

# SBP

Sustainable Biomass Partnership

# Supply Base Report: Glowood Indústria SA

## First Surveillance Audit

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## Completed in accordance with the Supply Base Report Template Version 1.2

*For further information on the SBP Framework and to view the full set of documentation see [www.sustainablebiomasspartnership.org](http://www.sustainablebiomasspartnership.org)*

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# Contents

<b>1</b>	<b>Overview</b> .....	<b>1</b>
<b>2</b>	<b>Description of the Supply Base</b> .....	<b>2</b>
2.1	General description .....	2
2.2	Actions taken to promote certification amongst feedstock supplier .....	9
2.3	Final harvest sampling programme .....	10
2.4	Flow diagram of feedstock inputs showing feedstock type [optional] .....	10
2.5	Quantification of the Supply Base .....	10
<b>3</b>	<b>Requirement for a Supply Base Evaluation</b> .....	<b>12</b>
<b>4</b>	<b>Supply Base Evaluation</b> .....	<b>13</b>
4.1	Scope .....	13
4.2	Justification .....	13
4.3	Results of Risk Assessment .....	13
4.4	Results of Supplier Verification Programme .....	13
4.5	Conclusion .....	13
<b>5</b>	<b>Supply Base Evaluation Process</b> .....	<b>14</b>
<b>6</b>	<b>Stakeholder Consultation</b> .....	<b>15</b>
6.1	Response to stakeholder comments .....	15
<b>7</b>	<b>Overview of Initial Assessment of Risk</b> .....	<b>16</b>
<b>8</b>	<b>Supplier Verification Programme</b> .....	<b>17</b>
8.1	Description of the Supplier Verification Programme .....	17
8.2	Site visits .....	17
8.3	Conclusions from the Supplier Verification Programme .....	17
<b>9</b>	<b>Mitigation Measures</b> .....	<b>18</b>
9.1	Mitigation measures .....	18
9.2	Monitoring and outcomes .....	18
<b>10</b>	<b>Detailed Findings for Indicators</b> .....	<b>19</b>
<b>11</b>	<b>Review of Report</b> .....	<b>20</b>
11.1	Peer review .....	20
11.2	Public or additional reviews .....	20
<b>12</b>	<b>Approval of Report</b> .....	<b>21</b>

<b>13</b>	<b>Updates .....</b>	<b>22</b>
13.1	Significant changes in the Supply Base .....	22
13.2	Effectiveness of previous mitigation measures .....	22
13.3	New risk ratings and mitigation measures .....	22
13.4	Actual figures for feedstock over the previous 12 months .....	22
13.5	Projected figures for feedstock over the next 12 months .....	23

# 1 Overview

**Producer name:** GLOWOOD - INDÚSTRIA, SA  
**Producer location:** Parque Empresarial, Lote 1, Expansão 1. Cercal do Alentejo - 7555-999 Santiago do Cacém, PORTUGAL  
**Geographic position:** 37°47'36.1"N 8°41'08.3"W  
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**Company website:** <http://www.glowood.pt>  
**Date report finalised:** 08/May/2017  
**Close of last CB audit:** 09/May/2017, Cercal do Alentejo.  
**Name of CB:** NEPCon Spain I C  
**Translations from English:** Yes  
**SBP Standard(s) used:** Standard 2 version 1.0, Standard 4 version 1.0, Standard 5 version 1.0  
**Weblink to Standard(s) used:** <http://www.sustainablebiomasspartnership.org/documents>  
**SBP Endorsed Regional Risk Assessment:** not applicable  
**Weblink to SBE on Company website:** not applicable  
**Weblink par SBR:** <http://www.glowood.pt/>

Indicate how the current evaluation fits within the cycle of Supply Base Evaluations				
Main (Initial) Evaluation	First Surveillance	Second Surveillance	Third Surveillance	Fourth Surveillance
<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 2 Description of the Supply Base

### 2.1 General description

**Glowood – Indústria, SA** was founded in May 2011 with the support of IAPMEI through the POalentejo program. Dedicated to the production and marketing of pellets, with strong commitment to the foreign market, since more than 90% of the production is for export.

The company buys roundwood, chips and sawdust, mainly pine (Maritime Pine / *Pinus pinaster* and Umbrella Pine / *Pinus pinea*), as raw material for its manufacturing process. For the drying process, in addition to pine biomass (small logs, bark, waste and leftover), it can also use small roundwood and leftovers of Eucalyptus (*Eucalyptus spp.*) and rarely poplar (*Populus spp.*), acacia (*Acacia spp.*) and Amieiro (*Alnus glutinosa*).

The supply of last year (January to December 2016) is thus characterized as:

Material	Espécie	Quantidade (t)
Roundwood	Maritime pine	22.672
	Umbrella Pine	8.889
	Eucalyptus	2.088
	Others	3.158
Biomass (Forest residues)	Pine	28.661
	Eucalyptus	47
Wood Industry Residues (Chips, Sawdust, Slabwood)	Pine	24.682
		90.197

All wood comes from forested areas of Portugal, mainly from the districts of Setúbal, Beja, Évora, Lisbon, Portalegre, Santarém, Castelo Branco, Faro, Leiria and Coimbra.

The primary material (logs, harvesting waste and other forest waste mainly branches from pruning of umbrella pine) is supplied by approximately 40 small and medium companies which are made aware of and controlled in order to obtain the necessary information about the origin of the management unit, with a compromise stated to that effect.

Suppliers who purchase standing timber and carry out their operations, usually make a selection of material, bigger logs for higher end value processes (sawmills) and small logs and leftovers to other processes, including pellets manufacturing and energy production.

This practice is encouraged by the company, with a supply policy to promote the effective use and sustainability of forest resources. The acceptance of larger roundwood is limited (diameter ≤ 40 cm) and there is a formal agreement with a sawmill, located next to the plant, which receives the larger logs delivered by the suppliers, providing in exchange, sawdust and other waste (lumber rejects, chips, small logs etc.).

The secondary material (woodchips and sawdust) comes from suppliers who deliver the material produced (chips) or sawdust resulting from the sawmilling process, essentially from three sawmills, whose wood supply is also from adjacent forest areas in Portugal.

Thus the company's supply area is restricted to the Portuguese mainland.

In 2016, **Glowood** produced a total of 37.348 t of pellets, with a level of consumption of raw material in the order of 90,000 t. Average values for similar companies located in Portugal.

Portugal has about 9.8 million inhabitants and 8.7 million hectares.

According to preliminary data from the latest National Forest Inventory, 2013 (IFN6 - Areas of land use and forest species in mainland Portugal in 1995, 2005 and 2010), the forest land use is the dominant use of the mainland. The Portuguese forest occupies 3.2 million hectares, which corresponds to 35.4% of the country, one of the largest proportions of forested areas of Europe.

#### Land-Uses in Portugal – 2010

Source: ICNF National Forest Inventory, Preliminary Results, 2013

- 35% Forestry
- 32% Bushland and Natural Pastures
- 24% Agriculture
- 5% Urban
- 2% Inland Waters
- 2% Unproductive

#### Forest Stands in Mainland Portugal – 2010

Source: ICNF National Forest Inventory, Preliminary Results, 2013

- 26% Bluegum / *Eucalyptus spp.*
- 23% Corkoak / *Quercus suber*
- 23% Maritime Pine / *Pinus pinaster*
- 11% Holmoak / *Quercus rotundifolia*
- 6% Stone Pine / *Pinus pinea*
- 2% Oak / *Quercus spp.*
- 1% Sweet Chestnut Tree / *Castanea sativa*
- 6% Other Hardwoods
- 2% Other softwoods

The dominant forest species is Eucalyptus, representing the largest area of the country (812,000 ha; 26%), second is Cork Oak (737,000 ha; 23%), followed by the Maritime Pine (714,000 ha; 23%). The area occupied by softwood species corresponds to 31% of the Portuguese forest, the remainder (69%) is occupied by broadleaf species.

Over the period 1995-2010 the forest areas exhibited a decrease of 4.6%, corresponding to a net loss rate of 0.3% / year (10 mil ha / year). The net decrease of forest areas (-150,611 ha) is mainly due to conversion to

the land use class "brush and pastures." In addition to this conversion, significant amount of forested land was converted to urban use between 1995 and 2010 (28 000 ha).

Note that although there is a decrease in forest area, the fact that this is not accentuated demonstrates the significant resilience of the forest to large disturbances to which it was subjected to during the review period. On the one hand, the very serious forest fires of the last two decades (more than 2.5 million hectares burned between 1990 and 2012), and on the other, the occurrence of diseases such as the pine wood nematode which has severely affected the maritime pine nationally, forcing excessive harvests due to enforcing of phytosanitary regulations. No other country in Europe has been subject to this level of disturbance.

The decrease of forest area is mainly due to reduction in temporarily treeless areas (burned areas, harvested areas and regenerated areas), with emphasis on increasing the areas reforested, which is explained in part by the action of nature itself (natural regeneration) demonstrating the natural adaptation of the soil to the forest, but also by the action of forest owners who have continued to invest in reforestation.

According to preliminary data from IFN6, the main change of forest species between 1995 and 2010, were maritime pine presenting a decrease of about 263 000 ha (26.9% less). Most of this area became "brush and pastures" (165,000 ha), 70,000 ha to eucalyptus, 13 000 ha in urban areas and 13,700 ha in forest areas with other tree species.

On the other hand, there is an increase of eucalyptus area of about 95,000 hectares. It is also to highlight the increase of umbrella pine (46% in total area and 54% in terms of replanted area).

The harvest Umbrella Pine stands takes a leading role in the forestry economy in some regions, particularly in the south (Alentejo), mainly due to the unique characteristics of its main production (pine nuts for the food industry) which has allowed the rapid development of the umbrella pine envelope, which today occupies an important place in the regional and national economy. In the Alentejo region, about 67% of the national production of pine cone and 15% of world production of pinecone occurs.

According to data from the National Strategy for Forests, forest properties in Portugal are mostly private, with 2.8 million hectares, or 84.2% of the total area owned by family-oriented smallholdings and 6.5 % are owned by industrial companies. Public areas correspond to 15.8% of the total, of which only 2% (the lowest percentage in Europe) are the private domain of the State.

The size of the forest estate has a very defined geographical distribution, with a large number of properties located in the north and center of less than 1 hectare in size. It is estimated that there are over 400 000 forest owners in the country.

According to the prospective study for the Forest Sector published by the AIFF (Association for the Competitiveness of Industry Forestry Sector) in 2013, the size of the stands is a key factor in the context of the Portuguese forest, with significant impact on the profitability and sustainability of the activity. In the North and center of the country approximately 54% of this forest area spread over stands of less than 10 ha. The small size of the properties has particular relevance to the two main species whose distribution and harvest are in the central and northern regions:

- In Maritime Pine, 63% of the stands are in areas less than 10 ha and 25% in areas less than 2 ha;
- In Eucalyptus, 50% of forest stands are in properties of less than 10 ha.



Also according to the same study, the Portuguese business structure in the forest industry has some of the most representative European companies in the sector. In the point of view of transactions to the international market for forest and forest-based products, the most important are: paper and cardboard, pulp, cork, wood and resin products and furniture.

The wood sector, particularly softwood for industrial purposes and softwood for sawlogs are essentially based on maritime pine. The pulp, paper and board sector are based mainly on eucalyptus.

According to the Characterization of the Forestry Sector Report 2014 prepared by the AIFF, the trade balance related to the industries of forestry sector had a positive balance of 2,474 million euros in 2013, representing 9.1% of total national exports of goods and 3.4% of the total national imports of goods. The forestry sector represents 2.2% of the total company employees in Portugal and 1.7% of the total employed population.

A breakdown of forestry goods production allows us to observe different trends. The production of maritime pine (softwood for industrial purposes) shows a decrease of 3.6% in value compared to 2011 and for the year 2002 a decrease of 4.5%. In 2012, the production value of wood for sawing was lower than the previous year (-2.3%), due to the price decrease (-2.6%), as the volume has increased (+0.4%) for the third consecutive year;

The production of Eucalyptus (hardwood to mill) maintained the growth trend (interrupted only in 2009), of an increase of 9.2% over the previous year and an increase of 63.4%. This high growth in eucalyptus wood production for industrial use makes this the main forestry goods (representing 36.8%), about 17% higher than the production of softwood for industrial purposes.

Also according to the AIFF in 2012, the Gross Value Added (GVA) in the forestry increased by 3.9% in volume and 2.4% in value relative to 2011. With regard to the Forestry Production an increase of 4.3% in volume and 3.6% in value in relation to 2011 was recorded. In the same year, the GVA of the forestry sector industries accounted for 1.2% of national GVA, maintaining a significant importance in total manufacturing (11%).

The analysis of GVA by sector reveals a particular negative impact on the timber industry in recent years, with the GVA presenting a reduction of about 40% between 2007 and 2012 (-429 million euros), much lower than reported values for the pulp industry, paper, paperboard and articles thereof (-4%). In the whole period considered (2004-2012) only the sectors pulp, paper, paperboard and articles thereof presents a growth of GVA.

According to Pedro Sebastião Perestrelo de Souza e Holstein Campilho in his thesis Assessment of National Potential for Forest Biomass Utilization for Energy Purposes published in 2010, the trend of loss of socio-economic sustainability of the Portuguese forestry sector in recent years, when supplemented with a conjecture to encourage the production of renewable energy, translates into a set of developments which enhance the demand for biomass from logging residues for energy use. The demand for biomass tends to be met in the short term, in scenarios substantially sustainable. However, in the medium and long term projection, even without considering significant increases in demand for this resource, results in difficulties to meet existing market demands with conditions for sustainability as those experienced in the short term.

The pine forest is distributed throughout the with Maritime Pine occupying 23% of the forest area of the mainland, mostly located in small areas and Umbrella Pine occupying 6% of the total forest area of continental Portugal, with its main distribution in the south of the country.

Maritime Pine (*Pinus pinaster*) forests are usually managed in stands of trees, generally of seed or seedling origin, that normally develop a high closed canopy, and can be managed using natural regeneration or by sowing or planting.

In cases of natural regeneration and planting, the initial phase is intended to gradually reduce the density of plants to 1200-1600 trees / ha. Initially in groups and then selectively with mechanical or manual harrowing or slashing. After 10 years the trees can be pruned (1-2) and thinned (2-3) utilizing the residual material, leaving a final cut (30-40 years) of about 500-600 trees / ha, while proceeding to also control unwanted vegetation mechanically or manually harrowing or slashing. In the case of natural regeneration, during the final cut about 25 large trees / ha are left as seed trees.

In the case of a plantation, the ground is prepared with disking, ripping and harrowing along the contours in areas with slopes up to 30%, on steeper slopes the site preparation and planting is manual. The planting density depends on the site condition, usually 1200 to 1600 seedlings / ha. After 10 years the trees can be pruned (1-2) and thinned (2-3) utilizing the residual material, leaving a final cut (30-40 years) of about 500-600 trees / ha, while proceeding to also control unwanted vegetation mechanically or manually harrowing or slashing. In the case of natural regeneration, during the final cut about 25 large trees / ha are left as seed trees.

In Umbrella Pine (*Pinus pinea*) silviculture, the intertree distance at planting depends on the future purpose of the stand: production of wood or cones (pine nuts).

For the production of wood intertree distances of 4x3 m. are used to promote natural pruning. The distance between rows should allow the passage of agricultural machines mainly used for brushing. In stands oriented to cone production (with or without using grafting technique), the trees should grow in favorable light and ventilation, in order to develop large canopies that favor the production of pine cones. The most commonly used intrertree distance is (5x5), but also (6x5), (6x6) and (8x6) are used.

In areas adapted for Umbrella Pine, natural regeneration can be used. The natural regeneration results in a high number of plants per hectare. Thus a selection of the best developed plants must be done promptly.

Stand tending is done through pruning and thinnings that produce considerable amount of woody material. The first pruning should occur after 5-6 years after planting. The 2nd pruning should occur between 10 and 12 years, taking into account the development of the stand. This pruning often coincides with the 1st thinning. The 3rd pruning is between 20 and 25 years, coinciding with the 2nd thinning. The final cut is usually done after 40 years.

Eucalyptus silviculture is based on planting and the clear-cutting the forest, usually between 10 and 15 years, utilizing all of the wood with or without the bark (simple coppice). Priority is given to conducting coppice for 1, 2 up to 3 rotations, selecting shoots after each cut. If last cut is not deemed productive then the area is replanted.

In mixed stands with Maritime Pine, the system is based on thinning the forest in order to leave a percentage of remaining trees for future use when the stumps of the harvested Eucalyptus trees produce shoots (composed coppice)

Beginning with the site preparation, which normally consists of destroying and incorporating existing woody material, followed by tillage (disking, ripping, and harrowing). Fertilization depends on the site and the owner conditions. The planting is carried out to a density typically between 1100 and 1300 seedlings per hectare. Between the second and sixth year a second fertilization and competing vegetation control is recommended.

The selection of shoots is made during the second and third year, maintaining a number of stems per hectare corresponding to the initial density of planting.

In most cases, the cut is made between 10 and 15 years. The basic logging operating system consists of utilizing a tractor processor and a tractor loader, and usually manual felling with a chainsaw.

The Poplar is currently cultivated on a small scale. Given the nature of the soil (deep and wet), site preparation is done in late summer or early autumn. The intertree distance commonly used is 4x4 meters. The 1 year old plants from cuttings are planted as deep as possible (0.5 meters) in order to develop a good root system.

Usually there is a heavy competition from weeds that requires manual weeding two times, complemented with shallow harrowing during the first four years.

During the first 3 to 4 years it is very important to carry out pruning, to prevent forking and add value to the wood, whose final use are veneer.

The Poplar can be managed in coppice, with clear cuts made from 14 years, but commonly with over, depending on the purpose and exploiting opportunities.

Acacia is an invasive species in Portugal, appearing in pure or mixed formations, and it is not permitted to plant and cultivate. However, the exploitation is allowed.

The Forest Management Plan (FMP) is a planning instrument within the legal framework provided by the Forest Policy Framework Law (Law No. 33/96 of August 17) and later by Decree-Law No. 16 / 2009 of January 14, which approves the legal framework of management plans, management and interventions of forest areas (repealing Decree-Law No. 205/99 of June 9, which governed the elaboration process, approval, implementation and modification of FMPs to be applied to forest areas).

The dynamics of the FMP development processes and the PEIFs (Specific Plans for Forest Intervention) in a more general way to private and public forest areas is still young, having started with the approval of the Regional Forest Management Plans (PROF) in 2006-2007, reinforced with the conditions of having the FMPs approved as eligibility criteria for access to support for forest investment programs under the PRODER, together with the development of forest certification processes.

In April 2013 (last available information ICNF), there were 2,266 approved FMPs (1,522,195 hectares), representing 44% of the forest area in Portugal.

In Portugal it is not necessary to have specific authorization for harvesting except for cork oak, holm oak and logging in protected or classified areas. When logging Pine it is necessary to produce a harvest manifest, pruning and transport of coniferous wood (Decree-Law 123/2015 of 3 July), which concerns the application of the extraordinary measures of plant protection essential to the control of the pine wood nematode (PWN).

CITES – (Convention on International Trade in Endangered Species of Wild Fauna and Flora) lists the following species in Portugal and Spain, not including timber species:

**Portugal:**

<i>Antipathes erinaceus</i>	<i>Stichopathes dissimilis</i>	<i>Stichopathes richardi</i>
<i>Stichopathes robusta</i>	<i>Stichopathes setacea</i>	<i>Leiopathes expansa</i>
<i>Tanacetipathes cavernicola</i>	<i>Tanacetipathes squamosa</i>	<i>Tanacetipathes wirtzi</i>
<i>Paracythus arcuatus</i>	<i>Leptopsammia formosa</i>	<i>Madracis profunda</i>
<i>Crypthelia medioatlantica</i>	<i>Crypthelia vascomarquesi</i>	<i>Errina atlantica</i>
<i>Errina dabneyi</i>	<i>Lepidopora eburnea</i>	<i>Euphorbia despoliata</i>
<i>Euphorbia longifolia</i>	<i>Euphorbia pedroi</i>	<i>Euphorbia piscatoria</i>
<i>Euphorbia stygiana</i>	<i>Dactylorhiza foliosa</i>	<i>Goodyera macrophylla</i>
<i>Orchis scopulorum</i>	<i>Platanthera micrantha</i>	

In the "Red List" of the IUCN (International Union for Conservation of Nature and Natural Resources), posted 891 species for the continental territories of Spain and Portugal (Iberia), of which 76 have forestry activity as one of the threats:

<i>Anacyclus pyrethrum</i>	<i>Anarrhinum longipedicellatum</i>	<i>Andrena bucephala</i>
<i>Andrena curtula</i>	<i>Andrena fulva</i>	<i>Andrena gredana</i>
<i>Andrena semilaevis</i>	<i>Antirrhinum lopesianum</i>	<i>Arabis sadina</i>
<i>Armeria rouyana</i>	<i>Arnica montana</i>	<i>Asphodelus bento-rainhae</i>
<i>Bombus reinigiellus</i>	<i>Bunium bulbocastanum</i>	<i>Buprestis splendens</i>
<i>Calopteryx virgo</i>	<i>Candidula belemensis</i>	<i>Candidula najerensis</i>
<i>Centaurea citricolor</i>	<i>Centaurea fraylensis</i>	<i>Centaurea gadorensis</i>
<i>Centaurea pulvinata</i>	<i>Cordulegaster bidentata</i>	<i>Coronopus navasii</i>
<i>Culcita macrocarpa</i>	<i>Cypripedium calceolus</i>	<i>Dactylorhiza elata</i>
<i>Dianthus marizii</i>	<i>Dryopteris corleyi</i>	<i>Elona quimperiana</i>
<i>Epeolus cruciger</i>	<i>Epipactis leptochila</i>	<i>Epipactis phyllanthes</i>
<i>Epipactis purpurata</i>	<i>Erodium rupicola</i>	<i>Eryngium viviparum</i>
<i>Euphorbia nevadensis</i>	<i>Ferula communis</i>	<i>Festuca brigantina</i>
<i>Festuca summilusitana</i>	<i>Flavipanurgus granadensis</i>	<i>Flavipanurgus ibericus</i>
<i>Flavipanurgus venustus</i>	<i>Ionopsidium savianum</i>	<i>Juncus valvatus</i>
<i>Leiostyla ânglica</i>	<i>Lithodora nítida</i>	<i>Luronium natans</i>
<i>Lynx pardinus</i>	<i>Malus sylvestris</i>	<i>Moehringia fontqueri</i>
<i>Narcissus asturiensis</i>	<i>Narcissus cyclamineus</i>	<i>Narcissus triandrus</i>
<i>Neottia nidus-avis</i>	<i>Nomada similis</i>	<i>Oestophora lusitânica</i>
<i>Oestophora silvae</i>	<i>Oestophorella buvinieri</i>	<i>Omphalodes littoralis</i>
<i>Ononis maweana</i>	<i>Paeonia officinalis</i>	<i>Phenacolimax major</i>
<i>Picris willkommii</i>	<i>Pteris incompleta</i>	<i>Ropalopus femoratus</i>
<i>Silene longicilia</i>	<i>Stenagostus laufferi</i>	<i>Suboestophora altamirai</i>
<i>Teucrium charidemi</i>	<i>Thorella verticillato-inundata</i>	<i>Thymus capitellatus</i>
<i>Trissexodon constrictus</i>	<i>Veronica micrantha</i>	<i>Vertigo moulinsiana</i>
<i>Xerocrassa edmundi</i>		

Grupos de Produto	Certificação	Nº Fornecedores	Grupo de Entrada	Formato	Espécies	Quantidade (Ton)	%
Controlled Feedstock	FSC CW (*)	28	Primary feedstock from forests (products or residues)	Roundwood	Pinheiro Bravo, Pinheiro Manso, Acácia, Choupo, Cedro e Amieiro	35208,64	39,04
			Primary feedstock from forests (products or residues)	Roundwood	Eucalipto	2087,68	2,31
			Primary feedstock from forests (products or residues)	Wood chips	Pinheiro Bravo e Pinheiro Manso	23917,3	26,52
			Wood industry residues (secondary feedstock)	Wood chips Sawdust Wood offcuts	Pinheiro Bravo	24682,28	27,37
			Primary feedstock from forests (products or residues)	Chips	Pinheiro Bravo e Pinheiro Manso	4300,6	4,77
SBP-compliant Primary Feedstock	FSC	2	Pinho Bravo			0	0
SBP-compliant Secondary Feedstock	FSC	2	Pinho Bravo			0	0

(\*) Material not certified, controlled under the Chain of Custody Management System of the company, which is certified according to FSC-STD-40-005 Standard for Company Evaluation of FSC Controlled Wood and PEFC ST 2002: 2013: Chain of Custody of Forest based Products - Requirements.

## 2.2 Actions taken to promote certification amongst feedstock supplier

The company has contacted each of its suppliers and affirmed the importance of providing certified material (FSC or PEFC), pointing out the increasing demands of markets and consumers regarding the legal and sustainable source of forest products, including biomass for energy production.

The person responsible for standing timber or log purchases has also informed the producers and forest owners that added value is gained by managing their areas as certified, either individually or through group initiatives recognized by the company.

In addition, the company's employees have participated in events related to management and forest certification, trying to gather information and give their contribution to the development of the subject, especially in Portugal.

## 2.3 Final harvest sampling programme

In 2016, it is estimated that 3,74% of wood material consumed may have originated in final fellings from stands with an expected rotation length of more than 40 years, according evaluation made on reception of the material. It refers essentially to the Pine roundwood, especially of Umbrella Pine (*Pinus pinea*) managed with main objective of producing cones (pine nuts).

## 2.4 Flow diagram of feedstock inputs showing feedstock type [optional]

Not applicable.

## 2.5 Quantification of the Supply Base

### Supply Base

- a. Total Supply Base area: 3,2 milhões ha
- b. Tenure by type: Privately owned: 2,8 milhões ha      Public: 442,4 mil ha
- c. Forest by type: Temperate: 3,2 milhões ha
- d. Forest by management type: Plantation: 891 mil ha      Natural regeneration: 2.267 mil ha
- e. Certified forest by scheme: FSC: 372.071 ha      PEFC: 256.884 ha

### Feedstock

- f. Total volume of Feedstock: 0 – 200.000 tonnes (90.197 tonnes)
- g. Volume of primary feedstock: 0 – 200.000 tonnes (65.514 tonnes)
- h. Percentage of primary feedstock categories:
  - Certified to an SBP-approved Forest Management Schemes: 0 % (0 tonnes)
  - Not certified to an SBP-approved Forest Management Schemes: 100 % (90.197 tonnes)
- i. List all species in primary feedstock, including scientific name
  - Maritime pine (*Pinus pinaster*)
  - Radiata pine (*Pinus radiata*)
  - Umbrella pine (*Pinus pinea*)
  - Eucalyptus (*Eucalyptus spp*) – Only for energy production
  - Poplar (*Populus spp*)
  - Acacia (*Acacia spp*)
  - Amieiro (*Alnus glutinosa*)
- j. No feedstock from primary forest
- k. List percentage of primary feedstock from primary forest (j), by the following categories. Subdivide by SBP-approved Forest Management Schemes: Not applicable

- l. Volume of secondary feedstock: 2.562 tonnes (2,54%)
- m. No tertiary feedstock

For the coming year, we intend to maintain the profile of supply in 2016, keeping or increasing the consumption of primary feedstock and keeping or decreasing the use of secondary feedstock, mainly of Maritime pine (*Pinus pinaster*).

While encouraging the suppliers to provide certified material (FSC or PEFC), we expect to have values for these categories.

There is intention to implement a Supply Base Evaluation (SBE) and in order to receive "SBP compliant" material.

### 3 Requirement for a Supply Base Evaluation

SBE completed	SBE not completed
<input type="checkbox"/>	<b>X</b>



## 4 Supply Base Evaluation

### 4.1 Scope

Not applicable.

### 4.2 Justification

Not applicable.

### 4.3 Results of Risk Assessment

Not applicable.

### 4.4 Results of Supplier Verification Programme

Not applicable.

### 4.5 Conclusion

Not applicable.

## 5 Supply Base Evaluation Process

Not applicable.

## 6 Stakeholder Consultation

Not applicable.

### 6.1 Response to stakeholder comments

Not applicable.

## 7 Overview of Initial Assessment of Risk

Not applicable.

## 8 Supplier Verification Programme

### 8.1 Description of the Supplier Verification Programme

Not applicable.

### 8.2 Site visits

Not applicable.

### 8.3 Conclusions from the Supplier Verification Programme

Not applicable.

## 9 Mitigation Measures

### 9.1 Mitigation measures

Not applicable.

### 9.2 Monitoring and outcomes

Not applicable.

## 10 Detailed Findings for Indicators

Not applicable.

## 11 Review of Report

### 11.1 Peer review

This report was sent to an independent reviewer. The review period was 10 days. The comments received were duly considered in the final edition of the report.

The reviewer is a Registered Professional Forester with university degrees in forestry from both Sweden and Canada. Since 1982, he has worked for various forest based companies and organisations in Sweden, Canada, Switzerland and Portugal where he currently resides.

At this time, he works in Portugal, Sweden, Norway and Canada as a natural resource consultant in management, representation and certification as well as an auditor for SBP, FSC, PEFC, ISO 9001, ISO 14001, ISO 19011, OHSAS 18001 and GAP analyses.

### 11.2 Public or additional reviews

Not applicable.



## 12 Approval of Report

Approval of Supply Base Report by senior management			
Report Prepared by:	Natércia Carvalho Giovanni de Alencastro	Gestor do Sistema Integrado Consultor	09/05/2017
	Name	Title	Date
The undersigned persons confirm that I/we are members of the organisation’s senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report.			
Report approved by:	João Baetas	Diretor Geral	09/05/2017
	Name	Title	Date

## 13 Updates

### 13.1 Significant changes in the Supply Base

The main changes on the 2016 Supply Base are related to the following:

- Significant reduction in the consumption of primary feedstock, mainly roundwood.
- Increase in consumption of forest residues
- Increase in consumption of secondary feedstock, mainly chips, sawdust and slab wood of Maritime pine (Pinus pinaster)

The combination of these changes is reflected in a significant improvement in the supply profile regarding to sustainability of forest production and, consequently, of pellets production for energy purposes.

### 13.2 Effectiveness of previous mitigation measures

Not applicable.

### 13.3 New risk ratings and mitigation measures

Not applicable.

### 13.4 Actual figures for feedstock over the previous 12 months

The supply of last year (January to December 2016) is thus characterized:

Material	Espécie	Quantidade (t)
Roundwood	Maritime pine	22.672
	Umbrella Pine	8.889
	Eucalyptus	2.088
	Others	3.158
Biomass (Forest residues)	Pine	28.661
	Eucalyptus	47
Wood Industry Residues (Chips, Sawdust, Slabwood)	Pine	24.682
		90.197

## 13.5 Projected figures for feedstock over the next 12 months

Projected figures for feedstock for 2017 is thus characterized:

Material	Espécie	Quantidade (t)	%
Roundwood	Maritime and Umbrella Pine	93.089	60
	Others	15.515	10
Biomass (Forest residues)	Maritime and Umbrella Pine	23.272	15
	Maritime and Umbrella Pine	23.272	15
Wood Industry Residues (Chips, Sawdust, Slabwood)	Maritime and Umbrella Pine	23.272	15
		<b>155.148</b>	<b>100</b>