN POLAND OVER THE PAST 18 MONTHS, WHICH MIGHT HAVE A BEARING ON TRADE AND MARKETS OF FOREST PRODUCTS OR FOREST MANAGEMENT

The lingering, uncertain situation on the global markets is the reason why currently state policy primarily aims at creating conditions for sustainable development of Poland and maintaining macroeconomic stability of economy. Taken actions are in line with the priorities set in the strategy “Europe 2020”, which are contained in the update of the “National Programme of Reforms 2012-2013” adopted in April 2012. These actions mainly aim for continuation of fiscal consolidation, an increase in vocational activity of society, an improvement in business conditions, and a growth in innovativeness of economy, as well as streamlining of privatization processes and making them more effective. These overriding goals of the state policy, as well as actions which are currently taken to attain them, regard also the forestry-wood sector and have a bearing on its operation and economic situation.

The strategy of fiscal consolidation is to lead to systematic increase in the balance of public finances and their institutional reinforcement, while simultaneously a potentially

negative influence of public demand reduction on the economic growth of Poland is minimised. At the same time, execution of these actions is to help Poland deliver on its commitments undertaken when it agreed to the Euro Plus Pack (a package of economic instruments reinforcing the common currency, i.e. euro, and its stability).

Actions aimed at, among others, an increase in profitability of work through rationalisation of the system of social allowances and benefits are to help to increase vocational activity of society. To attain the set goals it was necessary to carry out a reform of the pension system (the work on this reform started in 2011). The reform assumes that starting from 2013 the retirement age of men and women will be gradually raised and levelled at 67 (hitherto the age for women was 60, and for men 65). The process is to finish in 2040. A broader access to professions which are legally regulated (such as barrister, solicitor, debt collector, notary public, tour guide) is another way to increase vocational activity. It is planned that broadening the access will be a three-phase process: the first phase concerns broadening access to 49 professions, and the other two to approximately 200.

Currently the actions for improvement of business conditions are aimed at streamlining of the effective procedures and reduction of administrative and reporting burdens. The amelioration of the quality of economic regulations (their simplification and adaptation for modern economy) and better coordination of innovation and pro-export policies are to contribute to innovativeness enhancement. It is planned that the results of the finished project entitled “Technology foresight of industry in Poland – Insight 2030”, whose goal was to identify key technologies and areas of strategic importance for the Polish industry and which simultaneously are priority for its development in the near future, will be implemented in economic practice. The planned actions also take into consideration implementation of the TOP 500 Innovators Programme, whose aim is to raise qualification of scientists and the personnel of technology transfer centres.

The enhancement of the effectiveness of privatisation processes is to be accompanied by systematic limitation of the role of state in economy. The actions that are currently taken within this area are to accelerate the development and modernisation of companies and strengthen their, and the entire economy’s, competitive position on domestic market and foreign markets.

Moreover, currently in Poland a legislative process, whose aim is to put in order the legal system concerning power and gas grids, investment in new grids and repairs of the existing, is under way. The actions aimed at determination of possibilities of increasing the energy safety of Poland through future use of available resources of schistose gas have also been taken.

Due to deterioration of economic situation in Europe, especially in the euro zone, the former strategy of Poland’s integration with these states was supplemented with another element, so-called the fourth pillar. Thus, the instruments ensuring maintenance of fiscal discipline and smooth operation in the currency zone were extended by instruments aimed at stabilisation of situation in the euro zone, and especially at its institutional strengthening. This was expressed in the “National plan for adoption of the euro” drawn up in 2011.

3. MARKET DRIVERS

Operation of every market, including the wood market, is directly and indirectly affected by business conditions. Currently in Poland a draft of the third so-called deregulation act is drawn up as part of continuation of actions connected with removal of barriers to entrepreneurship development. New regulations simplifying the tax and fiscal laws are to serve primarily the improvement of financial liquidity of companies. The labour law (the right

to enter into agreements on common employment of staff and proportional distribution of costs) and the competitive tendering law (granting the entrepreneurs the right to draw interpretation of regulations concerning their procedural eligibility) are changed as well.

The wood market in Poland relatively strongly depends on the development of construction, which is a direct consumer of wood materials and creator of demand for finished wood products. However, it is forecasted that in 2013 the stimulating influence that construction has on the wood sector may be considerably weakened, mainly due to anticipated slowdown in the development of the entire economy, including primarily a reduction in investments (despite relatively good results of construction until mid 2012).

The wood market in Poland is also directly affected by the effective wood sales system. Currently a draft of changes that are to come into force from 2013 is consulted. These changes mainly concern introduction by the State Forests National Forest Holding (which delivers 94% of wood in Poland) long-term wood purchase contracts for all industrial consumers (this regards 70% of the wood volume; the remaining 30% of the wood raw material volume is to be sold through system auctions organised every six months on the forestry-wood portal “www.e-drewno.pl”).

The fast development of new organisational forms, which are a platform for overcoming developmental limitations (resulting from, among others, the availability of wood raw material and capital, as well as from the fragmented structure of industry), is also a positive phenomenon on the wood market in Poland. More and more often wood companies make use of the idea of clustering, which facilitates close and multiplanar cooperation between companies, scientific and research institutions, and consumers of wood products.

Innovativeness as well as the scientific and technical development in the forestry-wood sector is also supported by the Polish Technology Platform for the Forestry and Wood Sector (coordinated by the Wood Technology Institute in Poznan), which cooperates with all stakeholders interested in stable and sustainable development of the sector.

The possibility of co-financing the development of economy from the European Union funds still has a stimulating effect on it. It is estimated that in the period 2009-2012 means from these funds accelerated the rate of economic development of Poland by 0.8-2.3 basis points. However, it is forecasted that in the near future their influence on economy will decrease. As soon as in 2013 the EU funds will no longer be a stabilizer of economic situation and may increase the GDP dynamics by only 0.2 basis points. In the wood sector the EU funds have been of special importance for: innovative and sustainable development of the market in wood biomass for energy purposes, increase in scale of use of wood from industrial and post-consumer waste, sustainable management of the environment etc. Poland is also the greatest beneficiary of the Norwegian aid intended for 15 out of 27 European Union states. It is estimated that Poland will receive approximately € 580 M altogether from the Norwegian Financial Mechanism and the Financial Mechanism of the European Economic Area. Within the framework of regional initiatives € 9.5 M is intended for reduction of disparities, and € 43.3 M for cooperation at research.

4. DEVELOPMENTS IN FOREST PRODUCTS MARKETS SECTORS

4.1. (A) Wood raw materials

In 2011 in Poland 37.2 M m³ of roundwood was harvested and it was approximately 5% more than in the previous year. 87% of total removals was industrial wood (32.2 M m³). The removals of softwood and hardwood increased, respectively, by 3%, i.e. to 27.4 M m³, and 9%, i.e. to 9.8 M m³. The wood from public forests accounted for almost 96% of harvested roundwood (35.5 M m³), and most of it originated from state forests (94%). The structure of

harvested wood was dominated by merchantable bole (94%, 34.9 M m³). 16 M m³ of pulpwood (almost 50% of wood for manufacturing) and 14.7 M m³ of sawnlogs and veneer logs (46%) was harvested. The removals of fuelwood also increased to 5 M m³ (from 4.1 M m³ in 2010).

In 2011 the dynamics of foreign trade in roundwood increased. Poland exported 1.9 M m³ of wood, i.e. 10% more than in the previous year (5% of the harvest volume). Approximately 95% of exports was wood intended for production purposes (1.8 M m³). The structure of this wood was dominated by softwood (89%), mainly pine. It was both pulpwood (58% of industrial softwood supplies) and sawnlogs and veneer logs (42%). Only 0.2 M m³ of hardwood was exported (sawnlogs accounted for 60% of it), and beech was the dominant species. On the other hand, exports of fuelwood decreased to 101 thou. m³ from 149 thou. in 2010 (by 32%).

A relatively high growth dynamics characterised imports of roundwood. In 2011 almost 3.5 M m³ of foreign roundwood was imported to the Polish market (i.e. almost 49% more than in the previous year). In relation to harvest, roundwood imports amounted to more than 9%. Basically Poland imported only wood for production purposes, for imports of fuelwood amounted to 31 thou. m³ (and it was 12% less than in 2010). The structure of imported industrial wood was dominated by hardwood species (51%), primarily birch and poplar. For the most part it was pulpwood (48% of imported industrial hardwood). The supplies of softwood were also dominated by pulpwood (91% of supplies), mainly pine.

It is forecasted that in the next years wood harvest will still grow, probably to 38.1 M m³ in 2012 and 38.9 M m³ in 2013 (i.e. by more than 2% per annum). For the most part it will be wood for industrial purposes (over 86%). The harvest of fuelwood may increase to 5.4 M m³ in 2013. As regards foreign trade, an increase in both wood imports and exports is assumed. And as hitherto, it will mainly be wood for industrial purposes. However, in the near future the dynamics of foreign trade will depend on economic situation in Poland and countries which are Poland's main partners as regards wood trade.

4.2. (B) Wood energy, with a focus on government policies promoting wood energy

In 2012 Poland was an active participant of the discussion concerning final version of "Conclusion on Energy. European Council". The "Energy Action Plan 2050" ("Energy Roadmap 2050 – ERM2050"), published by the European Commission in December 2011, was the basis for drawing up a draft of the Conclusion. Poland supported the development of energy infrastructure, increase in energy efficiency and energy-saving, as well as the development of renewable energy sources. It stemmed from the belief that energy efficiency is the basis for a long-term energy and climate policy, and at the same time contributes to reduction in greenhouse gases emission in the most effective way. Still, until now Poland has not adopted the Conclusion on the Roadmap 2050 due to some of the regulations contained therein, which may have a negative influence on the long-term economic development of Poland (until a global understanding is reached on the climate issues, including the world's most developed countries).

The ongoing legislative process concerning renewable energy sources is of special importance for the wood biomass market in Poland. A draft, which is currently under consultation, defines basic concepts in this area such as biomass, bioliquids etc. It assumes keeping the system of so-called green certificates; however, the obligation to purchase energy from renewable sources is to be abolished (with the exception of micro-installations, i.e. installations of electric power up to 40 kW or heat or cooling power up to 70 kW, and in the case of agricultural biogas up to 100 kW and 130 kW, respectively). The planned support for investments in the area of renewable energy sources will be based on a system of corrective

coefficients that are set every three years. The taken actions are also to help increase the consumption of energy from renewable sources other than biomass, and eventually build a stable and safe electric power system for Poland. The proposed legal regulations also facilitate building of micro-installations, i.e. they abolish the obligation to gain concession. The draft of the act on renewable energy sources is part of a package of energy acts, which are currently modified in Poland (together with the gas law and the energy law).

The latest changes in Polish legislation are also the reason why in the next years combustion of biomass from forest waste and residues from forest production, as well as from wood waste originating from wood processing industries will be more and more limited. This biomass is to be replaced by biomass from energy crops or residues from agricultural production and the industry processing the products thereof. The new legal regulations, which have already been notified by the European Commission, introduce significant changes on the biomass market, for they direct the main consumers of biomass primarily to agricultural producers instead of the producers within the forestry-wood sector.

In Poland the share of renewable energy generation within total energy production is estimated to be 10%, and within consumption to be approximately 7% (2010).

4.3. (C) Certified forest products

In mid 2012 in Poland the FSC (*Forest Stewardship Council*) system certificates of the FM type (*Forest Management*) were held by 16 State Forests Regional Directorates and 3 Forest Experimental Stations (in Krynica, Rogów, and Siemianowice), meaning that approximately 7.0 M hectares of forests, which amount to 77% of their area in Poland, is encompassed by certification within this system. In relation to forests certified in Europe it is 10.5%, and in the world – 4.5%.

On the other hand, the producers of wood products have obtained the FSC-CoC (FSC – *Chain of Custody*) certificates of product origin control for many years. These certificates mean that the production of products manufactured by these producers is based on raw material originating from “well managed forests”, which is in line with the FSC principles. In mid 2012 there were 1172 certificates of this type in Poland (739 companies and their branches). Approximately 73% of the certificates belonged to production companies (850 companies), and the rest was held by non-production companies, i.e. operating in trade, service (also printing), import and export, and by consultancies. The production companies holding the FSC-CoC certificates are dominated by the producers of sawnwood and wooden garden products (362 certificates in total, i.e. 43%). The next important group is made up of wooden accessories producers (15%) and furniture producers (14%). In total number of certified companies 189 manufacturers (i.e. 16%) also hold the FSC-CW (*FSC-Controlled Wood*) certificates.

The certification of forests within the PEFC (*Programme for the Endorsement of Forest Certification Schemes*) system is also carried out in Poland. In mid 2012 in Poland there were 12 certificates of this type, of which 6 were regional certificates (State Forests Regional Directorates in: Łódź, Olsztyn, Piła, Szczecinek, Warszawa, and Zielona Góra), and 6 group certificates (State Forests Regional Directorates in: Białystok, Kraków, Krosno, Radom, Szczecin, and Toruń). The area of forests encompassed by this certification system is more than 5 M hectares, thus approximately 56% of total forest area in Poland. In relation to the area of forests certified within this system in Europe it is 6%, and in the world – 2%.

In mid 2012 the producers of wood products also held 57 active PEFC-CoC certificates of product origin control, of which 44 were individual certificates, and 3 group certificates. More than 56% of the certificates (32) are held by production companies. This group is dominated by paper and paper products manufacturers (47%) and wood-based panel producers (19%).

4.4. (D) Value-added wood products

Value-added wood products (such as furniture, flooring materials, windows and doors, wooden packaging, and paper products) have more and more significant influence on condition of the Polish wood sector due to their high added value and importance for foreign trade.

In 2011 in Poland furniture of a value of PLN 25.9 billion (USD 8.7 billion, € 6.3 billion) was produced. In relation to the previous year it meant a real increase in furniture production by more than 11%. The furniture of wood (including furniture elements, excluding furniture for seating convertible into beds) accounted for 67% of it. More than 98% of manufactured furniture was exported (PLN 25.6 billion, USD 8.7 billion, € 6.3 billion). Polish furniture was mainly exported to the European Union markets (Germany, France). In total value of furniture exports, furniture of wood accounted for 54% (PLN 13.8 billion). On the other hand, Poland imported furniture of a value of PLN 4 billion (USD 1.4 billion, € 1 billion), primarily from Germany and China. Wooden furniture accounted for 28% of it (PLN 1.1 billion).

The value of builder's carpentry and joinery products of wood manufactured in Poland in 2011 exceeded PLN 6.2 billion (USD 2.1 billion, € 1.5 billion), and it was a level approximately 8% higher than in 2010 (in fixed prices). Amongst manufactured products was 1.9 M m² of inlay (however, it was more than 4% less than in the previous year), 45 M m² of laminated floor panels (a 15% increase), and 14.2 M m² of windows and doors (more than 3% less in relation to 2010). The value of exports of this group of wood products amounted to almost PLN 2.9 billion (USD 1 billion USD, € 0.7 billion; including prefabricated wooden houses). At the same time, it was 46% of their production. On the other hand, Poland imported builder's carpentry and joinery products of wood of a value of PLN 0.4 billion (USD 0.1 billion, € 0.1 billion).

In 2011 wooden packaging of a value of PLN 1.4 billion (USD 0.5 billion, € 0.4 billion) was produced in Poland, meaning an almost 20% increase (in fixed prices) in relation to the previous year. This group of products was dominated by pallets (53.5 M pieces compared to 46.4 M pieces in 2010). Poland exported approximately 72% of the value of wooden packaging production (PLN 1 billion, USD 0.4 billion, € 0.3 billion), and imported wooden packaging of a value of PLN 0.2 billion (USD 0.07 billion, € 0.05 billion).

The value of secondary paper and paperboard products manufactured in Poland in 2011 equalled PLN 15.5 billion (USD 5.2 billion, € 3.8 billion). In relation to 2010 manufacture of these products recorded a real increase of 7%. The structure of this production was, similarly to previous years, dominated by corrugated paper and paperboard and packaging made of them (59%), and household products, toilet and sanitary (26%). 53% of the value of production of this group of products was exported (PLN 8.2 billion, USD 2.8 billion, € 2 billion). The value structure of exports of value-added paper products is dominated by sanitary and household products (50%) and packaging (23%). On the other hand, Poland imported paper products of a value of PLN 3.6 billion (USD 1.2 billion, € 0.9 billion), amongst which there was primarily packaging of paper and paperboard (43%) and sanitary and household products (35%).

4.5. (E) Sawn softwood

In 2011 in Poland production of sawn softwood (without sawn semi-products) amounted to almost 4 M m³ and was approximately 5% higher than in 2010. The sawnwood market is dominated by coniferous species (mainly pine), which amount to more than 89% of total sawnwood production. Approximately 10% of domestic production of sawn softwood

was exported to foreign markets (380 thou. m³; 415 thou. m³ in 2010). Exports of sawn softwood accounted for 80% of total exports of sawnwood. The species structure of exports is dominated by pine. On the other hand, Poland imported 654 thou. m³ of sawn softwood (495 thou. m³ in 2010). In relation to the production volume it was almost 17%. Coniferous species (also mainly pine) dominate total supplies of sawnwood to domestic market (they account for 73% of total imports of sawnwood).

It is forecasted that in the near future production of sawn softwood will increase – to 4.1 M m³ in 2012 and 4.2 M m³ in 2013. In this period foreign trade may also be characterised by upward trends. However, the dynamics of sawn softwood exports will probably be higher (in the period 2012-2013 5% per annum) than of its imports (2%-3% per annum). It is estimated that in 2013 exports will amount to approximately 420 thou. m³, and imports will increase to 690 thou. m³.

4.6. (F) Sawn hardwood

In 2011 in Poland production of sawn hardwood increased to 476 thou. m³ and was 5% higher than in 2010 (without sawn semi-products). 20% of domestic production was exported to foreign markets (95 thou. m³, including sawn semi-products). The species structure of sawn hardwood exports is dominated by oak. On the other hand, in 2011 imports of sawn hardwood increased to a level of 244 thou. m³, i.e. by 11% in relation to the previous year. At the same time, it was 51% of domestic production volume. The species structure of imports to Poland was dominated by oak and birch, and sawn tropical wood accounted for more than 10% (25 thou. m³).

In the period 2012-2013 production of sawn hardwood should increase – by approximately 1% per annum (to 485 thou. m³ in 2013). An increase in dynamics is also forecasted in the case of foreign trade; however, the increase is anticipated to be higher for imports than for exports. In 2013 exports of sawn hardwood may amount to 0.1 M m³, and imports 0.3 M m³.

4.7. (G) Wood-based panels

In 2011 in Poland production of wood-based panels amounted to 8.4 M m³ and was almost 3% higher than in 2010. The highest dynamics of production growth was recorded in the case of particleboards and amounted to approximately 5%. Like in previous years, the structure of wood-based panel production was dominated by particleboards (59%, 4.9 M m³) and fibreboards (36%, including dry-process boards – 3 M m³). Moreover, 49 thou. m³ of veneers and 411 thou. m³ of plywood was manufactured.

2.1 M m³ of Polish wood-based panels was exported, i.e. 25% of domestic production (a 2% drop in exports volume in relation to the previous year). The greatest exported volumes were fibreboards (65%, 1.4 M m³) and particleboards (27%, 0.6 M m³). Plywood exports amounted to 141 thou. m³ (i.e. increased by 6% in relation to 2010) and veneer exports to 16 thou. m³ (an 11% drop).

In 2011 also wood-based panel imports decreased by 8% in relation to 2010. At the same time it amounted to 19% of domestic production. Only in the case of plywood and hardboards, respectively, a 24% and a 4% increase in supplies was recorded (respectively, 199 thou. m³ and 196 thou. m³). The structure of wood-based panels imported to Poland was dominated by particleboards (62%, 1.0 M m³) and fibreboards (23%, 0.4 M m³).

It is assumed that in the period 2012-2013 production of wood-base panels in Poland should continue to grow – to approximately 8.5 M m³. Amongst other things, an increase in OSB production is anticipated (launching of a new production line). A downward trend in production may occur only in the case of hardboards (a slow drop in their production has

already been observed for a few years). Upward trends will also probably continue in foreign trade. Exports of wood-based panels may increase to 2.2 M m³ in 2013, and their imports to 1.6 M m³. However, it is forecasted that due to systematically growing production of dry-process fibreboards, a slow drop in their imports is possible. On the other hand, due to the needs of domestic market, veneers exports may be limited.

4.8. (H) Pulp and paper

Over recent years production of wood pulp in Poland has not changed significantly. In 2011 1.1 M tonnes of wood pulp and approximately 0.1 M tonnes of pulp from fibres other than wood and recycled fibres was manufactured. It was a level similar to levels reached in previous years. Cellulose is of the greatest importance for this market. Its production accounted for 81% of wood pulp production (without pulp from fibres other than wood and recycled fibres), the share of semi-chemical wood pulp equalled 17%, and the share of mechanical wood pulp 2%. Previous trends continued also as regards foreign trade in wood pulp. In 2011 a 6% increase in imports was recorded (to 717 thou. tonnes from 679 thou. tonnes in 2010). In relation to domestic production imports was 65%. Wood pulp exports also increased by 25% (to 38 thou. tonnes from 30 thou. tonnes in 2010); however, it accounted for only 3% of the production volume.

In 2011 also production of paper and paperboard increased by almost 2% (to 3.8 M tonnes from 3.7 M tonnes in 2010). The assortment structure of this production was dominated by packaging papers (65%, 2.4 M tonnes) and graphics papers (23%, 0.9 M tonnes). 52% of domestic production of paper and paperboard (2 M tonnes) was exported, i.e. 1% more than in the previous year. Primarily packaging papers and graphics papers are exported, including mainly wood-free paper. On the other hand, 3.1 M tonnes of paper and paperboard was imported to Poland and it was an amount similar to the amount imported in last year. In relation to production, imports accounted for 83%. The imports structure was dominated by packaging papers and graphics paper.

It is estimated that in the period 2012-2013 production of wood pulp will remain at a level similar to levels observed in previous years. Due to anticipated growth in domestic demand, it is probable that wood pulp imports will further increase and its exports (which is relatively insignificant anyway) remain the same or drop. On the other hand, production of paper and paperboard should grow – by 4% by 2013 (to a level of 3.9 M tonnes). An upward trend should also be characteristic of exports and imports of paper and paperboard. It is forecasted that in 2013 exports will reach 2 M tonnes (a 4% increase in relation to 2011), and imports 3.3 M tonnes (a 4% increase in relation to 2011).

4.9. (I) Carbon markets in the forest sector

The solutions proposed in the energy road map of the European Union until 2050, which assume, among others, reduction in CO₂ emission by 40% by 2030, 60% by 2040, and 80% by 2050, compared to 1990, are also to concern Poland as a member state of the Community, thus the Polish wood sector as well. The specific situation of Poland as regards reduction of CO₂ emission is connected with the structure of energy carriers used domestically, for the energy road map of the European Union assumes that by 2050 the share of energy generated from coal in the entire Community will have radically decreased. Currently in Poland more than 90% of energy is still produced from this fuel. Since 1990 Poland reduced the level of CO₂ emission by 17%, whereas in the same period some EU states managed to reduce carbon dioxide emission even by 40%. Amongst the possibilities of systematic reduction of the amount of greenhouse gases in Poland, the actions connected with, among others, forest management (consisting mainly in constant increase in the forest

area, introduction of fast-growing tree species, and cultivation measures increasing standing wood volume) are pointed out. The necessity of extending the life cycle of wood products and their recycling is also more and more strongly emphasised.

The Polish market in emission allowances (operating since 2006) is an integral part of the national and the EU CO₂ Emission Trading System. This market encompasses installations participating in the European system of CO₂ emission trading and all entities interested in trading in the allowances. Currently in Poland there are discussions and consultations concerning the goal for which finances leveraged by the budget from sales of CO₂ emission allowances in the period 2012-2020 could be allocated. In accordance with the guidelines of the European Union, usage of half of the finances from emission trading is left to a member state's discretion. Former proposals concerned using the finances in the power industry, among others, to support ecological and innovative investments reducing CO₂ emission not only in industry, but also in households. These finances could also be used for grants supplementing loans for building of energy-saving buildings, purchase of ecological cars, refrigerators etc.

Moreover, Poland is preparing to apply, from 2013, new regulations on monitoring and reporting in the area of greenhouse gases emission within the framework of the EU greenhouse gases emission trading system, thus to apply a new definition of biomass for the needs of this system.

5.0. (J) Innovative wood products

In the Polish wood sector innovations are mainly of technical and technological nature and concern primarily changes in material structures of products, while obtainment of products with new and improved properties is a priority. Most products is characterised by enhanced features such as durability, resistance to exterior factors, insulation properties, easy assembly and functional values, safety, and conformity with the principles of ecology and aesthetics. New technologies increase durability of products, their hardness and stability, and decrease their susceptibility to exterior conditions. Modern wood materials are more resistant to abrasion, fire, chemical agents, moisture, and also to biotic factors and factors that are difficult to foresee (e.g. climate conditions). Their thermal and acoustic insulation characteristics are also enhanced. The applied technical solutions facilitate assembly and use of wood products (among others, thanks to the use of lighter materials or possibilities of assembling without using glue). The degree of finished product safety has constantly increased and the production processes and wood products have become more ecological. The former scope of application of wood materials and products has broadened (e.g. new generation flooring materials which may be applied in heated floor systems). The substitution of traditional wood materials with modern wood materials of improved properties (or in combination with other raw materials) has also been an intensifying trend.

The main new trends in technology innovativeness and materials and products are the following:

- escalation of the phenomenon of substitution of solid wood materials with wood-based materials (of ground down and defibred wood), and also with special paper materials (corrugated paperboard for production of structural elements for construction),
- increase in the share of wood materials and paper materials with more sophisticated finish (e.g. with surfaces finished with various coatings – synthetic, natural, biodegradable),
- increase in the importance of modified materials (e.g. through the introduction in their structures, using different technologies, of various chemical agents, which improve, for example, their durability, resistance to biotic and abiotic factors and to

ageing processes or through creation of new composites as a result of combination of various wood materials with non-wood materials (plastics, metal, glass).

Generally, the quality and modernity of most wood materials and products is at least at an average European level, and some represent the world level.

Economic indicators

Indicator	1995	2000	2005	2008	2009	2010	2011
	% change on previous year						
Gross Domestic Product	107.0	104.3	103.6	105.1	101.6	103.9	104.3
Sold production of industry	109.7	106.7	103.7	103.6	95.5	109.0	107.5
Construction and assembly production	108.1	101.4	108.0	112.1	105.1	104.6	112.4
Dwellings completed	88.2	107.1	105.5	123.6	96.9	84.9	96.4
Dwellings under construction	105.5	105.7	98.7	101.4	97.5	103.3	104.5
Average paid employment							
- total	102.8	97.1	101.7	105.0	99.2	99.8	100.9
- in the enterprises sector	101.0	96.7	101.9	104.8	98.8	100.8	103.2
Registered unemployment rate (at the end of the year) ¹	14.9	15.1	17.6	9.5	12.1	12.4	12.5
Average monthly gross real wages and salaries							
- total	102.8	101.0	101.8	105.9	102.0	101.4	101.2
- in the enterprises sector	103.2	101.3	101.2	106.1	101.1	100.8	100.9
Price indices of consumer goods and services (inflation)	127.8	110.1	102.1	104.2	103.5	102.6	104.3
Investment outlays	117.1	101.4	107.7	110.7	99.2	100.2	109.4
Trade							
millions of PLN, current prices							
Exports	55515.1	137908.7	288780.8	405383.1	423485.4	481058.2	558739.0
Imports	70502.3	213071.8	328192.0	497028.3	463382.6	436220.6	623372.7
Balance of trade	-14987.2	-75163.1	-39411.2	-91645.2	-39897.2	-55162.4	-64633.7
millions of USD, current prices							
Exports	22894.9	31651.3	89378.1	171859.9	136720.3	159757.6	190247.5
Imports	29049.7	48940.2	101538.8	210478.5	149569.8	178062.9	212330.9
Balance of trade	-6154.8	-17288.9	-12160.7	-38618.6	-12849.5	-18305.3	-22083.4
millions of EUR, current prices							
Exports	-	34373.4	71423.5	116243.8	98274.5	120373.1	136693.9
Imports	-	53084.8	81169.7	142447.9	107528.9	134188.4	152568.4
Balance of trade	-	-18711.2	-9746.2	-26204.1	-9254.4	-13815.3	-15874.5

¹ as a ratio of registered unemployed persons to the economically active civil population