Portugal Market Report 2016

Index

1. General socio-economic situation overview

In terms of economic buoyancy, in the current millennium Portuguese economy has been suffering from stagnation with recessions on 2003, 2009 and from 2011 onwards. The 2009 situation was in line with euro area economies, although with different magnitudes. The national most recent recession is associated with a modest recovery of the economy after the 2008-2009 crises, determined by the impact of the economic and financial adjustment program applied to the Portuguese economy and the subsequent measures.

In 2015, the Portuguese economy registered an increase of 1.5% in volume (after +0.9% in 2014). This recovery was due to the positive performance of domestic demand, which went up from a contribution to Gross domestic product (GDP) growth of 2.2% in 2014 to 2.5%, reflecting a recovery of private consumption (+2.6%), and an increase in public consumption (+0.8% in relation to the previous year, after various years of successive falls). Also the net fixed capital formation increased in 2015 (+3.7%). The increase of real export growth in goods and services was 5.1% during the last year (with the goods sector increasing 5.8% and services 3.1%), while imports increased 7.3%. The contribution of net external demand affected the GDP variation less (-1.0% in 2015), reflecting an additional impetus in the exports of goods and services. The external balance of goods and services, in nominal terms, increased to 0.8% of GDP in 2015 (Statistics Portugal, 2016).

In the next years the economic activity in Portugal is expected to grow at a moderate rate.

In 2015, the Consumer Price Index (CPI) recorded an average annual growth rate of 0.5% (-0.3% in 2014). The core inflation index, as measured by total index excluding unprocessed food and energy, rose from an average annual growth rate of 0.1% in 2014 to 0.7% in 2015. In addition to the evolution of underlying inflation, increase in the CPI rate of change between 2014 and 2015 was mainly determined by the evolution of prices of unprocessed food. The average annual growth of this aggregate rose from -2.1% in 2014 to 1.9% in 2015. Conversely, energy products contributed negatively to the average change in the CPI in 2015, registering a growth rate -3.6% in 2015, more intense than that observed in 2014 (-1.4%).

Gross fixed capital formation (GFCF) increased in 2015 (+3.7%). This result was due mainly to the recovery of GFCF in construction, which increased from a rate of change of -3.2% in 2014 for an increase of 4.1%. GFCF in equipment Transport also contributed to the acceleration of total GFGF, from an increase of 18.8% in 2014 to 25.4%. On the other hand, gross fixed capital formation in machinery and equipment decreased with a variation of 1.9%, (14.4% in 2014). (Statistics Portugal, 2016).

The import-export coverage rate increased slightly, 82.8% in 2015 and accounting for 1.7% grow from the previous year. With regards to the exports of goods, in 2015 there was an increase of 3.6%, year on year, while imports increased 1.9%, corresponding to a rate of coverage of 82.8% (Figure 1). The trade balance of goods continues to show a

deficit in 2015, although of less 5.2% in relation to the previous year (Statistics Portugal, 2016).
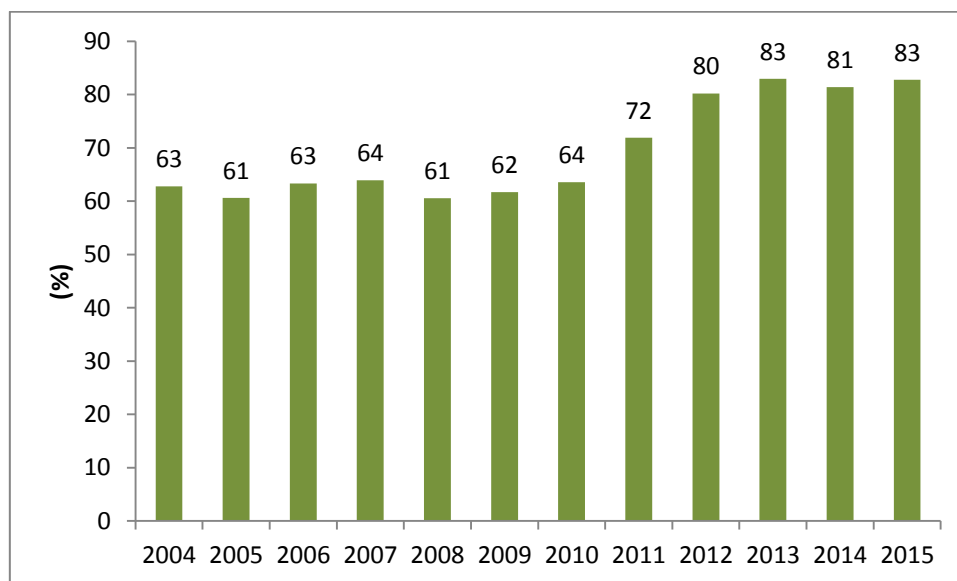

Figura 1 – National export/import coverage rate (Statistics Portugal, 2016)

In 2014 the degree of openness of the Portuguese economy, as measured by the ratio of the sum of exports and imports of goods to GDP at current prices, was 62%, growing for the fifth consecutive year. The performance of this indicator since 2010 was associated with a decline in imports, given a contraction of domestic demand, the maintenance of export growth, and a drop in GDP at current prices (Statistics Portugal, 2015).

The European Union (EU28) continued to have the highest share in the destination of exports (72.7% of total in 2015), followed by NAFTA (6.3%), PALOP (5.7%), MAGREB (2.9%, and MERCOSUL (2.1%). Portugal's five main exports destination – Spain (25.0%), France (12.1%), Germany (11.8%), United Kingdom (6.7%), and the USA (5.1%) – together represent around 60.8% of total exports in 2015. The exports destinations remain almost the same in relation to 2014, although the USA rose in its ranking position and quota (going from 6th with 4.4% quota, to 5th with 5.2%, while Angola fell (from 4th, with 6.6% quota, to 6th, with 4.2%). The EU28 was the origin of the majority of imported products (76.5% of total in 2015), followed by MERCOSUL (2.5%), PALOP (2.4%), NAFTA (2.0%) and MAGREB (1.3%). Portugal's five main suppliers – Spain (32.9%), Germany (12.9%), France (7.4%), Italy (5.4%), and Netherlands (5.1%), representing 63.6% of imports made in 2015 (Statistics Portugal, 2016).

Resident population declined in 2015 in line with a trend started in 2010, but less sharply than 2014. Population was estimated at 10.341.330 persons, 33.492 less than the previous year, which accounted for a crude rate of increase of -0.32% (compared with -0.50% in the previous year) (Statistics Portugal, 2016).

The slowdown in the decline in population in 2015 was a result from the following trends (Statistics Portugal, 2016):

- Reduction of the negative net migration, which stood at -10.481 (-30.056 in 2014);
- Slight increase negative natural balance -23.011, face to -22.423 in 2014. This balances resulted in negative rates of natural growth of -0.22% (unchanged from 2014) and migration growth of -0.10% (-0.29% in 2014).

Another significant aspect of the population profile is the increasing of the aging population, due to changes in the size and composition by age and sex of the resident population, as a result of decline in fertility, increasing longevity and, more recently, the impact of emigration. Between 2005 and 2015, the number of elderly (people over 65 years) increased by 316.188, the number of young people (persons under 15 years) decreased 208.148, and number of people in working age (age between 15 and 64 years) also decreased in 278.698. These changes are reflected in the increase in the average age of the resident population in Portugal, which rose from 40.6 years in 2005 to 43.7 years in 2015 (Statistics Portugal, 2016).

Foreign population with legal resident status, which had shown systematic increases between 1990 and 2009, started to follow a downward trend since then. In 2014 the foreign population started to increase again, and in 2015 recorded a rate of change of +14.24% compared to 2013 (+7.21% compared to 2014). The European Union (EU28) continued to have the highest share in the origin of the foreign population (40.9%). (Statistics Portugal, 2016).

Regarding the employment, the activity rate in 2015, in average the labour force decreased 0.6% compared with the previous year (30.4 thousand). In average, the unemployment rate was 12.4% which represents a decrease of 1.5%, compared with the previous year (Statistics Portugal, 2016).
The labour force's educational attainment continued to follow the upward trend observed since 1998, with the decline in the share of persons with completed lower secondary education extending the trend observed since 2012. In 2015 the share of the population with completed tertiary education is 22.9% (21.7% in 2014).

In 2015 that share of the labour force that completed secondary or tertiary education was 76.3% in the EU28 and 44.8% in Portugal. However, the differential has been narrowing: in 2015 it was around 21.5 %, but in 2002 it had stood at 45.3%.

Final synthesis:

The Portuguese socio-economic macro trends highlight the positive improvement of the balance sheets and of the openness of the economy, which are associated with the increase of domestic demand and private consumption, the export and import growth and the increase in GDP. The population profile is marked by growth rates inferior to one and the increase of the elderly. The unemployment rates show a downward shift, compared to 2014.

2. Policy measures impacting forest management and forest products trade

2.1. Climate change and carbon

In Portugal the Strategic Framework for Climate Policy (QEPiC) was approved by the Government Order n.º 56/2015. The QEPiC aims are:

- Promote the transition for a low-carbon based economy, creating more wealth and employment. and enhancing green economy through the Commitment to a Green Economy (CCV);
- Ensure sustained reduction on the emissions of greenhouse gases (GHG), in order to comply with the targets of -18% to -23%, in 2020, and -30% to 40%, in 2030, in relation to 2005 levels, resulting of mitigation measures, namely through the increase of new technologies, energetic efficiency (in 2030 minus 30% in reference to de energetic baseline) and renewable energy sources (in 2030 at least 40% of the energy final consumption);
- Reinforce resilience and the national capacity towards adaptation;
- Ensure a committed participation on international negotiations and cooperation, complying with international commitments and support developing countries in de domains of mitigation and adaptation to climate changes;
- Promote research, innovation and the increase of knowledge;
- Promote social involvement on climate change challenges, enhancing the rise of individual and political actions;
- Improve the efficacy of the information systems, of the reports and of monitoring;
- Ensure the conditions to financial support and increase investment levels, namely by the efficient allocation of the subventions under the Portuguese Carbon Fund (FPC) ;
- Ensure governance and the incorporation of climate aims on sector domains as foreseen, namely, by the National Plan for Climate Change (PNAC 2020/2030) and the National Strategy for Adaptation to Climate Change (ENAAC 2020).

QEPiC establishes an integrated framework of instruments identifying the policy options to comply with the aims of the Commitment to a Green Economy (CCV). This framework considers both the adaptation to and the mitigation of climate change, through the National Plan for Climate Change (PNAC 2020/2030) and the National Strategy for Adaptation to Climate Change (ENAAC 2020). In 2016, it was created the National System for Policies and Measures (SPeM) and a governance structure named Air and Climate Change Interministerial Commission (CIAAC) were also established.

Under the scope of CIAAC, the SPeM and ENAAC coherent articulation with air policies is considered an essential referential to evaluate the progresses achived in climate change mitigation and adaptation. Namely the articulation with the National Emissions

Inventory System by Sources and Removal by Sinks of Atmospheric Pollutants (SNIERPA), in particular on the issues related to report and monitoring of climate policies and actions is emphasized.

PNAC 2020/2030 and ENAAC 2020 follow a dynamic approach giving the sectors the opportunity to identify sectorial policies and measures in order to comply with climate policies established by QEPiC.

In particular, PNAC 2020/2030, quantifies the necessary effort to mitigate emissions so as to comply with Portugal's commitments both international and at the EU level, identifying sectorial responsibilities. In the case of forests, the PNAC 2015 didn't include quantified targets for the LULUCF sector, as this can only be possible once the EU has finalized the approval of the accounting rules under the climate package.

The National Strategy for Adaptation to Climate Change (ENAAC 2020) was adopted by the Portuguese Government on April 2010 (Government Order n.º 24/2010, April 1st). This Strategy sets the ground for the need for adaptation, through a synthesis of the main observed changes in the climate over the 20th century and a summary of the conclusions of climate scenarios and projections for Portugal. ENAAC is structured around four objectives: Information and knowledge; Reducing vulnerability and increasing the response capacity; Participation, awareness raising and dissemination; International cooperation. The Strategy identifies nine priority sectors, which are connected to nine sectorial working groups. On the priorities, forest and forest sector are aggregated with agriculture and fishing, its measures are organized on measures, and objectives such as:

- Promote forest sector resilience throw management practices;
- Reduce forest space vulnerability to biotic and abiotic risks;
- Ensure the sustainability of direct and indirect productions and services;
- Increase the knowledge about potential impacts and capacity to apply effective adaptation measures;
- Promote exchange of knowledge between science and forest practice;
- Monitoring of ecosystems reaction to climate change;
- Monitoring the adequacy of policies, plans and instruments.

In summary: the new generation of climate change policy instruments is based on the new PNAC 2020/2030 revised targets and articulated measures, in terms of GHG emissions mitigation. The sector integration perspective with the implementation of concrete measures is advocated on the second phase of ENAAC 2020.

The revision of previews policy instruments has also covered the Portuguese Carbon Fund (FPC), which, as financing instrument, is directed to support the development and implementation of climate policies and the National Plan for greenhouse gas emission allowance trading (PNLALE), the Portuguese allocation Plan for the scheme for greenhouse gas emission allowance trading (CELE).

The Portuguese "Commitment to a Green Economy" (CCV) establishes a strategic plan for a sustainable future, where economic growth goes hand in hand with responsible environmental behavior, thus contributing to social justice and quality of life of today's populations and of future generations. The Commitment to Green Economy is established through 13 goals and 83 measures.

The CCV includes 10 initiatives for the agricultural and forestry sector:

- AGF 1: Promoting environmental measures and streamline grant award procedures; success criteria: increase area under agri-environmental commitment of 25% by 2020 (Frame: PDR 2014-2020);
- AGF 2: To support agricultural and forestry activities in areas classified under the Birds and Habitats Directives through the Natura payment; success criteria: number of beneficiary holdings payment Natura/Number of agriculture or forestry in hazardous areas (reach 25% by 2020) (Frame: PDR 2014-2020);
- AGF 3: To support investments in agriculture to promote higher levels of sustainability in the use of resources. (Ex: investment in irrigation-dependent improvements in proven efficient use of water); success criteria: number of investments with environmental component (framework: PDR 2014-2020);
- AGF 4: To support holdings comply with the rules of green Payment (Greening) environmental component of direct payments from the first pillar of PAC (2014-2020); success criteria: farm area to comply with the rules of greening (framework: PDR 2014-2020);
- AGF 5: To promote the certification of sustainable forest management by supporting the adaptation of farms and enterprises to environmental requirements, safety and risk prevention; success criteria: (a) 2020: certified forest area 450.000 ha; (B) 2020: chain of custody certificates above 500; (Framework: PDR 2014-2020);
- AGF 6: To support holdings which meet Good Agricultural and Environment Conditions (BCAA); success criteria: increase agricultural area subject to BCAA (framework: PDR 2014-2020);
- AGF 7: Support the development and structuring of new products agroforestry sector, ensuring greater value added environmental; success criteria: (a) number of supported projects; (B) supported for new products (Framework: NFS)
- AGF 8: Improving forest management and productivity of forest stands; Success criteria: (a) % Area forest which is subject to active management according to the a Forest Management Plan; (b) stands area subject to production improvement (100.000 ha) (Framework: NFS);
- AGF 9: Increase the contribution of hunting, fishing, forestry and grazing, beekeeping, production of mushrooms and other non-wood products; success criteria: 10% in 2020 and 20% in 2030 of forest holdings present more than a source product in exploration to marketing/economic exploitation (framework: NFS);
- AGF 10: Promote the use of forest products with a low carbon footprint (ex .: Green building); criteria success; (a) 15% acquisition of forest products with forest management certification in 2020; (b) 40% of purchasing forest products to forest management certification in 2030 (framework: MAOTE initiative).

2.2.   Energy

The Portuguese legal framework on energy reflects the EU strategy and targets. The National Energy Strategy (NES2020), Government Order n.º 29/2010, from April 15th of 2010, contains aims related with forest biomass for energy.

On the scope of the NES, the National Renewable Energies Action Plan (NREAP 2020) and the National Energy Efficiency Action Plan (NEEAP 2016) are additional planning instruments that establish the national targets to achieve the aims of international commitments related to renewable energies and energy efficiency.

Presently more than 47% of the electricity produced in Portugal and about 27% of the final consumption of energy is based on renewable energies. At European level, Portugal has one of the best rates on the accomplishment of the targets related to the incorporation of renewable energies in the gross consumption of energy.

2.3.   Desertification

The National Action Program to Combat Desertification (PANCD), approved in 2014 (Government order n.º 78/2014, of 24 of December), follows international agreements in the framework of the United Nations Convention to Combat Desertification (UNCCD). The first strategic objective of the PANCD concerning soil and water conservation is a consequence of UNCCD commitments. The map of susceptibility to desertification for mainland Portugal was drawn in the framework of this Program.

2.4.   Forests

The European commitments for forest policies are incorporated in the Portuguese National Forest Strategy (NFS), which was update in 2015 (Government Order n.º 6-B/2015, of 4 of February). The NFS assumes the maximization of the total economic value of forest as its main purpose, and it's organized in the following strategic objectives

- ➢ minimization of risks affecting forests (biotic and abiotic);
- ➢ specialization of the territory;
- ➢ enhancement of forest productivity through sustainable forest management;
- ➢ internationalization of forest sector and increase value of forest products;
- ➢ enhancing the sector's efficiency and competitiveness.

2.5.   Timber and timber products markets

The Timber Regulation (Reg. EU 995/2010) to combat trade of illegally harvested timber was adopted in October 2010 by the EU. This regulation has key obligations:

- It prohibits the placing on the EU market of illegally harvested timber and products derived from such timber;
- It requires traders who place timber products on the EU market for the first time to exercise 'due diligence'.

The legislation to apply the timber regulation in Portugal establishes, in addition, a mandatory register for all the operators with activity in the country. The register is made electronically in a platform («RIO system») that is available through a link located at the web site of the competent authority for the application of the Regulation, the Institute for Nature Conservation and Forests (ICNF,I.P.).

The registration of the operators has proven to be a good instrument to verify the application in Portugal of the obligations laid down by the timber regulation, as it allows the competent authority to identify the operators working in Portugal and to plan the monitoring actions to verify compliance with EUTR.

3. Market drivers (wood energy certified products)

The Portuguese forest sector has long been export oriented. Forest products exports have been among the country's main exports, accounting on average for 10% of the total exports while the sector is only responsible for 4% of the imports (Figure 2).

After 2012 the exports surpass the imports in more than 2,5 thousands million euros (Table 1), making it one of the most international markets dependent sectors of the Portuguese economy.

Portugal is a price-taker in international markets. The fact that a large share of forest production is exported and that Portugal is primarily a price taker makes it very vulnerable to market developments elsewhere (Rego et al, 2014).
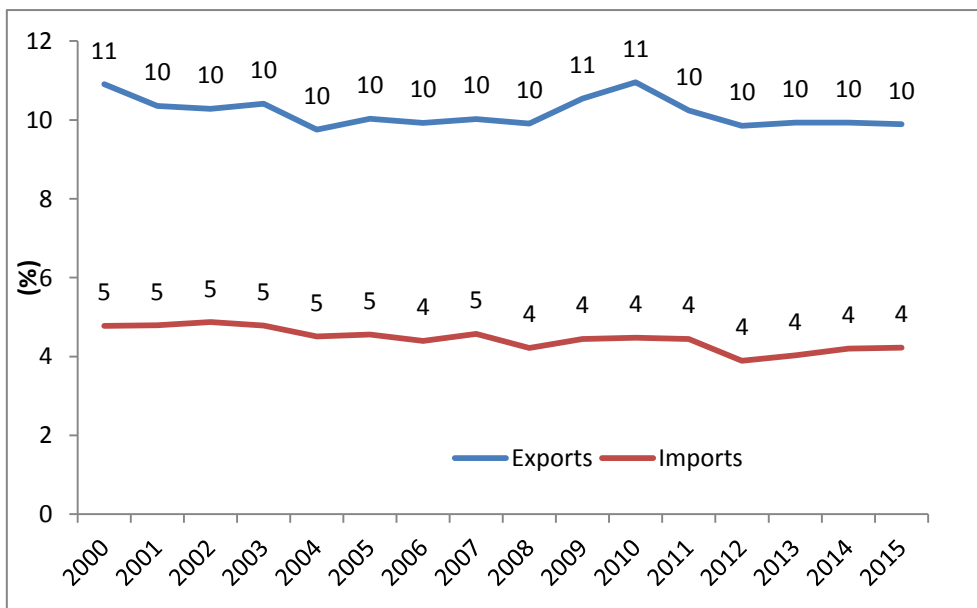

Figure 2. The forest sector exports/imports in percentage of the Portuguese exports/imports (Statistics Portugal, 2016)

Tabela 1. National and forest sector commercial balance (Statistics Portugal, 2015)

Year	Commercial balance (million €)		Coverage rate of exports over imports (%)	
	Forest sector	National	Forest sector	National
2000	784	-18491	136	60
2001	654	-18701	129	60
2002	731	-16619	133	63
2003	919	-15181	143	66
2004	792	-18340	136	63
2005	780	-20242	133	61
2006	1061	-20654	143	63
2007	1098	-21.632	140	64
2008	1140	-25.347	142	61
2009	1058	-19.682	146	62
2010	1456	-21.379	155	64
2011	1739	-16.723	166	72
2012	2259	-11.161	203	80
2013	2400	-9.710	204	83
2014	2293	-10.978	193	81
2015	2379	-10.485	193	83

This situation of export oriented sector is valid for most of the forest products, with the exception of end use of wood and wood products on construction sector and on wooden wrapping and packaging, where historic data show that domestic consumption in is the major destination. Domestic consumption from 2005 to 2015, represented on average, 62% of the consumption in builder's joinery and carpentry of wood and 64 % in wooden wrapping and packaging (Table 2). These figures highlight the special vulnerability of these products to the actual economic national situation, namely because of the contraction of the Portuguese construction sector that's hasn't yet fully recovered. Nevertheless, more recently (2011 onwards) shows a positive trend, more evident in wooden wrapping and packaging, both on the exports and on the domestic consumption, which might indicate a slight improvement from the previous economic difficulties.

Tabela 2. Domestic consumption and exports (average from 2005 to 2015) of the end products of wood construction and furniture chains (Statistics Portugal 2016)

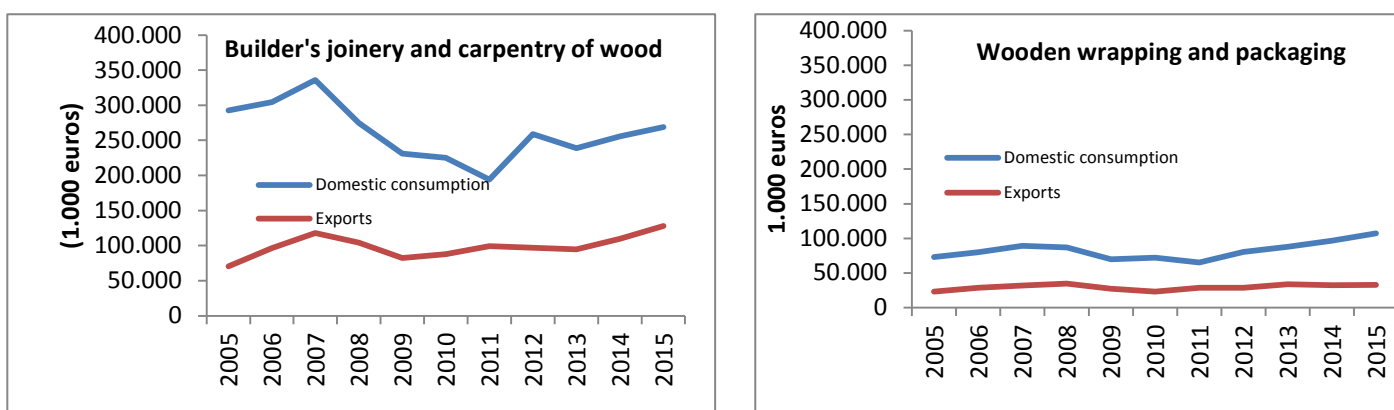|	Domestic Consumption (%)*	Exports (%)*
Builder's joinery and carpentry of wood	62	38
Wooden wrapping and packaging	64	36

Figure 3 - Domestic consumption and exports in wood based end products (Statistics Portugal, 2016)

The export orientation of Portuguese forest sector is the dominant factor on the option for certification schemes. Presently two systems are followed:

- The Programme for the Endorsement of Forest Certification (PEFC) with 251.861 ha of certified area, 609 forest owners, 107 Chain of Custody's certificates and 191 sites (PEFC Portugal, 2016).
- The Forest Stewardship Council (FSC) with 371.426 ha of certified area, corresponding to 39 certificates of forest management (individual companies and groups) more than 240 forest owners, 279 sites/members and 270 certificates of the Chain of Custody (FSC Portugal, 2016).

Several of the larger companies are certified by both systems, so above figures can't be added.

4. Development in forest products markets

4.1. Wood production and markets

In the current millennium the production of coniferous timber for industrial uses has been decreasing at alarming rates (average annual variation -2%). Even so, a positive change of 0.45% observed between 2013 and 2014 must be remarked. The non-coniferous production has increased substantially and at higher rates (89%) than the decrease on coniferous timber (Table 3).

This evidence reinforces the uncertainties associated with domestic market to fully satisfy the supply of raw-material to wood based industries, namely the high risks related to wildfires, pests, and diseases that are a threat to the production of roundwood at national level, especially in coniferous.

The investments made on increasing production capacity by the industries, which in some case may require an extra supply of raw material, can affect wood supply. This

evidence is reinforced by the proximity observed on the historic data of domestic consumption and the national production of timber.

In this perspective the cluster of forest biomass for energy, presently associated with the policies on climate change mitigation and reduction of global greenhouse gases, represents an additional demand on wood raw material supply.

The situation is described by the Indufor study's forecast horizon for 2016 (European Commission, 2013) which states that "…the EU will face a shortfall from EU sources of 63 Mm³ of RWE[1] per annum in trying to meet the EU renewable energy targets, as shown by the NREAPs (National Renewable Energy Plans). Thus, if significantly more EU wood can't be mobilized, imports must fill the gap."

In this context, the NFS (Government Order n.º 6-B/2015) assumes clearly as its main policy strategies the minimization of risks to forests by biotic and abiotic agents and the enhancement of productivity. Even so, in order to guarantee the supply of Portuguese based industries the prospect is for a short term increase on the imports of wood on international markets and a reduction on exports. For tropical timber was assumed an increase on imports, although the context related to the application of the EU timber regulation (Reg. EU 995/2010) may lead less willingness to look for tropical wood supply.

Table 3 – Forest production structure on 2013 and variation with reference to 2000 and 2013 (Statistics Portugal, 2016).

	2001	2011	2013	2014	2013/2014	2001/2014	2001/2013
	million euros				Annual variation (%)		Total variation (%)
Forestry goods output	896	827	874	878	0	-2	-2
Coniferous timber for industrial uses	178	127	129	138	7	-23	-27
Sawlogs and venner logs - coniferous	140	104	107	117	9	-16	-23
Pulp wood (round & split) - coniferous	30	17	17	16	-7	-48	-45
Other wood – coniferous	8	6	5	5	-4	-38	-35
Non-coniferous timber for industrial uses	168	273	319	311	-3	86	91
Sawlogs and venner logs - non-coniferous	2	5	5	5	-6	100	113
Pulp wood (round & split) - non-coniferous	163	266	312	304	-3	87	92
Other wood - non-coniferous	2	2	2	2	5	-17	-21
Forestry output at basic prices	1150	1100	1190	1194	0	4	4

4.2. Sawn wood

As above mentioned, the recent Portuguese economic crises had particular effects on the construction activity, which shows a rough contraction. Traditionally this sector dominates the end use of sawn wood and carpentry products. Another important product is wood for wrapping and packaging. In this context, for 2016 and 2017 was

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[1] RWE = roundwood equivalent, i.e. how much wood raw material is needed for a given quantity of Product.

assumed a "business as usual" scenario on imports and exports and a slight increase on the production. The assumption covers a minor growth in non-coniferous sawnwood than in coniferous production and is triggered by the prospect of rise, although small, on domestic demand. Namely the expected increase in the Portuguese total exports will imply more consumption of wrapping materials based on wood. In tropical sawn it was assumed an increase on imports, as a result of the increase of domestic consumption, despite the timber regulation (Reg. EU 995/2010).

4.3.   Wood base panels

In the forest based industries the wood residues generated in the processing activities as well as the recycled wood products are reutilized as raw materials in a very effective process. The reutilization of wood residues in processing activities is particularly relevant in wood panel industries. In these sense, the processes in these industries are often linked to other wood based chains, namely to sawmills activities.

On 2014 and 2015, particle board represented on average 52 % of the panels produced in Portugal, fiberboard 36 % and veneer sheets and plywood and other board 12 %. On those years, following the information of the Portuguese panel's organizations, the fiberboard production is dominated exclusively by MDF (medium density). Yet the Portuguese PRODCOM data, published by Statistics Portugal, shows production, although small, of veneer sheets and plywood. Almost 81% of woodpanel's production is exported to international markets.

On 2016 and 2017 the prospects were based on a scenario of maintenance of the 2015 levels of production, imports and exports. For Woodbase panels incorporating tropical species, it was assumed a slight increase of production, imports and exports, despite the EU timber regulation may discourage operators to import from these sources.

4.4.   Wood pulp and paper and paper board

The difficulties on domestic raw materials supply to pulp industries, including in the case of a "business as usual" activity, may imply on 2016 and 2017 an increase of imports. The prospect is for the growth both of wood pulp imports (TF1), with particular emphasis on the non-conifers industrial wood, and of pulp, with the advantage of lower transports cost than in roundwood.

In Portugal the production of paper and paperboard is concentrated on a limited variety of products: printing and writing paper and packaging paper and paper board are dominant. In this perspective, the prospects for 2016 and 2017 were considered similar to the ones observed on previous years, assuming no investments on capacity, maintenance of the export orientation of national production of paper and paper board and the necessity to import, for domestic consumption, of other types of paper and paper board, namely journal paper. There were also recent announcements of

expansion on tissue production capacity from one company, adding to similar trend from another company announced last year, but not yet materialized so not yet reflected in the forecast.

4.5.   Biomass for energy

The industrial capacity to produce biomass for energy increased in recent years (Table 4)

Table 3 - Industrial capacity of the chain of forest biomass for energy

Type of plants	State (January 2012)	Number	Capacity (MW)	Biomass consumption in 2010 (tonnes/year)
Dedicated	Operating	9	110.4	1.268.831
Dedicated	Approved	12	96.8	1.166.355
Dedicated	Project	8	82	619.845
Cogeneration	Operating	7	51	715.910
Concrete	Operating	2	-	35.000
Pellets and briquettes	Operating	6	-	169.500
	Construction	3		

In addition to this information, there are also 26 pellets and briquettes production plants, which produce about 900,000 tonnes/year, from which 775,000 for exportation (ANPEB, 2016).

In coherence the 2016 and 2017 perspective, there is an estimation of increase of production of forest biomass for energy (pellets), the maintenance of imports level and a slight increase on exports, mainly resulting from the higher production.

5. References

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6. Annex

Table 5 - TIMBER FORECAST QUESTIONNAIRE, roundwood

Table 6 - TIMBER FORECAST QUESTIONNAIRE, forest products.