

**UNECE Committee on Forests and the Forest Industry  
FAO European Forestry Commission**

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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**

Despite persisting unfavourable economic conditions on the global markets, in 2012 Poland remained in the group of countries which demonstrated a positive rate of economic growth. GDP increased by 1.9% in real terms; however it was by 2.6 percentage points lower than in the previous year.

An increase in GDP resulted mainly from a positive effect of exports (an increase by 3.4% in real terms) and, to a lesser extent, from increase in final consumption expenditure, including individual consumption (an increase by 0.6% and 0.8%, respectively). Nevertheless, domestic demand decreased by 0.2% in relation to the previous year (whilst in 2011 it rose by 3.6%). In 2012 the gross outlay on fixed assets decreased by 0.8% in real terms (in 2011 it rose by 8.5%). On the other hand, gross value added increased by 1.8%; whilst its greatest increase was observed in transport and stock management (by 7.7%). In industry it increased by 1.1%; whereas in construction dropped by 0.7%. The inflow of foreign direct investments was of vital significance for both the economy and the forestry-wood sector; however in 2012 they decreased to €2.7 bn, which accounted for less than 20% of their volume in 2011 (when they amounted to €13.6 bn). In 2013 economic situation in Poland has not improved. Therefore, it is estimated that in all the year 2013 GDP may increase by 1.5%; whilst in 2014 an increase may be 2.5%.

In 2012 sold production of industry increased by 0.8% in real terms (however, in 2011 it was 7.5%) and sold production of manufacturing by 1.2%. The wood sector (including manufacture of wood products, wood pulp, paper and paperboard, and furniture, NACE 16, 17, 31) also recorded an increase in production – to PLN 92 bn (€22 bn) from PLN 86.4 bn (€ 21 bn) in 2011. The highest dynamics of production was demonstrated by pulp and paper industry and paper processing (a 5.1% increase in fixed prices in relation to the previous year). Sold production of wood industry increased by 3.8%; whilst in furniture industry sold production dropped by 8.4%. Compared to 2011 the share of the wood sector within total sold production of industry and of manufacturing remained at the same level and equalled 7.6% and 9%, respectively. Wood industry and pulp and paper industry, including paper processing, is of great importance to the structure of sold production of the wood sector (each of those industries having a share of almost 34%). On the other hand, the importance of furniture industry lessened in 2012 and its share within the production of the sector decreased to 32% (from almost 35% in 2011). No significant improvement of the situation is anticipated in 2013. An increase in sold production of industry probably will not exceed 2%, but the dynamics of sold production increase in wood industries may be higher.

The economic situation in Poland and in the world still has a negative bearing on domestic labour market. At the end of 2012 the unemployment rate was 13.4% (compared to the previous year it increased by 0.9 percentage point). Average employment in the economy decreased by 0.2% in relation to 2011 (a slight increase in employment, i.e. by 0.1%, was observed in the enterprise sector). The forestry-wood sector employed 336 thou. people, i.e. by 2% fewer than in the previous year; however, employment in forestry increased to 39 thou. people (from 38.8 thou. people in 2011). On the other hand, employment in the wood sector (including manufacture of wood products, wood pulp, paper and paperboard, and furniture) decreased to 297 thou. people (i.e. by 2.4% in relation to the number in the previous year). That employment is 11% of average employment in industry in total and more than 13% in manufacturing. The employment structure of the wood sector is dominated by furniture industry (with a share of approximately 47%), wood industry accounts for 35%, and pulp and paper industry and paper processing for almost 18%. Due to a downturn in the economy and lower activity of companies, and thus a decrease in the demand for labour force, it may be

anticipated that hitherto negative trends on the labour market will continue in the near future and the unemployment rate will increase at the end of 2013 to a level of 13.8% (2014 – 13.8%).

In 2012 the Polish foreign trade kept to previous upward trend in the value of exports (PLN 603.4 bn, €143.5 bn, \$ 184.7 bn) and imports (PLN 648.1 bn, €154 bn, \$ 198.5 bn). An increase in exports was 3.4% in real terms (in national currency); however, imports decreased by 1.5% in fixed prices. The forestry-wood sector plays an important role in the Polish foreign trade. In 2012 wood and products of its processing amounted to approximately 9% of the value of Polish exports and less than 4% of imports. Furniture is one of the most important commodity group in foreign trade exchange (it accounts for 4.5% of total value of the Polish exports). Products of the forestry-wood sector are primarily imported from and exported to the European Union countries. In 2012 more than 83% of total value of exports of wood and wood products was exported to the Community market and almost 85% of the value of their imports was imported from that area (for comparison: the share of EU countries within total Polish exports was approximately 76% and within imports less than 58%). For many years the forestry-wood sector has demonstrated a positive balance of trade in wood and wood products; whilst in 2012 in Poland a negative balance of foreign trade exchange amounted to PLN 44.7 bn (€10.6 bn, \$ 13.8 bn). Nevertheless, the imports volume of the wood alone exceeds its exports (in 2011 a negative balance of trade in wood amounted to 1.5 M m<sup>3</sup>, and in 2012 to 0.5 M m<sup>3</sup>). It is anticipated that in 2013 the value of exports will increase to €144.8 bn and imports will decrease to €150.9 bn (real growth of exports by 2.8%, imports by 0.9%).

In 2012 inflation was 3.7% and was by 0.6 percentage point lower than in the previous year. The level of price index of consumer goods and services was most influenced by an increase in the prices of food and non-alcoholic drinks as well as in the prices connected with use of dwellings and transport, and by a decreased in the prices of clothing and footwear. In the opinion of analysts, inflation may drop to 1.6% at the end of 2013 in Poland (2014 – 2,4%).

In the near future the scale of anticipated slowdown of economic development of Poland, and thus the development of the forestry-wood sector, will depend on the situation on foreign markets, especially markets in the countries which are main trade partners of Poland, i.e. Germany, Russia, Great Britain, and China. The effects of fiscal consolidation carried out in Poland and demographic factors, including diminishing working age population and changes in professional activity of Poles, may also have important bearing on domestic economic conditions.

## **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**

Continued implementation of the strategy *Europe 2020* is and will be of vital significance to the forestry-wood sector in the near future. This is to be supported with implementation of the assumptions adopted in the *Development strategy of Poland 2007-2015*. The medium-term goals of the state policy are given in the *Development strategy of Poland 2020. Active society, competitive economy, efficient state*. Those goals include “... strengthening and making use of economic, social and institutional potential, which assures faster and sustainable development of the country and betterment of living quality of the

people”. Strategic areas of pro-development actions are the following: • efficient and effective state, • competitive economy, and • social and territorial cohesion. Implementation of that strategy included continuation of the process of consolidation of public finance in 2012 with the view of systematically increasing the balance of public finance.

The *National Programme of Reforms. An update 2013/2014*. is an important document, the implementation of which also has a bearing on the wood market and forest management. That document assigns a significant role to actions supporting entrepreneurs and stimulating increase in industry’s participation in GDP creation (through, inter alia, simplification of the tax system, legal regulations increasing the stability of operating conditions for entrepreneurs (including transparency of their interpretation by public organs), new legal instruments and changes in bankruptcy regulations supporting companies threatened with bankruptcy).

The updated *Programme for supporting investments of vital significance to the Polish economy for the period 2011-2020* is also of great importance to entrepreneurs, including those in the wood sector. Implementation of that programme is to increase innovativeness and competitiveness of Polish producers and their products on the international markets and better the image of Poland as a country that is attractive to foreign investors. The programme is to enhance availability of support for entrepreneurs, both national and foreign, who apply for financial support for the projects they execute.

Changes in the regulations on the energy market are also of vital significance to the forestry-wood sector. All and any undertakings carried out in that market have to take into account the necessity of reduction of CO<sub>2</sub> emission in Poland and protection of forests from overexploitation, as well as the quantity of free permits for CO<sub>2</sub> emission after 2012 allocated to Poland by the European Commission (a condition of getting those permits is fulfilment of assumptions given in the National Investment Plan).

On the other hand, in relation to the implementation of the Community’s programme *Horizon 2020* at a national level, it is stressed that there is the necessity of increasing outlay on R&D from 0.8% in 2011 to 1.7% in 2020. Vital significance is also attached to continuous tightening of co-operation between the science-research sphere and companies and to effective use of public capital as a leverage for private expenditure on R&D.

The process of raising awareness of the need to undertake coordinated actions for bioeconomy was also commenced in Poland. Largely those undertakings concern the forestry-wood sector as well. The document *A stance of the Government on the Announcement to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions concerning “Innovations for sustainable growth: bioeconomy in Europe”* considers the following issues the most important: the necessity of meeting such global challenges as assurance of food safety, sustainable management of natural resources, reduction of the dependence on non-renewable resources, and mitigation of climate change and adapting to it. Therefore, the system environment-economy-society is important to the issue of bioeconomy, although the system is viewed from different perspectives.

The project *National Forest Programme* is an instrument of the state’s policy, which is of particular significance to the Polish forestry and wood sector. The Programme is implemented under the auspices of Ministry of the Environment in the period 2012-2015. The aim of the Programme is to create a vision of the Polish forestry first for the period till 2030, and then till 2080, as well as to draw up a strategic programme for the development of forests and forest management, which would facilitate increase in competitiveness of the forestry-wood sector in Poland and abroad. The project is implemented using the foresight method, and especially such its tools as public consultation, discussion panels, expert’s opinions (information and discussion forum – the website of the Forest Research Institute, [www.ibles.pl](http://www.ibles.pl)).

### 3. MARKET DRIVERS

Operation Programmes and strategies of the development of Poland closely connected with the strategic development programmes of the European Union are the basis for operation of companies in the wood sector and for the development of forest management. The *Strategy for innovativeness and effectiveness of the economy “Dynamic Poland 2020”* is one of such documents. The main aim of that Strategy is to enhance competitiveness and innovativeness of the economy and its particular sectors through the improvement in conditions of operating of the Polish producers and support for their co-operation with the science sphere and public administration organs. An executive act to that Strategy is the *Programme for the development of companies till 2020*, which contains instruments of support for companies at every stage of their operation (e.g. use of diverse forms of financing of R&D and innovations, stimulation of co-operation between business and science, enhancement of human capital quality). The Programme highlights the special importance of small and medium-sized companies, which play a significant role, especially in the Polish forestry-wood sector.

The undertakings continued within the framework of the project *Promotion of the Polish economy in international markets* have and will still have a bearing on the increase in international competitiveness of the forestry-wood sector. Ministry of Economy along with entrepreneurs is preparing industry promotion programmes, including programmes concerning, inter alia, construction, the development of which is one of the main stimuli of the wood market development. The actions that are taken concern five countries, which are considered to create the best prospects for the Polish exports, i.e. Algeria, Brazil, Canada, Kazakhstan, and Turkey.

An extension of the operation period of Special Economic Zones by 6 years, i.e. till 2026, is another tool that is to enhance the investment attractiveness of Poland. The goal is to encourage prospect foreign investors to increase their activity, which should result in, inter alia, creation of new jobs. The operating conditions in those zones are especially favourable for companies, whose operation is characterised by a low rate of return (wood industries can be classified as such as well).

In 2013 the implementation of the programme *Support for business in the period of economic slowdown* will finish. Under that programme more than two thousand micro and small companies were provided with information on the possibilities of acquiring public or EU funding for development of their operation. It is believed that experience gained during implementation of the programme can and should be used by public administration organs, institutions associating entrepreneurs etc., during execution of similar programmes under the new EU funding period 2014-2020.

### 4. DEVELOPMENTS IN FOREST PRODUCTS MARKETS SECTORS

#### 4.1. (A) Wood raw materials

In 2012 37 M m<sup>3</sup> of roundwood (net, without bark) was harvested, meaning that it was slightly less than in 2011 (when less than 37.2 M m<sup>3</sup> was harvested). Mainly hardwood removals dropped (by 1.3%). Likewise in the previous year, 96% of wood originated from public forests (35.7 M m<sup>3</sup>), predominantly from the state forests (35.3 M m<sup>3</sup>). The structure of harvested roundwood was dominated by softwood (74%). Approximately 32 M m<sup>3</sup> of wood was intended for industry (over 86% of total removals). Removals of fuelwood (5 M m<sup>3</sup>) reached similar amount as in the year 2011 (1% increase). More than half the wood for production purposes was pulpwood (an increase in removals by less than 1% in relation to 2011), and sawnlogs (including veneer logs) accounted for 45.5% (a decrease in removals by

1%).

In 2012 foreign trade recorded a decrease in dynamics of volume of both exports and imports of wood. Exports of roundwood increased by approximately 5% and amounted to 2 M m<sup>3</sup>, which was 5.4% in relation to domestic removals. The structure of exports was dominated by wood for production purposes (93,6%, 1.9 M m<sup>3</sup>) and almost 90% of it was softwood. 1 M m<sup>3</sup> of pulpwood, 0.9 M m<sup>3</sup> of sawnlogs (including veneer logs), and approximately 129 thou. m<sup>3</sup> of fuelwood was exported.

In 2012 wood imports was by 18% less than in 2011 and amounted to 2.5 M m<sup>3</sup> and it accounted for approximately 7% of domestic removals. Almost all of that wood (over 99%) was intended for production purposes and it was mainly hardwood (1.6 M m<sup>3</sup>, 65%, i.e. by 9 percentage points less than in the previous year). Poland imported 1.3 M m<sup>3</sup> of pulpwood, 0.2 M m<sup>3</sup> of sawnlogs (including veneer logs), and 24 thou. m<sup>3</sup> of fuelwood.

In the years to come one may expect a slight increase in wood removals, i.e. to 37.7 M m<sup>3</sup> in 2013 and 38.4 M m<sup>3</sup> in 2014 (yearly average approximately 2%). The structure of removals will still be dominated by wood for industrial purposes (in the years 2013 and 2014 it will be 32.5 M m<sup>3</sup> and 33 M m<sup>3</sup>, respectively). An increase in fuelwood removals (yearly average by 3.5%-4%) to 5.2 M m<sup>3</sup> in 2013 and 5.4 M m<sup>3</sup> in 2014 is possible. Upward trends are also anticipated in foreign trade in wood. In the period 2013-2014 wood imports may increase to 2.7-2.9 M m<sup>3</sup> (most of it will still be wood for industrial purposes); whilst wood exports may rise to 1.9-2.0 M m<sup>3</sup> in that period. Fuelwood should still be an insignificant percentage of foreign trade in wood (8-10%).

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

In Poland the market in renewable energy from wood biomass is closely connected with the market in electric energy, which recently has been intensively adjusted to the regulations and standards of the European Union. The primary aim of the already effective and pending legal regulations is to increase the share of renewable sources within energy generation; whilst at the same time the support for energy production from quality wood is to be limited (and ultimately eliminated). In that area amendment of the *Energy Act* is an important element of the energy policy of Poland. New regulations drive at implementation of a common market in electric energy and gas, as well as they are to stimulate the development of pro-consumer power industry (dispersed micro-installations generating energy from renewable sources). Likewise, new rules regulating the renewable energy market and the support system for green energy producers are prepared (due to a decrease in the value of green certificates, currently the production of energy from renewable sources is less profitable). Hitherto in Poland the share of renewable energy generation (7.8 M toe in 2011) within total energy production exceeded 11%, and its share within consumption was more than 7%.

The promotion of renewable energy sources especially stresses their importance to energy safety of Poland. The *National Rate Goals for the period 2013-2018* point out to, inter alia, the necessity of systematic increase in agricultural production for energy purposes (within the framework of activation of rural population and rural areas, e.g. increase in the share of bio-components in total amount of sold liquid fuels and biofuels, increase in biomass harvesting from plantation crops of fast growing trees). It is assumed that in the period 2014-2016 the share of bio-components within liquid fuels and biofuels should be 7.1%, and in the years 2017 and 2018 7.8% and 8.5%, respectively (in 2013 it is to be 7.1%).

#### **4.3. (C) Certified forest products**

Currently in Poland there are two systems of certification of forests and wood products,

i.e. FSC (*Forest Stewardship Council*) and PEFC (*Programme for the Endorsement of Forest Certification Schemes*).

In the middle of 2013 16 State Forests Regional Directorates and 3 Forest Experimental Stations (in Krynica, Rogów, and Siemianice) had FM type certificates (*Forest Management*) under the FSC system. Certification under that system encompasses almost 7 M of forests, i.e. more than 76% of their total area in Poland.

Moreover, 1428 FSC-CoC certificates (FSC-Chain of Custody), held by 940 companies and their branches, were active in Poland in the middle of 2013. Approximately 72% of those certificates (1030) was held by production companies, the rest was held by non-production companies (i.e. trade companies, service companies, printing companies etc.). Amongst production companies most FSC-CoC certificates are held by the producers of sawnwood (27%), wooden garden products (16%), wooden accessories (15%), and furniture (13%). Within the group of certified companies 259 also held CW certificates (*Controlled Wood*), and 107 RA certificates (*Controlled Wood Risk Assessment*).

In the middle of 2013 all of the 17 State Forests Regional Directorates in Poland had FM type certificates under the PEFC system. Forests certified under that system covered 7.3 M ha, which accounted for almost 80% of total forest area in Poland.

In that period 81 PEFC-CoC certificates were active as well. Approximately 67% of the certificates is held by producers of wood materials and products. That group of producers is dominated by manufacturers of paper and paperboard and products of its processing (33%), sawnwood (17%), and wood-based panels (15%).

#### **4.4. (D) Value-added wood products**

In Poland furniture is wood product of special importance, due to its high value added and its share in foreign trade. In 2012 furniture production amounted to PLN 26.4 bn (\$ 8.1 bn, €6.3 bn), meaning that in relation to the previous year it dropped by 0.4% in real terms. The structure of production is dominated by furniture of wood (including furniture elements of wood) whose share is approximately 70%. Exports of furniture amounted to PLN 25 bn (\$ 7.6 bn, €5.9 bn), which accounted for about 4.5% of total Polish exports. In total value of supplies to foreign markets wooden furniture accounted for 56% (PLN 14 bn, \$ 4.3 bn, €3.3 bn). On the other hand, Poland imported furniture of a value of PLN 3.9 bn (\$ 1.2 bn, €0.9 bn). In 2012 in relation to domestic production imports was approximately 15%, of which wooden furniture accounted for 27.6% (PLN 1.1 bn, \$ 0.3 bn, €0.3 bn).

Builder's carpentry and joinery products are also of vital significance on the market in value-added wood products in Poland. In 2012 their production amounted to PLN 5.9 bn (\$ 1.8 bn, €1.4 bn), meaning that there was a more than 1% increase in production in real terms compared to 2011. 14.4 M m<sup>2</sup> of windows and doors (an increase by less than 2% compared to the previous year) and 49.4 M m<sup>2</sup> of laminated floor panels (an increase by almost 10%) was manufactured. On the other hand, production of inlay dropped by over 5.5% (1.8 M m<sup>2</sup>). More than 51% of domestic production of that product group (including prefabricated wooden houses) was sold on the international markets (PLN 3.1 bn, \$ 0.9 bn, €0.7 bn); whilst Poland imported builder's carpentry and joinery products of a value of PLN 0.3 bn (\$ 0.1 bn, €0.08 bn), which was 5.4% in relation to the production volume.

In 2012 in Poland wooden packaging was also produced and its value amounted to almost PLN 1.5 bn (\$ 0.5 bn, €0.4 bn), meaning that there was a slight increase in production compared to the previous year (less than 1% in fixed prices). Production of pallets is the most significant in that product group. In 2012 73.1 M pieces of pallets were manufactured, i.e. 32% more than in the previous year. Almost 75% of the value of manufactured packaging was exported (PLN 1.1 bn, \$ 0.3 bn, €0.3 bn). Approximately 90% of it were pallets. On the other hand Poland imported packaging of a value of PLN 0.2 bn (\$ 0.07 bn, €0.05 bn), which was

15% in relation to the production value. Likewise in the case of exports, pallets accounted for more than 77% of the value of imported packaging.

In 2012 in Poland production of secondary paper and paperboard products increased. Its value amounted to PLN 16.8 bn (\$ 5.2 bn, €4 bn) and was by 7% higher compared to 2011 (in fixed prices). The manufacture structure of that product group was dominated by paper and corrugated paperboard and packaging made of it (its share being 57%) and household products, i.e. toilet and sanitary (27%). About 36% of domestic manufacture of products made of paper and paperboard was exported (PLN 6.0 bn, \$ 1.8 bn, €1.4 bn), including primarily packaging (34%) and special coated paper (26%). On the other hand, Poland imported paper products of a value of more than PLN 4.2 bn (\$ 1.3 bn, €1 bn), which accounted for 25% of domestic production volume. Likewise in the case of exports, imports encompasses mainly packaging (36%) and special coated paper (21%).

#### **4.5. (E) Sawn softwood**

In 2012 production of sawn softwood decreased by 3.5% compared to the previous year and amounted to 3.8 M m<sup>3</sup>. Likewise in previous years, the share of coniferous species in total production of sawnwood exceeded 89%. Most of it was sold to domestic consumers, and only 10% was exported. Nevertheless, in terms of quantity, 3.4% more than in 2011 of sawn softwood was exported (an increase from 380 thou. m<sup>3</sup> to 393 thou. m<sup>3</sup>). The share of coniferous species in total volume of exported sawnwood increased by 2 percentage points and amounted to 82%. Unlike in the case of exports, imports of sawn softwood decreased by more than 20% (to 521 thou. m<sup>3</sup>). In relation to production it was almost 14%. Likewise in the case of exports, coniferous species dominated total imports of sawnwood (their share accounted for almost 70%).

It is forecasted that in the near future a yearly average increase in production of sawn softwood may be approximately 3% (to 4 M m<sup>3</sup> in 2013 and 4.1 M m<sup>3</sup> in 2014). Foreign trade in those products should also be characterised by upward trends. It is assumed that by 2014 imports of those products will have increased by 7.5%, and exports by 14.5%, i.e. to 560 thou. m<sup>3</sup> and 450 thou. m<sup>3</sup>, respectively.

#### **4.6. (F) Sawn hardwood**

Recession was also visible on the sawn hardwood market. In 2012 manufacture of those products was more than 4% less than in the previous year and amounted to 456 thou. m<sup>3</sup>. 18.8% of that production, i.e. 85.5 thou. m<sup>3</sup>, was exported (i.e. over 10% less than in the previous year). On the other hand, imports of those products decreased from 244 thou. m<sup>3</sup> in 2011 to 225 thou. m<sup>3</sup> in 2012 (i.e. by almost 8%). Sawn hardwood imported to Poland amounted to 49% of domestic production. Sawn tropical wood accounted for 8%, i.e. 18 thou. m<sup>3</sup>, in the structure of imported sawn hardwood.

In the period 2013-2014 an improvement of economic situation on sawn hardwood market is anticipated. In that period production of sawn hardwood should increase to 465 thou. m<sup>3</sup>. It is assessed that similar situation will occur in foreign trade. Exports may rise to 95 thou. m<sup>3</sup>, and imports to 250 thou. m<sup>3</sup>.

#### **4.7. (G) Wood-based panels**

In 2012 production of wood-based panels increased by 1% compared to the previous year, i.e. to 8.5 M m<sup>3</sup>. It was an effect of an over 5% increased in fibreboard production (3.2 M m<sup>3</sup>), mainly dry-process boards (a rise by 6.5%). Production of other types of boards decreased. The greatest drop was observed in the case of veneers and veneer sheets (by 12%,

to 43 thou. m<sup>3</sup>). Plywood production (including furniture panels and similar layer panels) decreased to 388 thou. m<sup>3</sup> (from 411 thou. m<sup>3</sup> in 2011, i.e. by 6%), and particleboard production to 4.9 M m<sup>3</sup> (i.e. by 1%). The structure of wood-based panel production is dominated by particleboards with a share of 57.5% and fibreboards (37.4%).

The exports of wood-based panels was approximately 11% more than in 2011 (2.3 M m<sup>3</sup>). It was approximately 28% in relation to domestic production. The greatest volumes of sales were recorded in the case of fibreboards (61%, i.e. 1.4 M m<sup>3</sup>) and particleboards (31%, i.e. 738 thou. m<sup>3</sup>). Plywood exports (including furniture panels and similar layer panels) increased by more than 19% and equalled 169 thou. m<sup>3</sup>; whilst exports of veneers (including veneer sheets) increased by 16% and equalled 18 thou. m<sup>3</sup>.

In 2012 wood-based panel imports decreased by 13% in relation to the previous year, i.e. from 1.6 M m<sup>3</sup> to 1.4 M m<sup>3</sup>, and it amounted to 16% of domestic production. The greatest drop in imports (by 37%) was observed in the case of fibreboards (from 369 thou. m<sup>3</sup> to 232 thou. m<sup>3</sup>) and particleboards (by 6%, i.e. from 981 thou. m<sup>3</sup> to 921 thou. m<sup>3</sup>). At the same time those products had greatest shares within the structure of wood-based panels imported to Poland (17% and 67%, respectively). Plywood imports (including furniture panels and similar layer panels) amounted to 187 thou. m<sup>3</sup>, and imports of veneers (including veneer sheets) to 40 thou. m<sup>3</sup>.

It may be expected that by 2014 the production of wood-based panels will have increased more than 3% (in relation to 2012), where the manufacture of particleboard will rise to 5.1 M m<sup>3</sup> (should economic situation in Poland stabilise, a new OSB production line is to be launched), fibreboards to 3.2 M m<sup>3</sup>, plywood (including furniture panels and similar layer panels) to 400 thou. m<sup>3</sup>, and veneers (including veneer sheets) to 47 thou. m<sup>3</sup>. It is estimated that in 2014 2.5 M m<sup>3</sup> of wood-based panels will be exported, of which 57.5% may be fibreboards, and 34.6% particleboards (including OSBs). On the other hand, till 2014 imports of wood-based panels will continue at a level similar to the level of 2012 (1.4 M m<sup>3</sup>). In the years to come the structure of imports will be dominated by particleboards (whose share will be 62.9%) and fibreboards (19.6%). In relation to domestic production the highest imports rate (over 50%) will be observed in the case of plywood (including furniture panels and similar layer panels).

#### **4.8. (H) Pulp and paper**

In 2012 previous trends on the wood pulp market continued. Production remained at a level similar to that of 2011 (1.1 M tonnes, without pulp from fibres other than wood and recycled fibres). Likewise in previous years, the production structure was dominated by cellulose (0.9 M tonnes, 82% of manufactured wood pulp). The share of semi-chemical wood pulp equalled 11% (120 thou. tonnes), and mechanical wood pulp 7% (72 thou. tonnes). Foreign trade in those products also suffered from a downturn in the Polish economy. Exports decreased by 50% (to 19 thou. tonnes, 1.8% of domestic production), and imports increased by 0.1% (to 718 thou. tonnes, 67.8% of production). Only Polish cellulose was exported; whilst Polish imports encompassed cellulose (90.3%, 648 thou. tonnes), 62 thou. tonnes of semi-chemical wood pulp (8.6%), 4.6 thou. tonnes of mechanical wood pulp (0.7%) and 3 thou. tonnes dissolving grades (0.4%).

In 2012 production of paper and paperboard increased by approximately 2% and equalled 3.8 M tonnes. Its assortment structure was dominated by packaging papers and paperboards (64.5%, 2.5 M tonnes), and graphics papers (23.5%, 0.9 M tonnes). 55% of domestic production of paper and paperboard was exported (by 7% more than in 2011, i.e. 2.1 M tonnes). An increase in exports (by approximately 7%) was observed in the case of graphics papers (from 580 thou. tonnes in 2011 to 624 thou. tonnes in 2012), as well as in the

case of packaging papers (from 1.4 M tonnes to 1.5 M tonnes). On the other hand, the volume of imports of paper and paperboard increased by 2.7% and equalled 3.2 M tonnes, which was 84% in relation to production. The structure of the imports volume was dominated by packaging papers (59%); whilst graphics paper accounted for 37%.

In the period 2013-2014 production of wood pulp (without pulp from fibres other than wood and recycled fibres) will not increase significantly and will remain at a level of approximately 1.1 M tonnes. Whilst foreign trade in wood pulp should also keep to the former trends, it is anticipated that the production of paper and paperboard will increase to almost 4 M tonnes in 2014 (i.e. approximately 4% in relation to 2012), its exports may rise to 2.2 M tonnes in 2014, and imports to 3.3 M tonnes.

#### **4.9. (I) Innovative wood products**

For many years in Poland the market in wood products has demonstrated the features of a global market, meaning that a wide offer of innovative materials and wood products, both domestic and foreign, may be found on it. Nevertheless, the Polish wood sector is characterised by relatively low activity in the sphere of innovation creation, which reflects unfavourable situation in all the economy in terms of creation of innovation. Such state of affairs results mainly from low outlay on R&D (especially private finance), which has been the case for many years. In the wood industry such situation is also an effect of limitations resulting from a “raw material” nature of that industry sector, i.e. the sector is based on a natural raw material which is less susceptible of significant modifications.

After a period of relatively lively innovation activity, situation in Poland has deteriorated in recent years due to the global economic crisis. The negative trends were even more visible in the wood sector, which experienced a slowdown in innovation activity (as regards both products and processes). Whilst in the period 2004-2006 innovative solutions were implemented by 31% of companies manufacturing wood products, 37% of furniture producers, and 43% of manufacturers of wood pulp, paper and paper products, in the period 2009-2011 they were implemented by respectively 10%, 12%, and 18%.

In the Polish wood sector innovations are mainly of technical and technological nature, and to a lesser extent they are product innovations. Only in the pulp and paper industry (including paper processing) the percentage of companies launching new wood products exceeds country's average (which was approximately 11% in the period 2009-2011). In the case of wood industry companies (sawmilling industry, wood-based panel industry, builder's carpentry and joinery, and packaging industry) that percentage is half as much. The proportion of revenues on sale of new or significantly improved products in companies' income is also low and decreasing since after 2008. An average country's level (approximately 12% in manufacturing in the period 2009-2011) was reached by the furniture industry and exceeded by the pulp and paper industry (including paper processing); whilst the proportion in the wood industry was almost three times lower than average.

Thanks to the implementation of modern, in general foreign, technical equipment and foreign technologies in the wood sector, which process has been intensified recently, the offer of final products of most Polish wood industries is characterised by high quality and a broad assortment of products tailored to individual needs of customers.

Most of implemented Polish product innovations consists in improvement of products' features concerning their strength, resistance to external factors (abrasion, fire, chemical agents, moisture, biotic factors), insulating properties (thermal and acoustic), ease of assembly (light materials, glue-free technologies), functional values, and aesthetics. The degree of final product safety and the level of ecologicality of the production processes and wood products has been increased continuously. Previous range of applications of wood

materials and products has broadened (e.g. flooring of new generation which facilitates its application in heated floor systems). Creation of new composites as a result of combination of various wood materials and non-wood materials (plastics, metals, glass) is an escalating trend.

A few significant trends are visible in the process of creation of product innovations in the wood sector:

- striving for increase in effectiveness of production of wood products along the supply chain (a cascade of consumption of raw lignocellulosic materials from various sources: forest, manufacturing remains, agriculture), development of furniture industry as a Polish specialisation and a main place where wood materials are used,
- development of green building as an important place where wood is used,
- technical progress and development of innovations with environmental protection priority (from high-tech to eco-tech).

## **5.0. (J) Housing and construction**

Construction is one of major consumers of wood materials and final wood products. Therefore, condition of that economy sector, as a creator of the demand for the wood sector products, has a significant bearing on the condition of the sector. In 2012 the value of construction and assembly production dropped by 0.6% in real terms (compared to an increase by 11.8% in 2011). Only the value (in fixed prices) of civil engineering facilities under construction increased (by 0.5% in relation to the previous year). For most part it was continuation of investments commenced in previous years. On the other hand, the values of buildings under construction and specialist construction work decreased by 1.3% and 0.7%, respectively. In 2013 a drop in construction and assembly production has still been observed, hence no improvement of situation in construction is anticipated in 2013. It is estimated that in 2013 construction and assembly production may decrease by even 9.5% in real terms. A possible improvement of situation in construction is forecasted after the middle of 2014.

At the same time 152.9 thou. dwellings were completed in 2012 (16.8% more than in 2011). Individual construction (its share was 53%) and dwellings intended for sale or rental (their share in the number of dwellings completed was 43%) dominated. It is unfavourable that simultaneously the number of dwellings under construction, dwellings whose construction was commenced, and construction permits concerning new dwellings dropped by 1.5%, 12.6%, and 10.3%, respectively, in relation to the number recorded in 2011. Those downward trends have continued in 2013. Despite the still high demand for dwellings, no significant improvement of housing should be expected in 2013; however, a 1-1.5 M deficit of dwellings on the market substantiates the hope that situation in housing will improve. In the opinion of analysts an improvement may occur in the second half of 2014.

Table 1

## Economic indicators

Indicator	1995	2000	2005	2009	2010	2011	2012
	% change on previous year						
Gross Domestic Product	107.0	104.3	103.6	101.6	103.9	104.5	101.9
Sold production of industry	109.7	106.7	103.7	95.5	109.0	107.5	100.8
Construction and assembly production	108.1	101.4	108.0	105.1	104.6	111.8	99.4
Dwellings completed	88.2	107.1	105.5	96.9	84.9	96.4	116.8
Dwellings under construction	105.5	105.7	98.7	97.5	103.3	104.5	98.5
Average paid employment							
- total	102.8	97.1	101.7	99.2	99.8	100.6	99.8
- in the enterprises sector	101.0	96.7	101.9	98.8	100.8	103.2	100.1
Registered unemployment rate (at the end of the year) <sup>1</sup>	14.9	15.1	17.6	12.1	12.4	12.5	13.4
Average monthly gross real wages and salaries							
- total	102.8	101.0	101.8	102.0	101.4	101.4	99.9
- in the enterprises sector	103.2	101.3	101.2	101.1	100.8	100.9	99.8
Price indices of consumer goods and services (inflation)	127.8	110.1	102.1	103.5	102.6	104.3	103.7
Investment outlays	117.1	101.4	107.7	99.2	100.2	110.6	97.6
<b>Trade</b>							
<b>millions of PLN, current prices</b>							
Exports	55515.1	137908.7	288780.8	423485.4	481058.2	558739.0	603418.6
Imports	70502.3	213071.8	328192.0	463382.6	436220.6	623372.7	648127.6
Balance of trade	-14987.2	-75163.1	-39411.2	-39897.2	-55162.4	-64633.7	-44709.0
<b>millions of USD, current prices</b>							
Exports	22894.9	31651.3	89378.1	136720.3	159757.6	190247.5	184660.6
Imports	29049.7	48940.2	101538.8	149569.8	178062.9	212330.9	198463.4
Balance of trade	-6154.8	-17288.9	-12160.7	-12849.5	-18305.3	-22083.4	-13802.8
<b>millions of EUR, current prices</b>							
Exports	-	34373.4	71423.5	98274.5	120373.1	136693.9	143456.1
Imports	-	53084.8	81169.7	107528.9	134188.4	152568.4	154040.2
Balance of trade	-	-18711.2	-9746.2	-9254.4	-13815.3	-15874.5	-10584.1

<sup>1</sup> as a ratio of registered unemployed persons to the economically active civil population