Sustainable Biomass Program

Supply Base Report: Pinewells, S.A.

Third Surveillance Audit

Scope Change Audit

www.sbp-cert.org

Completed in accordance with the Supply Base Report Template Version 1.3

For further information on the SBP Framework and to view the full set of documentation see www.sbp-cert.org

Document history

Version 1.0: published 26 March 2015

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Version 1.2 published 23 June 2016

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Contents

1 Overview

Producer name: Pinewells, S.A.

Producer location: Zona Industrial da Relvinha – Sarzedo, Arganil 3300-416 Sarzedo AGN, Portugal

Geographic position: Lat W 8 degrees 076 minutes, Long N 40 degrees 264 minutes

Primary contact: Nazaré Costa (Pinewells - Zona Industrial da Relvinha – Sarzedo, Arganil 3300-416 Sarzedo AGN, Portugal; nazarecosta@visabeiraglobal.com; +351 235 240 940)

Company website: www.pinewells.pt

Date report finalised: 13/Mar/2019

Close of last CB audit: 13/Mar/2019 (Pinewells - Sarzedo, Arganil 3300-416, Portugal)

Name of CB: Control Union Certifications B.V.

Translations from English: Yes (Portuguese)

SBP Standard(s) used: Standard 1, v. 1.0;

Standard 2, v. 1.0;

Standard 4, v. 1.0;

Standard 5, v. 1.0.

Web link to Standard(s) used: https://sbp-cert.org/documents/standards-documents/

SBP Endorsed Regional Risk Assessment: Not applicable

Web link to SBE on Company website: https://pinewells.com/pellets-o-produto

Indicate how the current evaluation fits within the cycle of Supply Base Evaluations				
Main (Initial) Evaluation	**First Surveillance**	**Second Surveillance**	**Third Surveillance**	**Fourth Surveillance**
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2 Description of the Supply Base

2.1 General description

The Supply Base is Portugal. The SBP reporting period is the year 2018; statistics provided in this report are based on this period.

Description 'Portugal'

3,2 million ha of forests cover Portugal, corresponding to 35,4% of the country's land mass, followed by soil considered farmland (32%) and uncultivated (24%).

In Portugal, private property from private owners (89%) and community (Baldios, 8%) correspond 97% of total forest land, including 5,7% property of industry companies. Public areas are up to 2,9% (around 94 thousand ha). The forest area under communitarian management (Baldios) is subject to old customary and traditional rights and regulated by specific laws. In Portugal, there are no indigenous peoples or specific minorities relying on the forests.

Some key aspects of forests in Portugal determine the development of its management, namely:

- A long and well-established relationship between forests and society;
- One of the biggest large-scale afforestation programs of the twentieth century (forest cover has increased from under 2,0 million to over 3,2 million ha over the last 100 years);
- Various regions with different forest species and silvicultural systems; specific forestry legislation directed towards regional development strategies;
- The small property size and its fragmentation, mainly in the northern and central regions, where estates often have dimensions of less than 1 hectare.

Forest Management Plans (PGF) are mandatory for forest areas above a minimum area defined by Regional Forestry Management Plans (PROFs) as well as in Forest Intervention Areas (ZIF, 940 432 ha). In 2016, there were 1 680 000 ha under PGF from which 450 034 ha overlap the National Classified Areas Network. A felling manifest is required for commercial felling (including all thinning) of all tree species for industrial purposes, with a 30-day deadline after the operation is concluded. The national forest and conservation authority is the Institute of Conservation of Nature and Forests (ICNF) with competencies on all forest, hunting and nature conservation affairs. ICNF also manages public forest areas, and is involved in the management of community areas. Additionally, the Environmental Service of the National Republican Guard (SEPNA / GNR) is engaged in the inspection of environmental issues and natural resources in all private and public areas.

In Portugal entering forest lands is not considered invasion even on private properties, and it is common the use of wild products by communities (mushrooms, asparagus, snails, besides fishing on public waters).
The felling phytosanitary manifest includes identification of the origin of the felling area. Also, transportation documentation identifies the origin of the transport. There are still areas in Portugal without a cadastral registration.

Regarding species, the most relevant in terms of pellets production are maritime pine (*Pinus pinaster*) 23% of forest surface 714 000 ha, eucalyptus (*Eucalyptus spp.*) 26% of forest surface 812 000 ha and stone pine (*Pinus pinea*) 6% of forest surface 175 000 ha. It is important to highlight that stone pine is mainly used to produce pine nut and mostly the thinning and pruning by-products are used for pellet production. maritime pine and eucalyptus are spread all around the country. Stone pine can mainly be found in the South.
To derive maximum economic benefit, distribution of the three main forest species – maritime pine, eucalyptus and cork oak – is vertically integrated within the forestry industry, with maritime pine and eucalyptus being concentrated in timber-producing areas and cork oak in multifunctional areas.

Regarding the distribution of the main tree species:

1. Eucalyptus (*Eucalyptus globulus*) is the main tree species – 812 000 ha. Originally from Tasmania eucalyptus is present all over the country. Especially used by pulp and paper industry, eucalyptus became one of the most planted trees in Portugal. In the 80's, there was great controversy about the negative effects of these trees in soil, water and biodiversity, which resulted in the implementation of legislation (Law Nº. 175/88 of May 17 and Law Nº. 513/89, 6 July) that restricts the increase of monoculture plantation of this species.
2. Cork oak (*Quercus suber*) – 737 000 ha. The cork oak is seen as the 'national tree' of Portugal. Portugal is the leading producer, processor and exporter of cork.
3. Maritime pine (*Pinus pinaster*) – 714 000 ha. Maritime pine is scattered over the regions of northern and central coast of the country. This tree species was chosen in afforestation campaigns carried out during the nineteenth century. It regenerates easily. Its timber is widely used commercially.

Pine 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 1 200 – 1 600 trees per ha. Initially in groups and then selectively with mechanical or manual harrowing or slashing. After 10 years the trees can be pruned and thinned, utilizing the residual material, leaving a final cut (after 30 - 40 years) of about 500 - 600 trees per 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 per ha are left as seed trees.

Eucalyptus plantations are 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 re-planted.

In mixed stands with maritime pine, the management 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).

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) does list a considerable number of protected plant species for Portugal, however, the list does not include any tree species. The 'Red List' of the IUCN (International Union for Conservation of Nature and Natural Resources) indicates hundreds of plant species for the continental territory of Portugal, but also does not include any tree species. 49 plant species are reckoned relevant regarding forest operations. The national legislation of Portugal does list protected tree species, and, for example, it is forbidden to cut any cork oaks (*Quercus*

suber), and holm oaks (*Quercus ilix* / *Quercus rotundifolia*; protective measures by Law Nº.155/2004) and European holly (*Ilex aquifolium*; protected by Law Nº. 423/89).

Portugal views forests and forestry products as an area of crucial importance to its economy. The forest sector has a significant impact on its GDP - higher than the European average. The forest sector represents almost 10% of the national export trade and 2% of the Gross Value Added. Forests are also the base of an economic sector which generates around 100 000 direct jobs (4% of the active population).

Climate change and the occurrence of extreme meteorological events has increased the phenomenon of forest fires, mainly medium and big fires (more than 100 ha), one of the largest perceived risks in the Portuguese forestry sector, incurring very high costs. Climate change may also induce pests and diseases due to stress in host plants.

In Portugal, the loss of vitality and the mortality of maritime pine is mainly related with the Wood Pine Nematode (WPN), detected in Portugal in 1999.

Description Pinewells, S.A.

Pinewells is a producer wood pellets in the center of Portugal. It is one of the ten main forest based industries in the region, however, still several times smaller than the five largest ones (pulp and paper industry).

In 2018, Pinewells sourced feedstock from the following districts:

- Aveiro;
- Viseu;
- Guarda;
- Coimbra;
- Leiria;
- Castelo Branco.

Most of the feedstock suppliers work with organizations of forest producers (OF). Organizations of forest producers are a central element in representing the interests of owners and forest managers, performing a service to support owners and in turn to the forest producers, whose objective is to achieve best forest management practices.

The raw material is received from private forests suppliers and / or the forest domain of the National Forestry Authority; the following situations can be found:

- Controlled Feedstock (91,2% of the supply, 64 suppliers, 79,4% - pine, 10,7% - deciduous, 9,9% - eucalyptus) from small forest owners (< 500 ha) and the National Forestry Authority, including wood stand cleanings to avoid fires, diseases, etc.;
- SBP-compliant Primary Feedstock (8,8% of the supply, 7 suppliers, 99,4% - pine, 0,6% decidous) from small forest owners.

Pinewells works with several suppliers who are owners of forest areas which are legally required to ensure the cleaning and maintenance of their wood lands and forests.

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), pointing out the increasing demands of markets and consumers regarding the legal and sustainable source of forest products, including biomass for energy production.

2.3 Final harvest sampling programme

This paragraph does not apply, as the harvesting operations are not performed for the production of wood pellets; all valuable trees are used by (sold to) other industries. Considering primary feedstock, the selection is made in the forest by the feedstock suppliers. Pinewells uses harvesting residues, low-grade tree stems, and sawdust for pellet production. A part of pine wood originates from maintenance operations (thinnings).

From the tree species used by Pinewells, only the maritime pine (*Pinus pinaster*), umbrella pine (*Pinus pinea*) and narrow-leafed ash (*Fraxinus angustifolia*) have a planned rotation period of more than 40 years. The eucalyptus (*Eucalyptus* spp.) and poplar (*Populus* spp.) are fast-growing tree species, which are harvested before the age of 40 years.
Forest plots are examined before harvest (by sampling) and stand age are identified in the supplier checklist information. Monitoring and inspection system has described the steps of sampling and monitoring of harvest plot.

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

Feedstock inputs are indicated in the SAR.

2.5 Quantification of the Supply Base

Supply Base

a.	Total Supply Base area (ha):	3,2 million ha
b.	Tenure by type (ha):	Private: 3,1 million ha (97%, including 8% community managed) Public: 0,1 million ha (3%)
c.	Forest by type (ha):	Temperate: 3,2 million ha
d.	Forest by management type (ha):	Plantation: 1,8 million ha; Natural/Semi Natural: 1,4 million ha
e.	Certified forest by scheme (ha):	423 580 ha FSC certified (https://pt.fsc.org/pt-pt) 268 824 ha PEFC certified (https://www.pefc.pt/)

Feedstock

f. Total volume of Feedstock: 213 835,64 tons

g. Volume of primary feedstock: 173 331,95 tons

h. List percentage of primary feedstock (g), by the following categories.

Subdivide by SBP-approved Forest Management Schemes:

Not certified to an SBP-approved Forest Management Scheme – 91,2%

Certified to an SBP-approved Forest Management Scheme – 8,8%

i. List all species in primary feedstock, including scientific name:

- Maritime pine (*Pinus pinaster*),
- Umbrella pine (*Pinus pinea*),
- Black pine (*Pinus nigra*),
- Monterey pine (*Pinus radiata*),
- Scots pine (*Pinus sylvestris*),
- Douglas fir (*Pseudotsuga menziesii*),
- Mimosa (*Acacia dealbata*),
- Australian blackwood (*Acacia melanoxylon*),
- Poplars species (*Populos spp*.),
- European ash (*Fraxinus spp*.),
- Alder (*Alnus Glutinosa*),
- Cedrus (*Cupressocyparis leylandii*),
- White cedar (*Cupressus lusitanica*),
- Portuguese chestnut (*Castanea sativa*),
- Portuguese oak (*Quercus faginea*),
- Blue gum (*Eucalyptus globulus*),
- Red gum (*Eucalyptus camaldulensis*).

j. Volume of primary feedstock from primary forest: None (0 tons)

k. List percentage of primary feedstock from primary forest (j), by the following categories.

SBP-approved Forest Management Schemes:

- Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme
- Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme

Not applicable (0%).

l. Volume of secondary feedstock: 40 503,69 tons (sawdust, chipped slab wood and offcuts).

m. Volume of tertiary feedstock: None (0 tons).

3 Requirement for a Supply Base Evaluation

SBE completed	SBE not completed
☒	☐

For information on why an SBE was developed and implemented, please see chapter 4.2.

4 Supply Base Evaluation

4.1 Scope

Pinewells' Supply Base Evaluation (SBE) scope covers:

- Mainland Portugal;
- Primary Controlled Feedstock.

Pinewells is using the FSC CoC control system and the FSC Controlled Wood evaluation method.
Most of the feedstock received at Pinewells is Controlled Material and a small percentage is SBP-compliant feedstock.
SBE was completed for controlled material that Pinewells sources under its own FSC Controlled Wood system.

4.2 Justification

In the current pellet market, certification is becoming a key factor. The demand from clients to get SBP-certified products is increasing the awareness of producers to become certified on SBP Standard 1 – Feedstock Compliant.

Because only a minor percentage of feedstock is sourced from SBP-approved certification programs, Pinewells completed a Supply Base Evaluation to ensure its compliance with SBP requirements.

The Supply Base Evaluation was made according to SBP Standard 1 version 1.0 requirements and one assessment was made for Portugal with the applicable classification of the risks. This evaluation was based on a review and analysis of legal documents/requirements, public information from different sources, scientific research and other relevant sources or cartography.

Pinewells defined mitigation measures to reduce the risk and ensure a low risk for the indicators that were identified as "specified risks". The specified risks founded are possible to mitigate and Pinewells regularly monitors its suppliers to ensure the compliance.

Pinewells kept its sustainability team, developed several SBP procedures and a Best Practice Harvest Operations Guide.

4.3 Results of Risk Assessment

As a result of risk assessment carried out in line with the SBP standard 1, version 1.0, and considering the (final) draft of National Risk Assessment provided by ANPEB, Pinewells identified 15 indicators with the specified risk within its supply base (11 indicators have specified risk in the final draft NRA and 4 indicators Pinewells additionally considered as specified risk).

Table 4.3: Final results SBE risk assessment (15 specified risks)

SBP Indicator	NRA PT Final Draft	Specified Risks Pinewells
1.1.2	Feedstock can be traced back to the defined Supply Base.	
	Yes	The Portuguese timber industry imports much pine raw material, mostly from Spain. There are several documents that should accompany raw material supply and identify the origin of the raw material. See also indicator 1.2.1 below.
1.2.1	The Biomass Producer has implemented appropriate control systems and procedures to ensure that legality of ownership and land use can be demonstrated for the Supply Base	
	Yes	Pinewells does not buy any wood from wood suppliers without a valid company registration, nor from wood lands, of which the owner rights are disputed. Any dispute concerning the ownership of the wood needs to be solved first. Additional investigations are conducted by means of legal document research and extends to, for example, interviewing local stakeholders (owners of neighbouring wood lands) and local authorities, whenever: a. Cadastral data are unavailable; b. The land will be impounded by the government; c. There are complaints about the land owner, or the harvest operation. In these cases, the internal procedure 'Procedure on the legality and origin of raw material' is activated.
2.1.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that forests and other areas with high conservation values are identified and mapped.	
	Yes HCV 1+3	**HCV 1+3+4+5** In chapter 9 of this report a list of websites is given for identifying and mapping the HCVs. See indicator 2.1.2. for more information.
2.1.2	The Biomass Producer has implemented appropriate control systems and procedures to identify and address potential threats to forests and other areas with high conservation values from forest management activities.	
	Yes HCV 1+3	**HCV 1+3+4+5** **HCV 1 – Species diversity** There is a specified risk that forest operations on private and communitarian grounds and public areas not managed by ICNF could harm species diversity. Species diversity is evaluated and recorded before harvesting operations commence. Special attention should be given to the National System of Classified Areas (SNAC) and to Important Bird and Biodiversity Areas (IBAs).

		See below, indicator 2.2.4 **HCV 3 – Ecosystems and habitats** There is a specified risk that forest operations on private and communitarian grounds and public areas not managed by ICNF could harm ecosystems and habitats. See below, indicator 2.2.3 **HCV 4 – Critical ecosystem services & HCV 5 – Community needs** This is a specified the risk on private, communitarian, and public forest areas not managed by ICNF, subject to clear cutting at dimensions above to the maximum area indicated for each region by the Regional Forestry Management Plan (PROF). There are no indigenous people in Portugal, but in it is important to evaluate the interests of the (local) population and social-economic functions of the forests and woodlands (including agricultural or municipal functions). Building fences around forests is most of the time undesirable. See below, indicators 2.2.2, 2.2.3, 2.4.1 and 2.5.1. Indicator 2.6.1 functions as a safety net.
2.1.3	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not sourced from forests converted to production plantation forest or non-forest lands after January 2008.	
	No	Pinewells considers all pine stands as forests and eucalyptus stands as plantations. Pinewells checks if forests have been changed to plantations. There is a specified risk that this indicator is not met. There are no assurances, new eucalyptus plantations from after Jan. 2008 are not already maintained or harvested. First maintenance cuts are done after 8 years and the present forest fires result in instant harvesting of plantations. Besides, poplar and other tree species can be considered a plantation and the new law proposal only covers Eucalyptus. 21 March 2017, the Minister Council approved a law proposal that reviews the Legal Regime of Arborisation and Reforestation Actions. It blocks the expansion of the eucalyptus plantation areas, allowing new plantations only as compensation for areas previously occupied by eucalyptus and currently abandoned. It will be mandatory that the areas previously occupied by this species shall be cleaned and used for other agricultural or forestry activities.
2.2.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation and monitoring to minimise them.	
	Yes	Sometimes no forest plan is available (no PROF, PGF ZIF, PUB, SNAC, as well as no PEFC or FSC certification). Additional assessments of environmental impacts need to be made and recorded before harvest.

		See also indicators 2.2.2, 2.2.3, 2.2.4, and 2.4.2.
2.2.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is sourced from forests where management maintains or improves soil quality (CPET S5b).	
	No	In some regions, there is the problem of degradation of (poor) soils due to previous land-use practices and climate change.
2.2.3	The Biomass Producer has implemented appropriate control systems and procedures to ensure that key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).	
	Yes	In Portugal, key ecosystems and habitats are mostly located in Protected areas and in Classified Areas (Natura 2000). However, approximately 2/3 of classified areas are not included in protected areas of the National Network of Protected Areas. Besides, there are key ecosystems and habitats occurring outside Protected and Classified areas.
2.2.4	The Biomass Producer has implemented appropriate control systems and procedures to ensure that biodiversity is protected (CPET S5b).	
	Yes	About 3,600 species of plants can be found in Portugal. There are 69 taxa of terrestrial mammals, a total of 313 bird species, of which around 35% are threatened in some ways, and 17 amphibians and 34 reptile species that are present in Portugal. Some of the main threats to the biological diversity of Portugal include: alteration or destruction of habitats; pollution; overexploitation; invasive alien species; urbanization and fires.
2.3.2	Adequate training is provided for all personnel, including employees and contractors (CPET S6d).	
	Yes	This is not covered sufficiently. The National Strategy for Forests states that the focus on the professionalization and training of the different actors in the forestry sector is of key importance for increasing the competitiveness and, thereby, the development of the sector.
2.4.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that natural processes, such as fires, pests and diseases are managed appropriately (CPET S7b).	
	Yes	Pests, diseases and fires are today the greatest perceived risks in the Portuguese forest sector. As stated in previous indicator biotic and abiotic risks are supported by disturbances affect in 2011 24% of the forest area, generated by a regressive vicious cycle that combines fire, ‘seca’, pests, diseases and invasive species.
2.5.1	Legal, customary and traditional tenure and use rights of indigenous people and local communities related to the forest are identified, documented and respected (CPET S9).	

	No	There is a specified risk that the rights of local communities could be violated, but it is an exceptional one. If the land area to be harvested is fenced, moreover, if it has been recently fenced, the opinion of residents is assessed. Abuse of fences, blocked roads, and inadequate signs makes the feedstock non-compliant to the requirements of the SBE program. In Portugal entering private forest lands is not considered an invasion and the use of wild products is common practise. There are no indigenous people in Portugal.
2.6.1	Appropriate mechanisms are in place for resolving grievances and disputes, including those relating to tenure and use rights, to forest management practices and to work conditions.	
	No	There are a very large number of land owners with extremely small forested properties in Portugal. Some regions of the country the lack cadastral data, which gives problems on assessing the boundaries of harvesting plots. Cultural and social interests could be overlooked. The aim is to track down and solve grievances and disputes before the harvesting operations commence, with special attention to the indicators, which are categorised 'specified risk'.
2.8.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate safeguards are put in place to protect the health and safety of forest workers (CPET S12).	
	Yes	International Trade Union Confederation (IUTC) ranks countries against 97 indicators to assess where workers' rights are best protected. Portugal has a rating of 3 (from 1 to 5+). This score is given for countries where: (There are) 'Regular violation of rights. The government and/or companies are regularly interfering in collective labour rights. There are deficiencies in laws and/or certain practices which make frequent violations possible.'
2.9.1	Feedstock is not sourced from areas that had high carbon stocks in January 2008 and no longer have those high carbon stocks.	
	No	There is a specified risk of reducing high carbon stocks, but it is not a prominent one. Considering the positive general trend of carbon accumulation by forests in Portugal, this risk has a regional to local (exceptional) character and is more specifically related to the risks mentioned in the following indicators: d. 2.1.3 (land conversion); e. 2.2.2 (degradation of grounds). For example, the conversion of forests to urban use is significant (28 thousand ha). In total, the forest area decreased by 150 611 ha, 85% of these forest lands were converted to 'weeds and pastures' (between 1995 and 2010, according to the ICNF).

4.4 Results of Supplier Verification Programme

Regarding SBP Standard 2, chapter 14 on the Supplier Verification Program:

14.1 The purpose of the SVP is to assign a risk level to those indicators where the RA was inconclusive (i.e. for indicators initially rated as unspecified risk).

The RA had no inconclusive indicators. The results of the RA have been discussed with feedstock suppliers and other stakeholders. The indicators, risks, mitigation measures, and indicators were clear. The Evaluation of the risks and possible impacts of harvesting operations (EoR) and risk mitigation measures are regularly evaluated (and, whenever possible, improved).

Because new plots are being prepared for harvesting operations all the time, the implementation of the mitigation measures is an ongoing process. Pinewells checks relevant data and the results of the harvesting teams. In this process, the risks and mitigation measures are being specified on a practical level (for more information see chapter 8. 'Supplier Verification Programme' of this SBR.

14.2 The SVP might include field based assessments of indicators (for example, audit of the BP's feedstock suppliers).

Pinewells has been implementing inspections of its feedstock suppliers for a long time. It has a sampling and monitoring procedure. All feedstock suppliers are inspected. Pinewells trains feedstock suppliers to reach the level of selected suppliers that can deliver SBP-compliant feedstock.

14.3 The purpose, extent and nature of any SVP evaluation and the associated mitigation measures shall be documented.

Pinewells makes a report on every company visit and every field inspection. The selected feedstock suppliers also report on the harvesting area before cutting and an Evaluation of the risks and possible impacts of harvesting operations (EoR) is made.

14.4 More detailed requirements for SVP evaluation are given in Instruction Note 2A. Supplier Verification Programme – Requirements for Biomass Producers.

See below

Regarding Instruction Note 2A. Supplier Verification Programme – Requirements for Biomass Producers:

1 General Requirements

1.1 The BP shall proactively and transparently engage affected stakeholders in its SBE planning and monitoring processes, proportionate to the scale, intensity and risk of management activities. It shall engage interested stakeholders on request.

The SBE is had a stakeholder consultation process (chapter 6 of this report) in which this point is covered.

1.2 Affected stakeholders shall be notified in advance of the SBE if feedstock harvesting is likely to negatively impact on them. They shall also be provided with opportunities for engagement in order to identify ways to avoid or reduce any negative impacts.

Same as article 1.1. this becomes of importance as soon as harvesting operations are being planned. Pinewells demands an evaluation of the impact before harvesting commences.

1.3 Interested stakeholders shall be notified at least one month in advance of the end of the SBE, and shall be provided with opportunities for engagement in management planning and monitoring processes likely to impact on their interests.

Same as point 1.1. Pinewells encourages all stakeholders to come forward with their interests related to forest management. All complaints or suggestions obtained are dealt with seriously and recorded.

2 Stakeholder Concerns

2.1 The BP is not required to reach a consensus with stakeholders, but shall consider relevant stakeholder concerns.

Same as the General Requirements above.

3 Records

3.1 The BP shall keep the following records:

a) Lists of individuals/organisations invited to comment

b) Copies of any correspondence and comments received.

The SBE went through a stakeholder consultation process (chapter 6 of this report) in which this point is covered.

4.5 Conclusion

The purpose of this SBE is to evaluate the level of risks for all the indicators in SBP standard 1. For all the indicators identified as 'specified risk', Pinewells explains and describes the management operations for the processes.

Discussion points and opinions on possible sustainability risks in feedstock procurement in Portugal have been studied in detail over the last years during the process of the SBP NRA. In general, there is a good understanding of the necessity of performing additional Risk Mitigating Measures (RMMs).

Considering the discussion points on sustainability in Portugal today, Pinewells accepted practically all as 'specified risk'. In total 15 indicators were assessed to have a specified risk. Pinewells categorized indicator 2.6.1 as specified risk, because of its important function as a safety net for sufficient performance on other indicators in the long run.

Forest ownership in Portugal is fragmented, it is therefore clear that several forest management tasks, starting with an evaluation of ecological, economic and social impacts of operational plans should be considered by the wood harvesting companies and their customers.

Because of the implementation of the FSC Controlled Wood and Due Diligence evaluations, one RMM was already in place, namely the traceability of the feedstock down to its origin. Pinewells does not work with feedstock that is not at least controlled material.

In general, many specified risks were found during the SBP SBE, however, they are manageable. Forestry in Portugal has a long history and, in general, sustainability is respected. Corruption in Portugal is relatively low, what is validated by the CPI score of 64 points (Corruption Perceptions Index 2018).

The Supply Base Evaluation process is described in chapter 5. It includes two steps:

- The approval of feedstock suppliers which can comply with the SBP requirements (SBP Standard 1)
- The approval of part of feedstock as SBP-compliant feedstock, from approved feedstock suppliers.

5 Supply Base Evaluation Process

Evaluation Team

The SBE is managed by the Quality Manager at Pinewells. The field work is performed by Sustainability Team that evaluate the felling areas together with the supplier, gives training onsite to the harvestings teams of the feedstock suppliers, about Health and Safety, Protective Equipment and forestry operations. The team was assisted by Rens Hartkamp and Tatiana Savelyeva, two external international consultants on SBP certification, which have been involved over 35 initial SBP projects and over 10 surveillance audits.

Development of the SBE

The Supply Base Evaluation took the final draft of the SBP National Risk Assessment (NRA) for Portugal into consideration, as also national legislation, national policies, and annual reports and publications of relevant institutions and authorities. During the preparation of the SBE, a detailed baseline study was made for each of the SBP indicators. A summarised description on each indicator is presented in Annex 1, and covers all relevant indicators of SBP Standard 1.

The evaluation team took the following steps in developing the Supply Base Evaluation:

- Develop the Risk Assessment and additional Risk Mitigation Measures (RMM) in cooperation with the suppliers of Pinewells (discussions on risks and analyses of non-conformities);
- Study the draft SBP National Risk Assessments (NRA) and compare it with Pinewells' own experience and procedures;
- Incorporate the RMM in the procedures of Pinewells (adapt and develop procedures and check-lists related to feedstock procurement);
- Train harvesting teams of primary feedstock suppliers;
- Evaluate the RMM during harvesting operations of feedstock suppliers in practise.

The Sustainability Team has been involved in wood procurement and field inspections and knows the legal framework in forestry.

Pinewells and its feedstock suppliers have experience in forestry in Portugal and most risk mitigation measures were already in place. The documents stated below are regularly evaluated and improved, when possible.

Relevant documents are:

- Signed declarations of feedstock suppliers;
- Procedure on the legality and origin of raw material;
- Evaluation of the risks and possible impacts of harvesting operations (EoR);
- Best Practice Harvest Operations Guide;
- Sampling and monitoring procedure
- Assessment reports and checklists on:
    - Harvest operations;
    - Primary feedstock suppliers;
- Complaint procedures and journals;
- Documentation accompanying feedstock supply

(related to the FSC evaluation of controlled material and verifying the origin of the wood).

The Risk Assessment (RA) did not result in inconclusive indicators (unspecified risks).

See also paragraph 4.3.

Approval of harvesting teams and feedstock suppliers

Harvesting teams and feedstock suppliers are treated in the same way they are assessed on their performance. Site visits are conducted nearly continuously to check operational performance and see how mitigation measures are implemented in practise. Pinewells checks the administration of suppliers (at their offices) of secondary residues at least once a year.

Those harvesting teams and feedstock suppliers showing a high level of understanding of the SBP indicators in their evaluations and during their harvesting operations are selected as 'SBE program approved'. As described in the following subsection, Pinewells, however, does not categorise all feedstock coming from the SBE approved suppliers as 'SBP-compliant feedstock'.

Pinewells' procedures regarding its harvesting teams, feedstock suppliers and their harvesting operations include:

- Training harvesting teams and feedstock suppliers;
- Checking performance of harvesting teams and feedstock suppliers;
- Selecting harvesting teams and feedstock suppliers that comply on the additional requirements to achieve 'SBP-compliant biomass';
- Withdrawal of the SBP SBE approval status whenever major non-conformances are found;
- Yearly training and re-evaluation of approved harvesting teams and feedstock suppliers.

Pinewells plans to 'SBE approve' external feedstock suppliers when they show excellent results on all risk mitigation procedures.

Pinewells' sampling and monitoring procedure applies to all primary feedstock suppliers, not only to the 'SBE approved' primary feedstock suppliers.

Implementation mitigation measures and acceptance of feedstock

The SBE was performed for the first time in 2017. The practical implementation of the risk mitigation measures is an on-going process, because new plots are being prepared for harvesting operations continuously. Risks and mitigation measures need to be specified on the level of practical harvesting operations.

Most risk mitigations measures were already in place. To address all possible risks, additions were made to several of the procedures of Pinewells. Important is the assessment of the plots prior to harvesting.

Steps taken to guarantee sustainable management of wood lands:

- Studying publicly available and other information regarding the plots were harvesting operations are planned and their surroundings;
- Informing harvesting teams and feedstock suppliers on found risks;

- Onsite assessment of the plots and their surroundings prior to harvesting, measures are taken when the possible risks related to the plot prove to be applicable; for example, when habitats are found;
- Evaluation of the risks and possible impacts of harvesting operations;
- Checking possible local interests, future plans regarding the land, and complaint management;
- Development of adaptions to the harvesting plans, if needed;
- Records are kept on the evaluation of risks, the investigation of the plot and its surroundings, and the performed measures.

Inspections of harvesting sites and feedstock suppliers include:

- The harvesting activities of harvesting teams and feedstock suppliers;
- The administration of the primary and secondary feedstock suppliers;
- The facilities and storages of (primary and) secondary feedstock suppliers.

Considering the situation in Portugal, in which there are more than half a million forest owners, and most own only a few hectares of land, not all feedstock provided by the SBE approved feedstock suppliers will automatically become SBP-compliant feedstock. There are factors beyond the reach of the selected feedstock suppliers, for example, if an estate has been poorly managed by a land owner. Pinewells does not categorise feedstock as compliant, if the wood land was insufficiently managed in the past or will be converted in the future.

Pinewells does not categorise feedstock as compliant, when:

- Land owners have managed their wood lands insufficiently, prior to the harvesting operations;
- The harvesting operations do not comply with the requirements on sustainability (SBP Standard 1)
- If future management of the land will not comply with the requirements on sustainability (SBP Standard 1), for example, because land conversion to urban use is planned

Whenever major violations of the FSC Controlled Wood or SBE indicators are found, such as violation of HCVs, the feedstock is not bought (or excluded and not used) by Pinewells.
Minor violations of the SBE indicators withhold volumes to be accepted as ‘SBP-compliant biomass’.

The work-flow of Pinewells on the Supply Base Evaluation is presented in table 1 (below).

Table 1: Supply Base Evaluation work-flow at Pinewells

1	**Cooperation with feedstock suppliers**	
1.1	Selected feedstock suppliers sign: - Supplier declaration.	
1.2	Training of feedstock suppliers on best practices and SBE requirements and procedures: - Best practices regarding harvesting operations.	
1.3	Evaluations of FSC CW by Pinewells: - Chamber of commerce information of the companies; - Proof of origin of the feedstock (only Portugal); - Procedure on the legality and origin of raw material (if unclear origin).	
1.4	*Primary feedstock suppliers* *In the scope of SBE* Pinewells checks: - the offices of feedstock suppliers (check list) - the field work of suppliers (check list)	*Secondary feedstock suppliers* *Outside the scope of SBE* Pinewells checks: - the offices of secondary (check list) - the primary feedstock suppliers (check list)
1.5	Individual program for feedstock suppliers on 'SBE approval' by Pinewells: - Internal audits of feedstock suppliers	
1.6	*Not (yet) SBE approved suppliers* Additional training and evaluations	*SBE approved suppliers* Re-evaluation of SBE requirements
2	**Harvesting operations by feedstock suppliers**	
2.1	Pinewells prepares information on risks at the harvesting site and informs the feedstock supplier. - Pinewells sends to all suppliers Part 1 of the evaluation of the risks and possible impacts of harvesting operations (**EoR**); - The 'SBP approved' suppliers do an own risk assessment of the harvesting site in detail (sometimes together with the Sustainability Team)	
2.2	Suppliers evaluate the plot: - History (management by land owner); - Present harvesting operations; - Future land use plans. The feedstock supplier answers the question: *Does the wood-land management comply with forestry best practices and all SBP requirements?*	**Yes:** Pinewells double checks the findings. If the information is confirmed, the feedstock is registered as **SBP-compliant feedstock** **No:** The supplier indicates the feedstock does not comply with all SBP requirements and explains why. Pinewells double checks if the feedstock still complies with the FSC CW requirements. If this is confirmed, the feedstock is registered as **SBP- controlled feedstock**
	Documents for the supplier: - Part 2. Evaluation of the risks and possible impacts of harvesting operations (EoR) - Best practices regarding harvesting operations - Checklist for feedstock suppliers	Documents for Pinewells: - Procedure on obtaining EoR results - Registering incoming feedstock
3	**Continuous cycle of field inspections by Pinewells**	
3.1	Inspections of the (ongoing) operations, documentation, and management decisions: - Sampling and monitoring procedure; - Checklists on field work. Checked are also: - Complaint procedures and journals; - Contracts on wood procurement (when no cadastral information).	Feedstock suppliers can: - Lose their status as an "SBE approved supplier" (minor violations) ; - Lose their supply agreement with Pinewells (major violations).

6 Stakeholder Consultation

The implementation of the risk assessment involved in consultation of interested parties via e-mail. The stakeholders consultation involved were wood suppliers, NGO's national authorities, renowned experts in nature conservation and forestry, among others.
The public consultation took place on 31 st October 2017 and 29th November 2017. An extension of the public consultation held until 20 December 2017 was carried out.
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6.1 Response to stakeholder comments

No comments or responses to Pinewells stakeholder consultations were received during the SBE process consultation.

7 Overview of Initial Assessment of Risk

Indicator	Specified Risk	Low Risk	Unspecified Risk
1.1.1		X	
1.1.2	X		
1.1.3		X	
1.2.1	X		
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1	X		
2.1.2	X		
2.1.3	X		
2.2.1	X		
2.2.2	X		
2.2.3	X		
2.2.4	X		
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	
2.3.1		X	
2.3.2	X		
2.3.3		x	
2.4.1		X	
2.4.2	X		
2.4.3		X	
2.5.1	X		
2.5.2		X	
2.6.1	X		
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1	X		
2.9.1	X		
2.9.2		X	
2.10.1		X	

8 Supplier Verification Programme

8.1 Description of the Supplier Verification Programme

The Risk Assessment (RA) had no inconclusive indicators (no ‘unspecified risks’). The results of the RA have been discussed with feedstock suppliers and a large range of stakeholders. The indicators, risks, and mitigation measures, were clear.

Chapter 5 describes the system of guaranteeing the specified risks are assessed and mitigated on the level of harvesting plots and operations.

8.2 Site visits

Not applicable, for more information see 8.1 and chapter 5.

8.3 Conclusions from the Supplier Verification Programme

Not applicable, for more information see 8.1 and chapter 5.

9 Mitigation Measures

9.1 Mitigation measures

1.1.2	***Feedstock can be traced back to the defined Supply Base***
Mitigation measures	Pinewells does not buy any wood from wood suppliers without a valid company registration and delivery documentation indicating the place of harvest. When there is not cadastre information, the Pinewells team goes to the felling area to talk with the stakeholders: the owners, neighbours and people that live in the area. The Due Diligence System and the 'PO31_0 Monitoring and inspection system' and 'Procedure on the legality and origin of raw material' state appropriate control systems. See also indicator 1.2.1.
1.2.1	***The Biomass Producer has implemented appropriate control systems and procedures to ensure that legality of ownership and land use can be demonstrated for the Supply Base***
Mitigation measures	Pinewells does not buy any wood from wood suppliers without a valid company registration, or from wood lands, of which the owner rights are disputed. Any dispute concerning the ownership of the wood needs to be solved first. In cases with doubt, mostly due to the absence of cadastral data, Pinewells decides to double-check if there are no legal issues to the harvest operations. In these cases, the internal procedure 'Procedure on the legality and origin of raw material' is activated'. Additional investigations are conducted by means of legal document research and extends to, for example, interviewing local stakeholders (owners of neighbouring wood lands) and local authorities, whenever: • Cadastral data are unavailable; • The land will be impounded by the government; • There are complaints about the land owner, or the harvest operation. All suppliers must have an 'Economic operator registration'. Pinewells only accepts feedstock delivered with a 'Manifest' and checks if the feedstock suppliers fulfil their fiscal and legal obligations. Considering the 'Procedure on the legality and origin of raw material', the following aspects are addressed: • Formalization of the business through a purchase and sales agreement between the parties; • Identification of the plot / area (harvesting permit, if available); • Mapping of the plot; • Type of wood land and tree species.

	A site visit is always conducted. An interview with the land owner or his representative clarifies: • Identification of the owner (citizen card); • Proof of land ownership; • Ground boundaries of the land ownership; • Any special issues regarding the land rights. This procedure also indicates the resolution of grievances and disputes, including those relating to tenure and land use rights to forest (or land) management practices and working conditions. Whenever any of the above occurs, the technical responsible is contacted and called to the location whenever necessary. If there are unsolved issues related to the feedstock the procurement does not take place.
2.1.1	***The Biomass Producer has implemented appropriate control systems and procedures for verifying that forests and other areas with high conservation values are identified and mapped.***
Mitigation measures	The control system for feedstock, which also includes regular inspections of suppliers, is duly implemented. All used material is traceable to its origin through the harvest manifests and transport guides. All suppliers have to comply with the laws in force, which are supervised by the Tax Authority and the ICNF (Please see the file 'Plano Regional de Ordenamento Florestal' 'Documentation point 4 'cartografia síntese' (ICNF) for each region). Some HCV areas are designated as protected and classified areas at the national or EU level (Natura 2000). There are also smaller areas or biotopes important to biodiversity, or classified as priority species' habitats. Pinewells identifies and maps of areas with high conservation values (HCVs). HCV 1, 3, 4 and 5 were assessed to have a specified risk. Extra effort is needed to identify and map these values. Internet sources, as well as the local situation needs to be studied. In the process, HCV 6 is also checked. Previous cartography is useful for field work preparations. General approach to mitigating the risks: 1) Pinewells prepares (publicly available) data on all relevant HCV. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognize the HCV and how to conserve them. 3) The harvesting teams inspect visually the plot and report on the results. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. 4) Best practices are used, including measures to conserve and increase HCV. 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. Below are listed the main sources of information, used to prepare the identification of these values. The feedstock suppliers evaluate every plot before the harvesting operations begin.

	Pinewells inspects the suppliers and harvesting areas. ***HCV 1 – Species diversity:*** ➢ Classified areas: http://www.icnf.pt/portal/naturaclas/cart ➢ Protected area plans: http://www.icnf.pt/portal/naturaclas/ordgest/poap ➢ Endangered species: http://www.icnf.pt/portal/naturaclas/patrinatur/especies ➢ Endemic species: http://naturdata.com/index.php?option=com_content&view=article&id=78&Itemid=60 ➢ Digital mapping information from the Manual das Linhas Eléctricas [Manual of Electric Lines] (ICNB 2008) ➢ Important Bird Areas of Portugal at: http://ibas-terrestres.spea.pt/ ➢ Regional Forest Plans (PROF): http://www.icnf.pt/portal/florestas/profs ***HCV 3 – Ecosystems and habitats:*** ➢ Habitats Directive (2007-2012) ➢ Rede Natura 2000 database: http://www.icnf.pt/portal/naturaclas/rn2000 ➢ Important Bird Areas of Portugal at: http://ibas-terrestres.spea.pt/ ➢ Convention on Biological Diversity (CBD) via DL no. 21/93, dated 29 June ***HCV 4 – Critical ecosystem services & HCV 5 – Community needs:*** ➢ Habeas-Hotspot Areas for Biodiversity and Ecosystem Services http://www.habeas-med.org/webgis/pt_en/ ➢ Forests located in critical areas - defined and mapped in REN-National Ecological Reserve. **General sources of information:** ➢ HABEAS: http://www.habeas-med.org/webgis/pt_en/ http://www.icnf.pt/portal/florestas/profs ➢ SNAC Legislation https://dre.pt/application/file/70698029 ➢ RNAP: http://www.icnf.pt/portal/ap/ap ➢ National Conservation Plano of threatened Flora information http://www.icnf.pt/portal/naturaclas/patrinatur/conserv-flora-perigo ➢ Site characterization SIC e ZPE: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/Plan-set-docs ➢ Data Base for fauna and flora specific plans: http://www.icnf.pt/portal/naturaclas/patrinatur/especies ➢ DRE: http://www.icnf.pt/portal/icnf/legisl/legislacao/2012/lei-n.o-53-2012-de-5-de-setembro.-d.-r.-n.o-172-serie-i ➢ http://www.icnf.pt/portal/florestas/profs/alt-minh ➢ http://www.icnf.pt/portal/florestas/profs/baix-minh ➢ http://www.icnf.pt/portal/florestas/profs/nordest ➢ http://www.icnf.pt/portal/florestas/profs/centr-lit ➢ http://www.icnf.pt/portal/florestas/profs/ampedv ➢ Reptile and amphibious of Portugal (2008): http://www.icnf.pt/portal/naturaclas/patrinatur/atlas-anfi-rept/anfibios ➢ Red book for Portuguese Vertebrates (2005):

	http://www.icnf.pt/portal/naturaclas/patrinatur/lvv ➢ Flora identification: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/psrn-flora ➢ Electric wire line manual (ICNB 2008) http://www.icnf.pt/portal/naturaclas/ordgest/aa/resource/doc/man-infra-lin ➢ Law for natural values cadastre: Decree-Law n.º 242/2015 at 15/10 https://dre.pt/application/conteudo/70693924 ➢ Fresh water Fish National cartography: http://www.cartapiscicola.org/ ➢ Flora cartographic source: http://www.flora-on.pt/ ➢ Cartography (2015) http://webgis.spea.pt/AtlasAvesInvernantesMigradoras/ ➢ AIIF: http://www.aiff.org.pt/assets/ESTUDO_Prospetivo_-Sector-Florestal.pdf ➢ AIIF: http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-res-prelimv1-1 ➢ Status & Trends in Sustainable Forest Management in Europe https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/dfci/Resource/doc/rel/2013/relatorio-dfci-ap-2013 ➢ ICNF: http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ➢ ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/rel-tec/picoes-rel-tecn ➢ UNECE https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ➢ Martins M.J & Cerdeira, J.O. (2009) A Language and Environment for Statistical Computing. Vienna, Austria, R Foundation for Statistical Computing; & Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/florestat ➢ ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-term-def ➢ APFC: http://www.apfc.pt/xms/files/Eventos/Projetos_APFC_para_a_sanidade.pdf ➢ INIAV: http://www.iniav.pt/fotos/gca/livro_causas_doc_sintese_1369127896.pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/foflo/pdr2020/resource/doc/Areas-rrc-v-final.pdf ➢ Planos de Gestão Florestal de areas públicas: http://www.icnf.pt/portal/florestas/gf/pgf/publicitacoes/encerradas ➢ Kirkby, M.J et all. European Soil Bureau Research Report No.16, EUR 21176, 18pp. and 1 map in ISO B1 format. Office for Official Publications of the European Communities, Luxembourg. European Soil Portal, 2013, ➢ http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/esb_rr/n16_ThePeseraMapBkLet52.pdf ➢ Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º ➢ Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/florestat ➢ Reserva Ecológica Nacional

	https://dre.pt/application/dir/pdf1sdip/2012/11/21200/0630806346.pdf ➢ Sistema Nacional de Defesa da Floresta Contra Incêndios: https://dre.pt/application/dir/pdf1sdip/2006/06/123A00/45864599.pdf ➢ ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ➢ PANCD https://dre.pt/application/file/65985917 ➢ PDR2020 http://www.pdr-2020.pt/site/O-PDR2020/Arquitetura/Area-3-Ambiente-Eficiencia-no-Uso-dos-Recursos-e-Clima/Medida-7-Agricultura-e-Recursos-Naturais/Acao-7.11-Investimentos-nao-produtivos/Operacao-7.11.1-Investimentos-nao-produtivos ➢ Fundo Florestal Permanente:http://www.icnf.pt/portal/icnf/noticias/gloablnews/fundo-florestal-permanente-ffp ➢ Alves, A. M., Pereira, J. S., Correia, A. V., 2012. Silvicultura - A gestão dos ecossistemas florestais. Fundação Calouste Gulbenkian. ➢ ICNF http://www.icnf.pt/portal/florestas/aip/aip-monum-pt
2.1.2	***The Biomass Producer has implemented appropriate control systems and procedures to identify and address potential threats to forests and other areas with high conservation values from forest management activities.***
Mitigation measures	Pinewells identifies and addresses potential threats to forests and other areas with high conservation values (HCVs). HCV 1, 3, 4, and 5 were assessed to have a specified risk. See also the explanation above (indicator 2.1.1). Pinewells ensures: • mapping HCV areas of the harvesting plot; • harvesting according to the technical rules in forestry; • best forestry practices, respecting environmental sustainability and safety; • cleaning of waste from plantations; • tree species (no genetically modified trees). The feedstock suppliers evaluate every plot before the harvesting operations begin. Pinewells inspects the suppliers and harvesting and keeps records of field inspections and monitoring results. **HCV 1 – Species diversity** There is a specified risk that forest operations on private and communitarian grounds and public areas not managed by ICNF could harm species diversity. Species diversity is evaluated and recorded before harvesting operations commence. Caution and best practises are applied. Special attention is given to the National System of Classified Areas (SNAC) and to the Important Bird and Biodiversity Areas (IBAs). See also indicator 2.2.4 **HCV 3 – Ecosystems and habitats** There is a specified risk that forest operations on private and communitarian grounds and

	public areas not managed by ICNF could harm ecosystems and habitats. In these situations, the supplier evaluates the environmental impacts (on Ecosystems and habitats) of the forest operations before the forest operations commence. Caution and best practises are applied. The forest specialist of Pinewells checks the assessment and does field inspections. The inspections are recorded. See also indicator 2.2.3 **HCV 4 – Critical ecosystem services & HCV 5 – Community needs** This is a specified the risk on private, communitarian, and public forest areas not managed by ICNF, subject to clear cutting at dimensions above to the maximum area indicated for each region by the Regional Forestry Management Plan (PROF). This point is evaluated and recorded before the forest operations commence. Caution and best practises are applied. Clear cuts are reduced to the maximum size indicated in the PROFs, or even further, if the environmental aspects, such as hillslopes, require special attention. There are no indigenous people in Portugal, but it is important to evaluate the interests of the (local) population and social-economic functions of the forests and woodlands (including agricultural or municipal functions). Building fences around forests is most of the time undesirable. See also indicators 2.2.2, 2.2.3, 2.2.6, 2.4.1 and 2.5.1 (and 2.6.1 as 'safety net').
2.1.3	***The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not sourced from forests converted to production plantation forest or non-forest lands after January 2008.***
Mitigation measures	Pinewells considers all pine stands as forests and eucalyptus and Poplar stands as plantations. Pinewells checks if forests have been changed to (eucalyptus) or Poplar plantations after 2008. The approach to mitigating this risk: 1) Feedstock suppliers are trained to recognize converted lands to eucalyptus plantations; 2) The harvesting teams inspect visually the plot and report on the results. When a eucalyptus or and Poplar plantation is cut the history of the plantation is investigated. First the age of the plantation is determined. If could be form after Jan. 2008, the land owner and/or residents are questioned, and the plot is searched for old tree stumps. The results are reported in the Evaluation of the risks and possible impacts of harvesting operations (EoR). 3) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers.
2.2.1	***The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation and monitoring to minimise them.***

Mitigation measures	There is a specified risk on this point, mainly in case no forest plan is available (no PROF, PGF ZIF, PUB, SNAC, as well as no PEFC or FSC certification). Pinewells always demands its Evaluation of the risks and possible impacts of harvesting operations (EoR). The EoR evaluates: a. The possible economical, ecological and social impact of the forest operations including its surroundings. Harvesting operations can be changed to avoid negative impacts. b. The quality of the management (by the land owner) prior to harvesting and regeneration plan. Indicators 2.2.2, 2.2.3, 2.2.4, 2.2.6, and 2.4.2 include relevant management measures which are checked during the EoR. Pinewells monitors the plots to be harvested and checks the EoR of its feedstock suppliers and the performed Risk Mitigation Measures (RMM). Pinewells does not classify all feedstock coming from the 'SBE approved suppliers' as 'SBP-compliant feedstock'. For example, if an estate has been poorly managed by a forest owner in the past, or does not comply with the SBE requirements on forest regeneration. Pinewells does not categorize feedstock as 'SBP-compliant feedstock'. Also for areas without the legally mandatory EIA, Pinewells requires evaluations of the area, with relevant information to ensure compliance with this indicator. This information will be checked in the field during the audits made by Pinewells team.
2.2.2	***The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is sourced from forests where management maintains or improves soil quality (CPET S5b).***
Mitigation measures	Pinewells does fields inspections and checks feedstock and the felling area. In addition, trainings are given to suppliers on best forest practice guide. Pinewells demands an Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. The EoR addresses the specified risk on soil degradation. Best practices regarding harvesting operations have to be applied. a. Low intensity of forestry, selective cuttings and small clear cuts of maximally 5 ha. were needed considering the soil and groundwater level. b. Regeneration focusses on tree species that maintain or improve soil quality c. Leave nutrients in the forests, mainly the green fraction of forest residues (on the other hand other forest residues need to be cleared to prevent forest fires. d. Do not operate near-water areas. For example, on dry locations (elevated grounds or on slopes) selective cuttings are required, because the ground gets less direct impact of the sun and the forest and (natural) regeneration can maintain soil quality. On other locations (small) clear cuts can sometimes have the advantage that several kinds of broadleaved trees regenerate naturally, what improves soil quality. After clear cuts, the groundwater level can rise, what sometimes is an advantage, sometimes a disadvantage.

	The approach to mitigating this risk: 1) Pinewells prepares data and this information is given to feedstock suppliers. 2) Feedstock suppliers are trained to recognize the soil quality and how to conserve them. 3) Before harvesting operations commence the plot is evaluated on this point and records are kept. Best forestry practises are applied. Maps can be obtained from 'Reserva Ecológica Nacional' (REN). 4) Best practices are used, including measures to conserve and increase soil quality. 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. Poor soil quality can lead to erosion, etc; this indicator is related to indicator 2.2.6.
2.2.3	***The Biomass Producer has implemented appropriate control systems and procedures to ensure that key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).***
Mitigation measures	The approach to mitigating this risk: 1) Pinewells prepares (publicly available) data on ecosystems and habitats (see above 2.1.1 on mapping and 2.1.2 on identifying and addressing potential threats). The key ecosystems and habitats are identified in Protected and Classified areas. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognise key ecosystems and habitats. 3) Before harvesting operations commence the plot is evaluated on this point and records are kept. Best forestry practises are applied. Most importantly, the feedstock suppliers inspect visually the harvesting plot and report on the results. Key ecosystems and habitats are indicated on the harvesting maps. Best practises are used to protect the high ecological values. The harvesting operations conserve these objects, mainly by not cutting the woodland or forest directly around them. In exceptional cases, low intensity harvesting operations are possible without damaging these objects. a. Study key ecosystems on the harvesting plot, conserve areas of ecological value b. Study flora and fauna at the harvesting plot, nests, breeding areas, anthills conserve protected tree species and habitats c. Do not operate near-water areas. 4) Best practices are used. Pinewells as its own Best Practice Harvest Operations Guide . 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. The protection and conservation of ecosystems and habitats are also covered in indicator 2.2.4 (biodiversity protection indicator).
2.2.4	***The Biomass Producer has implemented appropriate control systems and procedures to ensure that biodiversity is protected (CPET S5b).***

Mitigation measures	The approach to mitigating this risk: 1) Pinewells prepares data on biodiversity researches and programs, red lists of Portugal, CITES, etc. (see above 2.1.1 on mapping and 2.1.2 on identifying and addressing potential threats, HCV 1 – Species diversity). This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognise the protected biodiversity and how to conserve them. These species are often related (it can be indicator species) to key ecosystems which need conserved (previous indicator). 3) The harvesting teams inspect visually the plot, make photos and report on the results. Endangered flora and fauna are indicated on the harvesting maps. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. 4) Best practises are used, including measures to conserve and increase biodiversity (for example, standing dead wood, prescribed burning and other disturbances improving the conditions for endangered species flora and fauna). 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers.
2.3.2	***Adequate training is provided for all personnel, including employees and contractors (CPET S6d).***
Mitigation measures	Pinewells trains its personnel on all relevant aspects and demands the same from its feedstock suppliers. During the supplier's office inspections are checked: the training records, (new) workforce, and the hiring of specialists. The level of knowledge of personnel is inspected during site visits. Pinewells does specialized training during the field inspections. It is done by the Sustainability Team. In addition, Pinewells checks the training registry of the employees of their suppliers, to ensure that adequate training is given, regarding the functions of the forest workers. The approach to mitigating this risk: 1) Feedstock suppliers are trained by Pinewells about Best Practice Harvest Operations Guide and Health and Safety at work. The owner of harvesting company demands from its workers to have specified training to work on forest. 2) Best practises are used. 3) Pinewells monitors the harvesting operations of its feedstock suppliers.
2.4.2	***The Biomass Producer has implemented appropriate control systems and procedures for verifying that natural processes, such as fires, pests and diseases are managed appropriately (CPET S7b)***
Mitigation measures	The approach to mitigating this risk: 1) Pinewells studies data (from publicly available information, researches and programs) for harvesting teams on risks and regulations regarding fires, pests and diseases. This information is given to all feedstock suppliers.

	2) Feedstock suppliers are trained to recognise poor forest management and on mitigation measures. Pinewells team gives suppliers a Best Practice Harvest Operations Guide which includes prevention measures of fire risk. In addition, Pinewells gives training about this Guide to forest workers during the visits to the suppliers. This measure ensures that the workers are aware of the prevention measures. 3) The harvesting teams inspect visually the plot and make records. Pinewells demands its EoR from all feedstock suppliers, in which this point is addressed. Feedstock suppliers inspect if the plot was managed well on these points, if not, the feedstock is not considered compliant to the SBE program (will not become SBP-compliant feedstock). Regarding fires, before every harvesting operation an evaluation is made about the fire risk in that day. It will be checked if the harvesting area there is prevention measures applied in the case of fires. 4) Best practises, regarding management of fires, pests and diseases, include: a. Traps for NMP (Pine Wood Nematode *Bursaphelenchus xylophilus*, and its vector the insect *Monochamus galloprovincialis*); b. Use of net (cover) during transport of wood in the period insect vector NMP; c. Phytopharmaceutical application on the ground; d. Chipping and using wood with symptoms within 2, 3 days; e. Ensure that all suppliers have an economic operator registration; 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the submitted EoR's. Sufficient management by the forest owner and best practises by the harvesting teams are required to comply with the SBE program requirements.
2.5.1	***Legal, customary and traditional tenure and use rights of indigenous people and local communities related to the forest are identified, documented and respected (CPET S9)***
Mitigation measures	The approach to mitigating this risk: 1) Feedstock suppliers are trained to recognise possible issues with legal, customary and traditional tenure and use rights. 2) The harvesting teams inspect visually the plot have and abusive use of fences and inadequate sings including closed gates. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. This aspect is addressed. If the land area to be harvested is fenced, moreover, if it has been fenced recently, the opinion of residents is assessed. Abuse of fences, blocked roads, and inadequate signs makes the feedstock non-compliant the SBE program. 3) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. By addressing sustainable forest management and making an extra effort on indicators 1.2.1 and 2.6.1, Pinewells integrates respecting the interests of local people into its main procedures. There are no indigenous people in Portugal or minorities dependant on forests for their

	livelihood.
2.6.1	***Appropriate mechanisms are in place for resolving grievances and disputes, including those relating to tenure and use rights, to forest management practices and to work conditions***
Mitigation measures	The approach to mitigating this risk: 1) Pinewells actively prevents grievances and disputes to arise. The aim is to track down and solve grievances and disputes before the harvesting operations commence (or not to buy from the disputed plots). 2) Pinewells takes seriously any complaint of any person or organisation considering harvesting operations. This also ensures sufficient performance on respecting local interests (HCV 5) and cultural values (HCV 6). 3) Pinewells has a complaint procedure and keep records. The feedstock suppliers are also required to actively implement a complaint procedure and keep records. Pinewells demands its EoR from all feedstock suppliers, in which the interests of local population are assessed. 4) Pinewells monitors the harvesting operations of its feedstock suppliers and checks with them if there is Complaints and Comments. It checks with relevant stakeholders, such as land owners, if no comments were submitted, or if the complaints were dealt with sufficiently. 5) The results of the inspections of Pinewells have direct influence on the 'SBE program approved' status of feedstock suppliers.
2.8.1	***The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate safeguards are put in place to protect the health and safety of forest workers (CPET S12)***
Mitigation measures	The approach to mitigating this risk: 1) Pinewells has a rigorous control system and adequate procedures on the health and safety of forest workers. Pinewells demands the same from its feedstock suppliers and checks the health safety of harvesting personnel during its monitoring inspections. 2) During the office inspections of feedstock suppliers are checked: the H&S training records, workforce, and the hiring of specialists in forest security. 3) To ensure compliance with this indicator Pinewells has implemented a field inspection system. The inspections are conducted and verified with a checklist filled in with supplier evidences and information by Pinewells. Protective equipment and knowledge of personnel is inspected during site visits. a. Interviews with staff; b. Equipment safety measures; c. Fire extinguisher availability (normally in the forest tractor); d. First aid kit availability (normally in the forest tractor). 4) Pinewells gives training to all workers about best practices during the inspections that include an indicator about Health and safety. Every time Pinewells finds a lack of compliance, specific training will be given about the correct wear of protective

	equipment and the risks that are implied of not wearing it.
2.9.1	***Feedstock is not sourced from areas that had high carbon stocks in January 2008 and no longer have those high carbon stocks.***
Mitigation measures	The approach to mitigating this risk: 1) Pinewells studies data (from publicly available information, researches and programs) for its harvesting teams on aspects that can decrease the carbon stock. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained with good forest practice. 3) The harvesting teams inspect visually the plot. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. Studied are the history, the present harvesting plans, and the future of the land use. This risk has a regional to local (and exceptional) character and relates to changes to the standing stock and accumulated carbon in the ground. It is partly covered by the mitigation measures mentioned in the following indicators: a. 2.1.3 (land conversion); b. 2.2.2 (degradation of grounds); 4) Pinewells checks plots and the submitted EoRs.

9.2 Monitoring and outcomes

Regarding forestry in Portugal, Pinewells and its suppliers are motivated to cooperate with the many small forest land owners to implement risk mitigation measures. The evaluations and inspections, together with the developed documents give the possibility to assess if the feedstock deserves the claim of 'SBP compliant feedstock'. By profoundly preparing information on the specified risks and by implementing best practices regarding the harvesting operations, a substantial share of the feedstock can comply with the SBE program requirements.

Pinewells constantly monitors its feedstock suppliers to see if they comply with the mitigation measures. The Sustainability Team monitors the suppliers and their harvesting operations.

The 'SBE program approved' status of a feedstock supplier is re-evaluated every year and is directly suspended or withdrawn if a major violence of requirements has been found.

The feedstock suppliers have a forestry guide and received internal training. All harvesting personnel have been instructed to respect the requirements of the guide.

In the course and at the end of most forestry activities, the Sustainability Team checks if the harvesting operations are going well and the SBE procedures are followed.

All the inspections are recorded, and an evaluation of feedstock suppliers is made. Reports about the evaluation of the system and the audits of suppliers are done regularly.

During every inspection, Pinewells gives training and provides the Best Practice Harvest Operations Guide that includes the measures to be aware of. The Sustainability Team is in contact will all feedstock suppliers on the practical implementation of the requirements.

If mitigation measures applied do not downgrade the specified risk to low risk, the feedstock should not be considered as Feedstock Compliant. Anyway, evidences should be checked to ensure that at least could be classified as feedstock controlled.

If more follow up audits are needed to ensure compliance with the monitoring inspection, the sustainable team will do more field audit.

10 Detailed Findings for Indicators

Please see Annex 1 on the SBE.

11 Review of Report

11.1 Peer review

The report has taken into consideration the drafts of the SBP National Risk Assessment (NRA) for Portugal and was sent to a large stakeholder group for consultation. Pinewells has actively participated in the SBP NRA and has therefore profound knowledge of the present sustainability issues and discussions in Portugal. Therefore, a peer review was not necessary.

11.2 Public or additional reviews

The SBR and SBE was sent to a large group of stakeholders for their review (more information in chapter 6).

12 Approval of Report

Approval of Supply Base Report by senior management			
Report Prepared by:	*Nazaré Costa* 	*Quality Manager*	*13/03/2019*
	Name	**Title**	**Date**
The undersigned persons confirm that I/we are members of the organization'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 finalization of the report.			
Report approved by:	*Francisco Dias* 	*Administrative, Commercial and Logistics Director*	*13/03/2019*
	Name	**Title**	**Date**

13 Updates

This is the second surveillance audit.

13.1 Significant changes in the Supply Base

In 2018, Pinewells' Supply Base only covered mainland Portugal.
In 2017, Pinewells developed a Supply Base Evaluation (SBE) for mainland Portugal.
Pinewells did many internal inspections of its feedstock suppliers on basis of the SBE.

13.2 Effectiveness of previous mitigation measures

Several Risk Mitigation measures are being applied by Pinewells since 2016. In 2017, a complete SBE was done and an 'SBE approval program' for feedstock suppliers was implemented. The SBE includes Risk Mitigation Measures on all specified risks. These have proven to be effective. Because the mitigation measures are demanding and require additional trainings and internal inspections, Pinewells has chosen to approve suppliers on a case to case basis. Feedstock suppliers are only accepted if they show excellent results. The SBR was updated (including SBE) March 2019.

13.3 New risk ratings and mitigation measures

The present Supply Base Report lists all new risk ratings and the developed mitigation measures (see chapter and Annex 1 'Supply Base Evaluation').

13.4 Actual figures for feedstock over the previous 12 months

The volume of feedstock used in 2018 was 233 512,96 tons.

13.5 Projected figures for feedstock over the next 12 months

The expected volume of feedstock to be used in 2019 is 267 180 tons.

Annex 1: Detailed Findings for Supply Base Evaluation Indicators

	Indicator
1.1.1	The Biomass Producer's Supply Base is defined and mapped.
Finding	The SBE scope is 'Continental Portugal', it is concluded that there is low risk in relation to the definition and mapping of the supply base. Despite the incomplete geometric cadastre of the rural real estate, maps are available, from several sources at an appropriate scale to define geographically the origin of the supply base. The information available from delivery notes, felling manifests, invoices, among other legal documents, which contain the origin of the raw material (county, village) serves as definition of the source which enables, supported on maps available, the mapping of the supply base. Pinewells receives nearly all pine, eucalyptus, poplar from a 48 km radius around the plant, by trucks/lorries. Unloading and transport documents of the raw material include its designation, its origin is legally documented (manifest), identification of the suppliers, loggers, transport companies and documentation of the lorries. This is described below in this document.
Means of Verification	Delivery notes, felling manifests, invoices, among other legal documents. • The scope is defined and justified; • Maps to the appropriate scale are available; • Key personnel demonstrate an understanding of the supply base
Evidence Reviewed	• Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) • Inventario Florestal Nacional IFN5 (FloreStat_IFN5); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn5/rel-fin) • Inventario Florestal Nacional IFN6, preliminary results (IFN6 - Resultados preliminares.pdf); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn6) • Estatísticas Agrícolas 2015.xls, Instituto Nacional Estatística • (https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=271434407&PUBLICACOESmodo=2) • Decreto lei 16-2009 planos gestão florestal (https://dre.pt/application/dir/pdf1sdip/2009/01/00900/0026800273.pdf); • ICNF portal (http://www.icnf.pt/portal/icnf/legisl/legislacao/2009/decreto-lei-n.o-16-2009-de-14-de-janeiro.-d.r.-n.o-9-serie-i) • Normas Técnicas Planos Gestão Florestal • (http://www.icnf.pt/portal/florestas/gf/pgf/resource/doc/manual/normas-Tecn-PGF-AFN.pdf)

Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	See 1.1.2, 1.2.1. The harvesting teams make a map of the felling site.

	Indicator
1.1.2	Feedstock can be traced back to the defined Supply Base.
Finding	The pellets are at least FSC CW and SBP controlled biomass. Inspections from government are in place and operators must apply DDS to justify legality of timber. Pinewells executes an FSC CW Due Diligence system. Pinewells receives the document 'Manifesto' (Pine Wood Nematode) manifest contain the following information: • Operator or service provider information • Localization of the feedstock until the freguesia (small village) level • Quantities harvested • Others In Portugal operators take steps to ensure the legality of their suppliers, which allow compliance with the requirements of forest legislation. For harvesting operations, law No. 174/88 of 17 May is followed. To start any operations in the forest, the document named Manifest is filled and submitted to Direcção Geral dos Recursos Florestais (General Management of Forest Resources). Legal requirements include having the right and valid invoice or transport documentation are in place: • Regular invoice for trading operation or transport documentation or waybill, or devolution note • In case of pine or conifers timber the transporter must have an Economic Operator Registry and a phytosanitary Manifest for each feeling (if one feelings is transported several times it is mandatory to copy the manifest for all the transportations). Information obtained from Centro Pinus (non-profit association for key players of Pine based industry), INE and others shows that pine wood consumption of timber industry in 2014 was 4,360,000 m3 (1,300,000 m3 saw mill industry, 30%; 300,000 m3 biomass, 7% and 1,400,000 m3 pellets, 32% and 1.360.000 other uses not relevant for pellets industry). However, in 2014 there was available only 2,247,000 m3 of pine wood from Mainland Portugal (Pinus pinaster). As an obvious conclusion a lot of imported pine comes into Portuguese timber industry in 2014, mostly from Spain. Similar situation occurs for Eucalyptus in pulp and paper industry, which low quality parts may be also used in biomass industry. Information from Annual Bulletin of CELPA (Paper Industry Association) states that in 2014 it was imported 45% of total eucalyptus wood procured by

paper industry (2,415,000 m3 imported), in its vast majority round wood from Spain and at minor extent, chips from South America or Africa (usually FSC/PEFC certified or controlled).

Based on the fact that relevant volumes of imported material come into Portugal annually it is noted that imported material it is not covered by this RRA.

A felling manifest is obligatory for all common commercial harvesting activities and shall be submitted to forest authorities (ICNF) up to 30 days after the felling operation.

A National Action Plan for Control of Pinus Wilt Disease/Nemátodo-da-madeira-do-pinheiro (NMP) (*Bursaphelenchus xylophilus*) and its vector insect *Monochamus galloprovincialis* is in place and there is an obligation of previous communication of any felling and/or transportation of wood affected by this disease. The document (phytosanitary manifest) must accompany material until the arrival to industrial processing facilities. This is mostly focused on Pinus pinaster (23% of forest area) main source for BP.

The felling manifest, as well as the NMP manifest contain the following information:

- Operator or service provider information
- Localization of the feedstock until the freguesia (small village) level
- Quantities harvested
- Others

Simultaneously, approval documentation is required for specific operations on cork and holm Oak including cutting and pruning, Holly cutting, and also premature cuttings of Eucalyptus, Pinus pinaster or riparian vegetation.

Since 2013 and the introduction of the EUTR laws, operators are required to register their activities on a Digital Platform managed by forest authorities (ICNF).

Inspections from government are in place and operators must apply DDS to justify legality of timber. Regarding transportation, legal requirements include having the right and valid invoice or transport documentation are in place:

- Regular invoice for trading operation or transport documentation or waybill, or devolution note;
- CRM on international transportation

In the case of pine or conifers timber the transporter must have an Economic Operator Registry and a phytosanitary Manifest for each feeling (if one feeling is transported several times it is mandatory to copy the manifest for all the transportations). The issuance of required transport and sales documents is well understood and regulations are largely adhered to. Inspections are common at Portuguese roads and enforcement of regulations is considered adequate.

Felling phytosanitary manifest (NMP manifest) includes identification of the origin of the felling. Also documentation for transportation identifies the origin of the transport which could be useful in case of direct transport to BP facilities and in any case is useful in the traceability of material. Both are the most common ways to trace back to origin even if the origin area is not the forest land itself but the freguesia (minimum administrative division) where forest land is included.

	Several public authorities, such as SEPNA (Department of National Guard responsible for environment surveillance), ASAE (National Authority for the Food and Economic Safety) and ICNF, organize regular surveillance activities to verify the compliance of forest operators and wood transportation companies with the dispositions of the National Action Plan for Control of Pinus Wilt Disease. In 2016, SEPNA inspected 24'535 vehicles carrying wood logs and pallets and identified 424 infractions (1,7%) from which 295 refer to the lack of NMP manifest (1,2%) [Activity Report 2016]. There are systems in place to trace the feedstock primary origin back to the forest stand but it is possible to do so if there are elements in the manifests or transportation documents, which could be used in the cadastral system (as the article number and section) or geographic coordinates in areas without cadastral system. As evidenced by the low Corruption Perception Index of Portugal (63) and the high level of law enforcement documents such as invoices and transport documents are considered reliable sources of information. On the above background, the risk related to the traceability of feedstock back to the supply base is evaluated to be specified due to the lack of compliance of forest operators in delivering all the mandatory documents for every type of raw material delivered, specially, the felling manifest for species other than coniferous. The felling manifest plays an important role for hardwood raw material. In the case of coniferous raw material, the implementation of the phytosanitary felling manifest is widely spread and verified regularly by SEPNA and ASAE. Procedures to ensure the delivery of all mandatory documents shall be put in place.
Means of Verification	• Delivery notes, felling manifests, invoices, among other legal documents. • Copy of phytosanitary manifests (felling and/or transportation) for all conifers with geographic elements (cadastral and/or coordinates). • Invoices, waybills, transport/shipping documents. • The existence of a strong legal framework in the region. • Feedstock inputs, including species and volumes, are consistent with the defined Supply Base. • Transport documentation and goods-in records are consistent with the defined scope of the SBE.
Evidence Reviewed	Delivery notes, felling manifests, invoices, among other legal documents. The insurance of required transport and sales documents is well understood and regulations are largely adhered to. Inspections are common at Portuguese roads and enforcement of regulations is seen to be good. Felling phytosanitary manifest includes identification of the origin of the felling. Also documentation for transportation identifies the origin of the transport which could be useful in case of direct transport. For all other species, Pinewells receives documents on every transport that takes place in the chain from the raw material supplier to Pinewells. The transport documents state: the name and address of the operator and the sender or receiver, the name and quantity/volume of the

	shipped product, the place of provenance of the raw material and the date of the shipment. The person responsible for the purchase of the raw material is constantly accompanying the loggers and ensuring these issues. Estratégia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) Estatísticas Agrícolas 2015.xls, Instituto Nacional Estatística (https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=271434407&PUBLICACOESmodo=2) Boletim-Estatístico-da-Celpa-de-2014(http://www.celpa.pt/wpcontent/uploads/2016/09/Boletim_WEB_2015.pdf) Relatório-de-Caracterizacão-da-Fileira-Florestal-2014 (http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf) Cutting Permission in Law n.º 33/96, at 17/08 (article 7th) https://dre.pt/application/dir/pdf1sdip/1996/08/190A00/25682573.pdf Fileira do Pinho: desafios e oportunidades (centroPINUS_JoaoGonçalves dados fileira pinho 2014.pdf); Centro Pinus (http://www.centropinus.org/index.php?lingua=1) Decreto lei 123-2015 nematodo do Pinheiro (https://dre.pt/application/file/67649256); ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/ag-bn/nmp) Declaração Retificação n.º 38/2015 de 01/09 do Decreto lei 123-2015 nematodo do Pinheiro (https://dre.pt/application/file/70144398) Decreto lei 174-1988 manifesto corte (https://dre.pt/application/file/374768); ICNF portal(http://www.icnf.pt/portal/icnf/serv/formularios/manif/man-cort-arr-arvor) Registo de Operador de Madeira e Derivados ICNF portal (http://www.icnf.pt/portal/florestas/fileiras/reg-op) Decreto Lei 198/2012 de 24/08 FATURAS E OUTROS DOCUMENTOS COM RELEVÂNCIA FISCAL (http://info.portaldasfinancas.gov.pt/NR/rdonlyres/907FD2F4-9A9C-485D-8A99-FD164BF9FCEC/0/Decreto-Lei%20n%20_198_2012_24_08.pdf)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	Pinewells does not buy any wood from wood suppliers without a valid company registration and delivery documentation indicating the place of harvest. When there is not cadastre information, the Pinewells team goes to the felling area to talk with the stakeholders: the owners, neighbours and people that live in the area. The Due Diligence System and the 'PO31_0 Monitoring and inspection system' and 'Procedure on the legality and origin of raw material' state appropriate control systems. See also indicator 1.2.1.
	Indicator
1.1.3	The feedstock input profile is described and categorised by the mix of inputs.
Finding	As described in previous indicators Primary Feedstock comes mainly from private properties. Pinewells has specialists visiting our suppliers and working on risk assessments and mitigation.

	By far most resources come directly from the forest. There is no specific legislation regulating classification of wood/timber harvested in Portugal in terms of species, quantities or qualities. The fact that most of forests are productive and Eucalyptus, Pines and Cork Oak covers 78% of forest land, made that this issue is not perceived as a problem with national wood/timber. Industrial use of Eucalyptus and Pines ensure that they are adequately classified and measured. Felling manifests require identification of species and volumes and are obligatory for every forest species for industrial use. Since the supply chains are short, reliable information regarding the feedstock can be gathered in collaboration with the forest owners and other stakeholders the Wood Supply manager knows well, when necessary. Thus, accurate classification and description of type, species, and categorization into roundwood and residual wood material, and when required, the approximate proportion of roundwood from final felling, in accordance with SBP requirements is possible for Biomass Producers.
Means of Verification	• Copy of delivered felling manifest to Forest Authorities (ICNF) for Pinus pinaster used in industrial purposes • Invoices • Transport/shipping documents, waybills • Feedstock input records: document 'Fornecimentos_2017' • SAP
Evidence Reviewed	Delivery notes, felling manifests, invoices, among other legal documents. Estrategia Nacional das Florestas (https://dre.pt/application/file/66432612); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) Inventario Florestal Nacional IFN6, preliminary results (IFN6 – Resultados preliminares.pdf); ICNF portal Decreto lei 174-1988 manifesto corte (https://dre.pt/application/file/374768); ICNF portal(http://www.icnf.pt/portal/icnf/serv/formularios/manif/man-cort-arr-arvor)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.2.1	The Biomass Producer has implemented appropriate control systems and procedures to ensure that legality of ownership and land use can be demonstrated for the Supply Base.
Finding	The Wood Supply Manager knows all plots to be harvested or to be managed and knows in which regions there are no cadastral data / land records, this is the case in the 'cameras of the municipio'. In Portugal, around 97% of forest land is private (including land owned by individuals, communities and corporations). This proportion means that the most part of protected and classified areas are also private lands. Forest land tenure is based on one document (Description of the Land Registry) but several

	documents are used on the ground level as transitory or incomplete evidence, as the Description on the Land Registry is not updated for all lands. There are, however, regions (53% of territory) where there is a geometric cadastral survey of rural lands (*Cadastro Geométrico da Propriedade Rústica*) and so there is consistency between spatial and numeric information (DL 172/95). held by tax offices (*matriz e secção da Caderneta Predial Rústica da repartição das finanças*). In regions where there is no rural geometric cadastre (47% of the territory), the land tenure documents are based only on descriptions of boundaries and communications with neighbors. In the case of Work Accidents, Theft and Forest Fires and after ascertaining the severity of the situation are contacted the competent entities, as well as the Department of Hygiene, Security of the company. In case of Failures or maintenance, the means are put on the ground in order to solve the situation. These means can be from the company itself or from the company representative of the equipment. In case of Complaint related to court, the person in charge of the company meets at the place of court with all parties involved (seller / claimant or other). When the facts are proven and all parties are heard, the responsible person decides to adjust the business according to what happened. The closing of the complaint can be done in two ways: • If the claimant understands the purchase, the remaining portion. That is, a new buying process is opened where one makes the acquisition of what was cut by lapse together with what is standing; • The claimant does not accept to sell the remaining portion. The wood cut is evaluated and paid to the owner considering the occurrence as a payment of damages to the owner; Pinewells does not get involved in issues that must be settled by the suppliers (loggers and forest owners) when they have to ask to the Portuguese Forestry Authorities the permission to harvest, i.e., when it is harvested such type of issues must be resolved. Despite the difficulties and complexities concerning land tenure and management rights (mainly due to the absence of geometric information), there is no significant evidence in Pinewells of disputes or disputes about the issue.
Means of Verification	• Document of Pinewells ‘Procedure on the legality and origin of raw material’. • Description on the Land Registry (Descrição na Conservatória do Registo Predial) • Content certificate matrix article of tax office (Certidão de teor do artigo de Matriz da repartição de finanças) & land notebook (Caderneta predial) • Judicial final and unappealable decision (Sentença judicial transitada em julgado). • Notarial deed (Escritura notarial). • Forest Renting/leasing contract (Contrato de Arrendamento Florestal) • For Collective or Comercial entities the extract from the commercial register (Certidão do Registo Comercial) to prove the specific responsibilities of owners/managers/presidents • Purchase documents • Suppliers must have an ‘Economic operator registration. Pinewells only accepts feedstock

	delivered with 'Manifest'. • Pinewells also checks if the feedstock suppliers fulfil all fiscal and legal obligations.
Evidence Reviewed	**Government sources:** Constitution (Constituição da República Portuguesa) http://www.parlamento.pt/Legislacao/Documents/constpt2005.pdf Cadastre at Direção Geral do Território: http://www.dgterritorio.pt/cadastro/cadastro_geometrico_da_propriedade_rustica__cgpr_/consultar_seccoes_cadastrais/ **Non-Government sources:** Transparency International's Corruption Perception Index 2014 at Transparency International - The global coalition against corruption – https://www.transparency.org/cpi2015/results Worldwide Governance Indicators Report at World bank: http://info.worldbank.org/governance/wgi/index.aspx#reports 'O cadastro e a propriedade rustica em Portugal';Fundação Francisco Manuel dos Santos e Rodrigo Sarmento de Beires, May/2013 (https://www.ffms.pt/upload/docs/o-cadastro-e-a-propriedade-rustica-em-portugal_ypUM5ASBAUmUpHUlgJtp0A.pdf) 'Cadastro a prédios rústicos e urbanos em Portugal custaria 700 ME'; Lusa-Última hora 27/03/2014 in Revista Visão: (http://visao.sapo.pt/lusa/cadastro-a-predios-rusticos-e-urbanos-em-portugal-custaria-700-me=f774740)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	Pinewells does not buy any wood from wood suppliers without a valid company registration, or from wood lands, of which the owner rights are disputed. Any dispute concerning the ownership of the wood needs to be solved first. In cases with doubt, mostly due to the absence of cadastral data, Pinewells decides to double-check if there are no legal issues to the harvest operations. In these cases, the internal procedure 'Procedure on the legality and origin of raw material' is activated'. Additional investigations are conducted by means of legal document research and extends to, for example, interviewing local stakeholders (owners of neighbouring wood lands) and local authorities, whenever: • Cadastral data are unavailable; • The land will be impounded by the government; • There are complaints about the land owner, or the harvest operation. All suppliers must have an 'Economic operator registration'. Pinewells only accepts feedstock delivered with a 'Manifest' and checks if the feedstock suppliers fulfil their fiscal and legal obligations. Considering the 'Procedure on the legality and origin of raw material', the following aspects are addressed: • Formalization of the business through a purchase and sales agreement between the parties; • Identification of the plot / area (harvesting permit, if available);

	• Mapping of the plot; • Type of wood land and tree species. A site visit is always conducted. An interview with the land owner or his representative clarifies: • Identification of the owner (citizen card); • Proof of land ownership; • Ground boundaries of the land ownership; • Any special issues regarding the land rights. This procedure also indicates the resolution of grievances and disputes, including those relating to tenure and land use rights to forest (or land) management practices and working conditions. Whenever any of the above occurs, the technical responsible is contacted and called to the location whenever necessary. If there are unsolved issues related to the feedstock the procurement does not take place.

	Indicator
1.3.1	The BP has implemented appropriate control systems and procedures to ensure that feedstock is legally harvested and supplied and is in compliance with EUTR legality requirements.
Finding	Forest biomass feedstock definition on Portuguese legislation is included on legal framework created both for dedicated energetic generation plants and for residues purposes. In the first case definition forest biomass, consists of the biodegradable fraction products, waste and residues from biologic origin from the forest or other plantations. No permit is required for logging activities, including normal commercial silvicultural harvesting, final cuts and others. Only a harvesting written notice (manifesto) is obligatory for timber and cork for industrial use, and Pinewells submitted to forest authorities (ICNF) up to 30 days after the felling/extraction operation. Beside the specific operations listed above, a National Action Plan for Control of Pine Wilt Disease (NMP in PT) *Bursaphelenchus xylophilus* and its vector insect *Monochamus galloprovincialis* is in place. This mostly focuses in our case is Pinus pinaster (23% of all forest areas) but applies to all other host conifers (*Abies spp., Cedrus spp., Larix spp., Picea spp., Pinus spp, Pseudotsuga spp., Tsuga spp*) – with these species covering 8% of forests. For these species there is obligation of previous communication of any felling and/or transportation of wood affected by pest. This documentation (phytosanitary manifest) also must accompany material until the arrival to industrial processing facilities. Since the onset of the EUTR in 2013 enterprises classified as ‘Operators’ under the regulation. so we have been the register for our activities on a Digital Platform managed by the Forest Authorities (ICNF) http://www.icnf.pt/portal/florestas/fileiras/reg-op#reg.

	In addition to the register, the company has a due diligence system in place for each wood/timber acquisition, which includes procedures for access to information, risk assessment and risk mitigation. To start any operations in the forest, the document named Manifest is filled and submitted to Direcção Geral dos Recursos Florestais (General Management of Forest Resources). For all other species, Pinewells receives documents on every transport that takes place in the chain from the raw material supplier. The transport documents state: the name and address of the operator and the sender or receiver, the name and quantity/volume of the shipped product, the place of provenance of the raw material and the date of the shipment. The person responsible for the purchase of the raw material is constantly accompanying the loggers and ensuring these issues. The Competent Authority in Portugal for ensuring implementation of the EUTR is Institute for Nature Conservation and Forests (ICNF). The enforcement authority is the National Republican Guard (GNR) which conducts enforcement according to ICNF procedures. Since the start of 2015 a far-reaching regime of inspections has begun. From January 2015 to April 2016 ICNF has conducted 113 inspections with no contraventions. Also for the same period GNR has conducted 265 inspections with one contravention. As there is no permit required for ordinary forest harvesting, all attention is focused, in our case, on referred exceptional cases: • Conversion from forest to plantations for areas larger than 350 ha or other uses for areas greater than 50 ha; • The National Action Plan for Control of NMP (Pine Wood Nematode) applies to all conifers and includes a strict phytosanitary plan which requires up-front registration of all operators and notification to authorities, prior to commencement of harvesting, transport and processing of wood (some of cuttings detailed on Action Plan are obligatory).
Means of Verification	DDS; Pine Manifest; Register our activities in ICNF platform; Written permit referring applicable legislation in all exceptional cases referred above; Operator registry and previous notification in cases of all conifers because of Nematode Pine Plan NMP; EUTR Operator Registry: Information about the wood/timber products which shall include quality, quantity, the supplier, origin country, and conformity with national legislation; Risk evaluation- of the illegality of the timber by operator of the supply chain, based on the collected information. Risk minimization - by additional information, verifications if the evaluation reveals specified risks.
Evidence Reviewed	Cutting Permission in Law n.º 33/96, at 17/08 (article 7th) https://dre.pt/application/dir/pdf1sdip/1996/08/190A00/25682573.pdf Pinus Nematode: Dec.Retificação n.º 38/2015 de 01/09

	DL 123/15, at 3/07 DL 95/2011, de 8/08 DL 154/05 6/09 Dec. n. 30-A/2011, de 7/10 Cuttings before mature of *Pinus pinaster* and *Eucaliptus:* DL173/88,17/05 Harvesting manifest: DL 174/88, 17/05 Municipal licenses of vegetation destruction: DL 139/89 High risk areas for harvesting: Desp. 17 282/2003 Operational cuttings on forest regime areas: Desp. 18355/2008 Environment law nº 19/14 de 14/04 DL 151-B/2013 de 31/10 https://dre.pt/application/file/513900 DL 49/05, de 24/02 DL 197/2005, de 8/11 Timber Operator Registry: DL76/2013 at 5/06 EUTR: DL nº76/2013 de 5/06 artºs 3º,8º at https://dre.pt/application/dir/pdf1sdip/2013/06/10800/0322203225.pdf (UE)Regulation n.º 995/2010 artºs 4º, 5º, 6º http://www.icnf.pt/portal/florestas/fileiras/resource/docs/reg/regulamento-995-2010 **Waste and residues laws** http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=981&tabela=lei_velhas&nversao=4&so_miolo= **Energetic purposes forest biomass definition** https://dre.pt/application/conteudo/70064732 https://dre.pt/application/dir/pdf1sdip/2011/01/00600/0017300175.pdf **Government sources** APA-Agência Portuguesa de Ambiente at http://apambiente.pt/index.php; Municipalities at (http://www.cm-<NAME>.pt/); SEPNA-Serviço da Protecção da Natureza e do Ambiente/GNR- Guarda Nacional Republicana at (http://www.gnr.pt/default.asp?do=5r20n/DF.zv55n1/Zv55n1) Instituto da Conservação da Natureza e Florestas at page http://www.icnf.pt/portal/florestas/fileiras/reg-op; ICNF Report:(http://www.icnf.pt/portal/florestas/fileiras/resource/docs/icnf-ruem) **Non-Government sources** ANEFA - Associação Nacional de Empresas Florestais, Agrícolas e do Ambiente at: http://www.anefa.pt/•AIMMP Associação das Indústrias de Madeira e Mobiliário de Portugal at: http://aimmp.pt/

Risk Rating	☒ **Low Risk**	☐ **Specified Risk**	☐ **Unspecified Risk at RA**

	Indicator
1.4.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that payments for harvest rights and timber, including duties, relevant royalties and taxes related to timber harvesting, are complete and up to date.
Finding	In Portugal it is not applicable payments for harvest rights and timber, including duties, relevant royalties and taxes related to timber harvesting such as stumpage fees and other volume based fees. Only taxes related to timber harvesting are applicable to all economic activities such as value added taxes (VAT) and income taxes (IRS and IRC). **VAT (IVA) taxes**: A normal tax rate of 23% VAT is applied to sale of wood. In special cases, a VAT reduction to 6% can be applied to the owner of 'standing wood' or 'standing stock sales'; or even VAT exemption if the owner is an agriculturalist or silviculturalist. Invoices must be issued by the seller, but self-invoicing by the buyer may occur in exceptional circumstances if some conditions are met (previous agreement, data conformity, etc). As no specific evidence of irregularity has been identified in relation to payment of VAT, this requirement is considered Low risk. The payment of VAT is a simple requisition that is easy to verify and legally undertake by both entities (seller and buyer). The exceptional regimes of reduced taxes or exemption are in place to include the cases of forest owners with special profiles as agriculturalist or silviculturalist. **Income taxes (IRS & IRC):** Income taxes are applied according to individual or collective fiscal laws. It was not found any specific evidence of irregularities about income taxes related to harvest companies. Fiscal Authorities are Autoridade Tributária, which makes join inspections on roads together with GNR- Guarda Nacional Republicana.
Means of Verification	Valid invoice/receipts Valid declaration of taxes non-debt
Evidence Reviewed	**VAT Code CIVA:** • DL n.º 102/2008, de 20/6: artº2º 1-a);artº9º 32) List I nº4. Anexo A- IV • Individual Income Code to Singular Persons: • DL nº 442-A/88 artº4º nº3,nº4 Updated by Law nº67/2015, de 06/07 Preâ. nº9, artº3 nº1a);nº4; artº4º nº1, nº3 nº4 artº34º • Comercial Income Code to collective entities • DLnº 442-B/88 Updated by Law n.º 2/2014 de 16/12, Law nº3/2014 de 16/12 & Law nº4/2014 de 16/12 artº1º, artº2º, artº 3º, artº18º-nº7 ; artº20º nº1 g) artº23º nº2 k) • Port. nº 55/2010 21/01 artº2º **Government sources** • Autoridade Tributária e Aduaneira at: https://www.portaldasfinancas.gov.pt/pt/home.action

	• Autoridade Tributária e Aduaneira: VAT Exemption and reduction at:http://info.portaldasfinancas.gov.pt/NR/rdonlyres/9A86386D-7EB8-447F-9EAC-CEB67C206BD2/0/INFORMA%C3%87%C3%83O.3526.pdf • Autoridade Tributária e Aduaneira: Self invoicing by the buyer: http://info.portaldasfinancas.gov.pt/NR/rdonlyres/A4FB3349-0071-47FC-97EC-ADE2061C094A/0/Informacao_5332.pdf **Non-Government sources** • ANEFA - Associação Nacional de Empresas Florestais, Agrícolas e do Ambiente at: http://www.anefa.pt/ • AIMMP– Associação das Indústrias de Madeira e Mobiliário de Portugal at: http://aimmp.pt/ • AIFF – Associação para a Competitividade da Indústria da Fileira Florestal at: http://www.aiff.org.pt/ • OCC-Ordem dos Contabilistas Certificados at http://www.otoc.pt/pt/a-ordem/
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	There are mechanisms in place to verify this indicator. Pinewells checks suppliers on several important points, and demands proof that the suppliers do the same regarding the land-owners.

	Indicator
1.5.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is supplied in compliance with the requirements of CITES.
Finding	There are no trees in Portugal belonging to CITES annexes. Also it was not found any direct effect of harvesting or forest management over CITES listed species.
Means of Verification	List of purchased species
Evidence Reviewed	**Portuguese legislation:** • DL211/2009, 03/09, artº2º, artº4ºartº9º, artº13º • Port nº1225/2009 de 12/10 ; Portaria nº 1226/2009 de 12/10 • Port nº 7/2010 de 05/01 ; Port. 60/2012 de 19/03 **EU legislation:** • Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein, article 4, 5, 7, 8 (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1997R0338:20080411:EN:PDF) • Date of CITES application on EU: JOUE L 189, de 2015-07-17 • European Union page at: http://ec.europa.eu/environment/cites/pdf/trade_regulations/KH7707262PTC.pdf **CITES** • ICNF page: http://www.icnf.pt/portal/icnf/serv/formularios/cites • CITES Reports: https://cites.org/sites/default/files/reports/13-14Portugal.pdf

Risk Rating	☒ **Low Risk**	☐ **Specified Risk**	☐ **Unspecified Risk at RA**

	Indicator
1.6.1	The Biomass Producer has implemented appropriate control systems and procedures to ensure that feedstock is not sourced from areas where there are violations of traditional or civil rights.
Finding	Portugal and Portuguese forest sector is not associated with violent armed conflict, including that which threatens national or regional security and/or linked to military control. The country is not covered by a UN security ban on exporting timber or any other international ban on timber export, also there are not individuals or entities involved in the forest sector that are facing UN sanctions. Portugal is well positioned at all international reports: • Corruption Perception Index scores 63 meaning low perceived level of corruption; • Worldwide Governance Indicators (WGI) from 73.3 to 84.13 (1-100points) The WGI report six aggregate governance indicators for over 200 countries and territories over the period 1996-2014, covering i) Voice and Accountability, ii) Political Stability and Absence of Violence/Terrorism, iii) Government Effectiveness, iv) Regulatory Quality, v) Rule of Law, and vi) Control of Corruption. On the other side Portugal (including human rights, illegal logging , forest and timber) is not listed in alarming reports or indexes such as: • Committee to Protect Journalists Impunity Index; • Human Rights Watch; • Global Witness • Chattham House • Amnesty International There are no indigenous or traditional people in Portugal that could claim traditional rights to lands, forests and other resources, based on long established custom or traditional occupation and use. These are potential issues that loggers and forest owners need to address when asking for a harvesting permission. This point is covered before the manifest document is issued. Pinewells is checking this document and ensuring they are buying from certified and licensed suppliers. Instead, there are rights to pass in public roads and ways, across the coast or rivers. In Portugal getting in forest lands is not considered invasion even on private properties, and it is common the use of wild products by communities (mushrooms, asparagus, snails, besides fishing on public waters). Pinewells is FSC certified and listens to the people living in the surroundings of the forest areas. Pinewells is always prepared to solve any problem in a pleasant way and respects people who make use of their (traditional) rights.

Means of Verification	Identity card of workers. Valid written contract. Obligatory insurance document. Updated document of social security payment
Evidence Reviewed	Transparency International http://www.transparency.org/cpi2015#map-container UN Sanctions List at: https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list World Bank: Worldwide Governance Indicators http://info.worldbank.org/governance/wgi/index.aspx#countryReports Committee to Protect Journalists https://www.cpj.org/reports/2014/04/impunity-index-getting-away-with-murder.php Human Rights Watch: http://www.hrw.org/world-report/2015 Global Witness: www.globalwitness.org Chattam House Illegal Logging Indicators Country Report Card http://www.illegal-logging.info Amnesty International: https://www.amnesty.org/en/documents/pol10/0001/2015/en/ **Labour Code:** Law n.º 7/09 12/02 cap I and updates like Lei 69/13, de 30/08 includes obligatory professional training (http://www.act.gov.pt/(ptPT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx Republic Assembly Resolution nº109/2012 de 08/08 art 6º (Convention 184 doesn't apply to industrial forest work) ILO Convention numbers 87, 98, 29, 105, 100, 101,129 e 138, 184 (http://dre.pt/util/getpdf.asp?s=diad&serie=1&iddr=2012.153&iddip=20121525 Foreign workers: Law n.º 23/2007 at 04/07 artº59º 5a) and updates (http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=920&tabela=leis&so_miolo Labour Conditions Authority-ACT http://www.act.gov.pt/(pt-PT)/Paginas/default.aspx. Ministry of Solidarity, Employment and Social Security http://www.portugal.gov.pt/pt/ministerios/mtsss.aspx Employment and Professional Training Institute at https://www.iefp.pt Ministery of Internal Administration http://www.portugal.gov.pt/pt/ministerios/mai/equipa.aspx Immigration And Boarders Services http://www.sef.pt/portal/V10/EN/aspx/page.aspx SETAA-Sindicato da Agriculture, Alimentação e Florestas: at http://www.setaa.pt/ UGT-União Geral de Trabalhadores at https://www.ugt.pt/ CGTP - Confederação Geral de Trabalhadores Portugueses at http://www.cgtp.pt/ ANEFA - Associação Nacional de Empresas Florestais, Agrícolas e do Ambiente at: http://www.anefa.pt/ UNAC - União da Floresta Mediterrânica http://www.unac.pt/ Forum Florestal- Estrutura Federativa da Floresta Portuguesa at http://forumflorestal.pt Forestis- Associação Florestal de Portugal http://www.forestis.pt/ FNAPF- Federação Nacional das Associações de Proprietários Florestais http://www.fnapf.pt/ Confagri-Confederação Nacional das Cooperativas Agrícolas e do Crédito Agrícola de Portugal, CCRL at http://www.confagri.pt/ CNA - Confederação Nacional de Agricultura at http://www.cna.pt/ CAP- Confederação dos Agricultores de Portugal http://www.cap.pt/ BALADI - Federação Nacional dos Baldios

	https://www.facebook.com/Federa%C3%A7%C3%A3o-Nacional-dos-Baldios-257792997725879/
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.1.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that forests and other areas with high conservation values are identified and mapped.
Finding	The important HCV areas critical to conservation are designated as protected and classified areas at national or EU level (Natura 2000), there are very likely a large number of smaller areas or biotopes important to biodiversity or as classified priority species and habitats could be unidentified. **HCV 1** – Species diversity: concentrations of biological diversity including endemic species, and rare, threatened, or endangered species that are significant at global, regional, or national levels. i) Classified areas: The total classified area protected by the Rede Nacional de Áreas Protegidas (RNAP) and the Rede Natura2000 covers around 20 per cent of Portugal's continental territory. Classified areas comprise RNAP protected areas, sites from the national list [which includes sites of community importance (SICs)] and the Zonas de Protecção Especial para Aves (ZPE) of the Natura 2000 network. Municipal protection areas must also be considered. Other classified areas are also protected by international commitments agreed upon by the Portuguese state (e.g. Ramsar Convention sites, biogenetic reserves, biosphere reserves). Although not included in classified areas, other areas come under this umbrella, such as Important Bird Areas (IBAs), sites of international importance for the conservation of birds on a global scale. (http://www.icnf.pt/portal/naturaclas/cart). ii) Endangered species according to the classification adopted by the International Union for the Conservation of Nature (IUCN) to endangered species: • Critically endangered (CR) • Endangered (EN) • Vulnerable (VU). • Protected species within the legal conservation instruments in force in Portugal Relevant information: • Habitat and Birds Directives; • CITES • Bern Convention • Bonn Convention • Red Book of Vertebrates from Portugal • Red book and Atlas of Bryophytes • http://www.icnf.pt/portal/naturaclas/patrinatur/especies

iii) Endemic species: The Mediterranean basin, in which Portugal is found, contains around 25,000 species of plants, of which 50 per cent are endemic to the region. Of almost 4,000 species of flora listed for Portugal (continental, Azores, and Madeira), around 450 are lusitanian endemisms (444 in total; 143 on the continent, plus 76 from the Azores, 158 from Madeira, and 67 from Macaronesia), and 346 are endemic to the Iberian Peninsula. 3,314 species of flora are listed for the continent, 1,006 in the Azores archipelago, and 1,233 in Madeira. This is the region that shelters the highest number of endemisms (species that do not exist elsewhere) – 157 in all. In the Azores the number reaches 78, while on the continent it is 150.

As for invertebrates, information is scarce, but there are statistics for insects: so far, 402 taxa have been registered (369 species and 33 subspecies) which are recognized as lusitanian endemisms.

iv) Critical seasonal use areas including critical areas of refuge, breeding or migration routes in Portuguese territory: Fauna species may use different types of habitat depending on their life cycle and the season. These habitats can be critical for their importance in the reproductive season or for the availability of food in certain seasons. This designation focuses on the importance of these areas for fauna.

Digital mapping information from the Manual das Linhas Eléctricas [Manual of Electric Lines] (ICNB 2008) is also used, for reference purposes only, as its scope is limited in this field. This identifies:

- Autumnal bird migration corridors in south-west Alentejo and the Vicentina coast;
- Zones of concentration and passage for steppe birds (great and little bustards);
- Reproduction areas for birds of prey with threatened status;
- Concentration of winter birds in wetlands;
- Shelters for bats, considered important at a national, regional, and local level.
- As for invertebrates, information is scarce, but there are statistics for insects: so far, 402 taxa have been registered (369 species and 33 subspecies) which are recognized as Lusitanian endemism.

HCV 2 – Landscape-level ecosystems and mosaics: Intact forest landscapes and large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

- Cork oak and holm oak formations occurring in Portugal in the heathlands of the Tagus and Sado (cork) and Guadiana Valley (oak) under the form of woodlands or montados.

HCV 3 – Ecosystems and habitats: rare, threatened, or endangered ecosystems, habitats or refugia

i) Habitats Directive (2007-2012)
Covers habitats listed in the Habitats Directive (Annex I) which, in the last national Habitats Directive report (2007–2012), were listed in categories (U1) – unfavorable inadequate – and (U2) – unfavorable bad.

ii) Natura 2000 database
Natura2000's sectorial plan is the main source of information used to identify habitats in classified areas. In the case of non-classified areas, the Habitats Directive implementation reports can be consulted for information on habitat conservation (favorable, unfavorable inadequate, unfavorable bad).

iii) Portugal approved its ratification of the Convention on Biological Diversity (CBD) via DL no. 21/93, dated 29 June, which became effective in our country on 21 March 1994. The Fifth National Report to CBD had as its main objective a review of implementation of the Convention and an assessment of how far we had come in achieving CBD objectives and the Aichi Biodiversity Targets contained in the Strategic Plan for Biodiversity 2011–2020. It also contributed to the development of the Global Biodiversity Outlook report and the review of the fulfilment of the EU Biodiversity Strategy for 2020. The report covers the state and tendencies of biodiversity and detected threats, reporting on actions taken towards fulfilling the Aichi Biodiversity Targets and finally sets out, based on experience, topics most deserving of attention in order to achieve a more adequate and broad-reaching implementation of the CBD's COP (Conference of Parties) decisions in Portugal.

HCV 4 – Critical ecosystem services: basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes. forests located in critical areas in river basins, such as floodplains and sloping areas, as defined and mapped in REN-National Ecological Reserve.

HCV 5 – Community needs: Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples.

HCV 6 – Cultural values: sites, resources, habitats, and landscapes of global or national cultural, archaeological, or historical significance, and/or of critical cultural, ecological, economic, or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or Indigenous Peoples.

i) World Heritage (UNESCO)
Sites identified as World Heritage by UNESCO. In Portugal there are 15 sites identified (http://www.patrimoniocultural.pt/pt/patrimonio/patrimonio-mundial/portugal or http://www.rpmp.pt/#!sitios/cihc) , of which only two are designated as outstanding natural landscapes ('Paisagem Cultural de Sintra', around 900ha, on the Portuguese mainland, and the 'Floresta Laurissilva na Madeira', on the island of Madeira, covering 15,000ha). The Iberian Risk Assessment also identified rocky landscapes such as the Vale de Foz Côa [Foz Côa Valley], the Douro slopes, and the landscape of Pico island, places that, analysed more closely, are not part of the forestry sector – see the results of the meeting of the working group for category 3 (5 July 2016).
Currently, there are other sites proposed for Portugal under assessment by UNESCO (https://www.unescoportugal.mne.pt/pt/temas/proteger-o-nosso-patrimonio-e-promover-a-criatividade/patrimonio-mundial-em-portugal . These are not yet included here.

ii) Cultural heritage (Law no. 107/2001, dated 8 September)
In Portugal there are specific governmental bodies to manage cultural heritage: the General Directorate of Cultural Heritage for the Portuguese Mainland (http://patrimoniocultural.pt/en/); Directorate of Services of Cultural Heritage for the Island of Madeira (http://cultura.madeira-edu.pt/agendacultural/CulturalHeritage/DSPC/tabid/939/language/en-US/Default.aspx); and the Regional Directorate of Culture for the Azores Islands (http://www.azores.gov.pt/Portal/en/entidades/srec-drcultura/?lang=en and http://www.iac-azores.org/). Among others, these bodies are responsible for: managing the architectural and archaeological built heritage in urban and rural areas, including conservation works in monuments under our care; managing the national museums, World Heritage monuments and museum collections; studying, researching, and disseminating heritage-related information; conserving and restoring movable heritage assets as well as researching, disseminating results, and raising awareness about heritage protection issues.

iii) Classified groves (Law no. 53/2012, dated 5 September)
National legislation that identifies and protects outstanding grove (arboreta) (http://www.icnf.pt/portal/florestas/Arvores.qry?start:int=80&Distrito=&Concelho=&Freguesia=&Processo).
The main source of information within this attribute is the application report of the Habitas Directive (2007-2012) as well as the description list of every habitat identified in the Annex 1 of Habitats Directive in Sectorial Plan of the Natura2000 network. Other cartographic information of HCV is included on open GIS like http://www.habeas-med.org/webgis/pt_en/ and http://epic-webgis-portugal.isa.ulisboa.pt.

Conclusion
HCV 1 – Specified risk
The scope of RNAP and SNAC is the assessment of large areas with significant biodiversity values, meaning that the identification of threats and pressures to attributes, as well as monitoring activities are, typically, performed at a macro scale. The identification of precise HCV attributes might not fall under the scope of these assessments, so specified risk is considered. Outside SNAC and RNAP, where less information is available, the risk is, thereby, specified.

HCV 2 – Low Risk
It is considered that HCV2 attributes are well identified and mapped.

HCV 3 – Specified Risk
Extra effort is needed to identify and map these values. Internet sources, as well as the situation on the ground need to be studied.
See indicator 2.1.2. and 2.2.3

HCV 4 & 5 – Specified risk
Extra effort is needed to identify and map these values. Internet sources, as well as the local situation need to be studied.
This is a specified the risk on private, communitarian, and public forest areas not managed by

	ICNF, subject to clear cutting at dimensions above to the maximum area indicated for each region by the Regional Forestry Management Plan (PROF). There are no indigenous people in Portugal, but in it is important to evaluate the interests of the (local) population and social-economic functions of the forests and woodlands (including agricultural or municipal functions). Building fences around forests is most of the time undesirable. See indicators 2.2.2, 2.2.3, 2.2.6, 2.4.1 and 2.5.1 (and 2.6.1 as 'safety net') **HCV 6 – Low risk** Significant cultural features created intentionally by humans are identified and sufficient buffers are applied, since the criteria for identifying HCV 6 for Portugal are based on international or legal frameworks that already foresee the safeguards needed to protect/maintain the cultural values identified.
Means of Verification	Pinewells evaluation of the risks and possible impacts of harvesting operations (EoR) Harvesting operation maps Pinewells and feedstock suppliers Internet research GIS maps of HCV areas. Interviews Priority Classified Habitat and species catalogue. FSC and PEFC certificate The pellets are at FSC CW and SBP-controlled biomass. Our specialists check the harvesting areas and assure protected regions are not cut.
Evidence Reviewed	**Sources below (mitigation measures) and these:** HABEAS: http://www.habeas-med.org/webgis/pt_en/ http://www.icnf.pt/portal/florestas/profs SNAC Legislation https://dre.pt/application/file/70698029 RNAP: http://www.icnf.pt/portal/ap/ap National Conservation Plano of threatened Flora information http://www.icnf.pt/portal/naturaclas/patrinatur/conserv-flora-perigo Site characterization SIC e ZPE: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/Plan-set-docs Data Base for fauna and flora specific plans: http://www.icnf.pt/portal/naturaclas/patrinatur/especies DRE: http://www.icnf.pt/portal/icnf/legisl/legislacao/2012/lei-n.o-53-2012-de-5-de-setembro.-d.-r.-n.o-172-serie-i http://www.icnf.pt/portal/florestas/profs/alt-minh http://www.icnf.pt/portal/florestas/profs/baix-minh http://www.icnf.pt/portal/florestas/profs/nordest http://www.icnf.pt/portal/florestas/profs/centr-lit http://www.icnf.pt/portal/florestas/profs/ampedv Reptile and amphibious of Portugal (2008): http://www.icnf.pt/portal/naturaclas/patrinatur/atlas-anfi-rept/anfibios Red book for Portuguese Vertebrates (2005): http://www.icnf.pt/portal/naturaclas/patrinatur/lvv Flora identification: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/psrn-flora Electric wire line manual (ICNB 2008) http://www.icnf.pt/portal/naturaclas/ordgest/aa/resource/doc/man-infra-lin

	Law for natural values cadastre: Decree-Law n.º 242/2015 at 15/10 https://dre.pt/application/conteudo/70693924 Fresh water Fish National cartography: http://www.cartapiscicola.org/ Flora cartographic source: http://www.flora-on.pt/ Cartography (2015) http://webgis.spea.pt/AtlasAvesInvernantesMigradoras/ AIIF: http://www.aiff.org.pt/assets/ESTUDO_Prospetivo_-Sector-Florestal.pdf AIIF: http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-res-prelimv1-1 Status & Trends in Sustainable Forest Management in Europe https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ICNF: http://www.icnf.pt/portal/florestas/dfci/Resource/doc/rel/2013/relatorio-dfci-ap-2013 ICNF: http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The control system for feedstock, which also includes regular inspections of suppliers, is duly implemented. All used material is traceable to its origin through the harvest manifests and transport guides. All suppliers have to comply with the laws in force, which are supervised by the Tax Authority and the ICNF (Please see the file 'Plano Regional de Ordenamento Florestal' 'Documentation point 4 'cartografia síntese' (ICNF) for each region). Some HCV areas are designated as protected and classified areas at the national or EU level (Natura 2000). There are also smaller areas or biotopes important to biodiversity, or classified as priority species' habitats. Pinewells identifies and maps of areas with high conservation values (HCVs). HCV 1, 3, 4 and 5 were assessed to have a specified risk. Extra effort is needed to identify and map these values. Internet sources, as well as the local situation need to be studied. In the process, HCV 6 is also checked. Previous cartography is useful for field work preparations. General approach to mitigating the risks: 1) Pinewells prepares (publicly available) data on all relevant HCV. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognize the HCV and how to conserve them. 3) The harvesting teams inspect visually the plot, make photos and report on the results. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. 4) Best practices are used, including measures to conserve and increase HCV. 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. Below are listed the main sources of information, used to prepare the identification of these values. The feedstock suppliers evaluate every plot before the harvesting operations begin. Pinewells inspects the suppliers and harvesting areas. ***HCV 1 – Species diversity:*** ➢ Classified areas: http://www.icnf.pt/portal/naturaclas/cart ➢ Protected area plans: http://www.icnf.pt/portal/naturaclas/ordgest/poap

	➢ Endangered species: http://www.icnf.pt/portal/naturaclas/patrinatur/especies ➢ Endemic species: http://naturdata.com/index.php?option=com_content&view=article&id=78&Itemid=60 ➢ Digital mapping information from the Manual das Linhas Eléctricas [Manual of Electric Lines] (ICNB 2008) ➢ Important Bird Areas of Portugal at: http://ibas-terrestres.spea.pt/ ➢ Regional Forest Plans (PROF): http://www.icnf.pt/portal/florestas/profs ***HCV 3 – Ecosystems and habitats:*** ➢ Habitats Directive (2007-2012) ➢ Rede Natura 2000 database: http://www.icnf.pt/portal/naturaclas/rn2000 ➢ Important Bird Areas of Portugal at: http://ibas-terrestres.spea.pt/ ➢ Convention on Biological Diversity (CBD) via DL no. 21/93, dated 29 June ***HCV 4 – Critical ecosystem services & HCV 5 – Community needs:*** ➢ Habeas-Hotspot Areas for Biodiversity and Ecosystem Services http://www.habeas-med.org/webgis/pt_en/ ➢ Forests located in critical areas - defined and mapped in REN-National Ecological Reserve. **General sources of information:** ➢ HABEAS: http://www.habeas-med.org/webgis/pt_en/ http://www.icnf.pt/portal/florestas/profs ➢ SNAC Legislation https://dre.pt/application/file/70698029 ➢ RNAP: http://www.icnf.pt/portal/ap/ap ➢ National Conservation Plano of threatened Flora information http://www.icnf.pt/portal/naturaclas/patrinatur/conserv-flora-perigo ➢ Site characterization SIC e ZPE: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/Plan-set-docs ➢ Data Base for fauna and flora specific plans: http://www.icnf.pt/portal/naturaclas/patrinatur/especies ➢ DRE: http://www.icnf.pt/portal/icnf/legisl/legislacao/2012/lei-n.o-53-2012-de-5-de-setembro.-d.-r.-n.o-172-serie-i ➢ http://www.icnf.pt/portal/florestas/profs/alt-minh ➢ http://www.icnf.pt/portal/florestas/profs/baix-minh ➢ http://www.icnf.pt/portal/florestas/profs/nordest ➢ http://www.icnf.pt/portal/florestas/profs/centr-lit ➢ http://www.icnf.pt/portal/florestas/profs/ampedv ➢ Reptile and amphibious of Portugal (2008): http://www.icnf.pt/portal/naturaclas/patrinatur/atlas-anfi-rept/anfibios ➢ Red book for Portuguese Vertebrates (2005): http://www.icnf.pt/portal/naturaclas/patrinatur/lvv ➢ Flora identification: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/psrn-flora ➢ Electric wire line manual (ICNB 2008) http://www.icnf.pt/portal/naturaclas/ordgest/aa/resource/doc/man-infra-lin ➢ Law for natural values cadastre: Decree-Law n.º 242/2015 at 15/10 https://dre.pt/application/conteudo/70693924

	➢ Fresh water Fish National cartography: http://www.cartapiscicola.org/ ➢ Flora cartographic source: http://www.flora-on.pt/ ➢ Cartography (2015) http://webgis.spea.pt/AtlasAvesInvernantesMigradoras/ ➢ AIIF: http://www.aiff.org.pt/assets/ESTUDO_Prospetivo_-Sector-Florestal.pdf ➢ AIIF: http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-res-prelimv1-1 ➢ Status & Trends in Sustainable Forest Management in Europe https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/dfci/Resource/doc/rel/2013/relatorio-dfci-ap-2013 ➢ ICNF: http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ➢ ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/rel-tec/picoes-rel-tecn ➢ UNECE https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ➢ Martins M.J & Cerdeira, J.O. (2009) A Language and Environment for Statistical Computing. Vienna, Austria, R Foundation for Statistical Computing; & Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/florestat ➢ ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-term-def ➢ APFC: http://www.apfc.pt/xms/files/Eventos/Projetos_APFC_para_a_sanidade.pdf ➢ INIAV: http://www.iniav.pt/fotos/gca/livro_causas_doc_sintese_1369127896.pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/foflo/pdr2020/resource/doc/Areas-rrc-v-final.pdf ➢ Planos de Gestão Florestal de areas públicas: http://www.icnf.pt/portal/florestas/gf/pgf/publicitacoes/encerradas ➢ Kirkby, M.J et all. European Soil Bureau Research Report No.16, EUR 21176, 18pp. and 1 map in ISO B1 format. Office for Official Publications of the European Communities, Luxembourg. European Soil Portal, 2013, ➢ http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/esb_rr/n16_ThePeseraMapBkLet52.pdf ➢ Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º ➢ Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/florestat ➢ Reserva Ecológica Nacional https://dre.pt/application/dir/pdf1sdip/2012/11/21200/0630806346.pdf ➢ Sistema Nacional de Defesa da Floresta Contra Incêndios: https://dre.pt/application/dir/pdf1sdip/2006/06/123A00/45864599.pdf ➢ ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ➢ PANCD https://dre.pt/application/file/65985917 ➢ PDR2020 http://www.pdr-2020.pt/site/O-PDR2020/Arquitetura/Area-3-Ambiente-Eficiencia-no-Uso-dos-Recursos-e-Clima/Medida-7-Agricultura-e-Recursos-Naturais/Acao-7.11-

	Investimentos-nao-produtivos/Operacao-7.11.1-Investimentos-nao-produtivos ➢ Fundo Florestal Permanente:http://www.icnf.pt/portal/icnf/noticias/gloablnews/fundo-florestal-permanente-ffp ➢ Alves, A. M., Pereira, J. S., Correia, A. V., 2012. Silvicultura - A gestão dos ecossistemas florestais. Fundação Calouste Gulbenkian. ➢ ICNF http://www.icnf.pt/portal/florestas/aip/aip-monum-pt

	Indicator
2.1.2	The Biomass Producer has implemented appropriate control systems and procedures to identify and address potential threats to forests and other areas with high conservation values from forest management activities.
Finding	**HCV 1 – Specified Risk** The scope of RNAP and SNAC is the assessment of large areas with significant biodiversity values, meaning that the identification of threats and pressures to attributes, as well as monitoring activities are, typically, performed at a macro scale. The identification of precise HCV attributes might not fall under the scope of these assessments, so specified risk is considered. Outside SNAC and RNAP, where less information is available, the risk is, thereby, specified. Several legal instruments protect areas of significant biological diversity: planos de ordenamento de áreas protegidas (POAP), planos regionais de ordenamento florestal (PROF), planos directores municipais [town planning] (PDM), plano de gestão florestal (PGF), and, in the case of classified areas, a programa de gestão da biodiversidade [biodiversity management programme] (PGB). Regarding the establishment of projects and programmes aiming to enhance the conservation status of HCV, the LIFE Programme has facilitated the development of a series of projects in Portugal (http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.getDocs), many of which permit contracts with owners as good conservation management practice, support and awareness-raising for owners and schools, and also vertical signs of species' territorial areas. A series of documents is also produced, from simple brochures to manuals of good practice (an example being the conservation manual for the Bonelli's eagle and the good forestry and hunting practice manual). Some projects include action plans for species conservation. Most projects have as their objective the conservation of potential HCV 1 species, being carried out by Natura2000 Network. Some NGOs, such as Sociedade Portuguesa para o Estudo das Aves (SPEA) [Portuguese Society for the Study of Birds]), have formed working groups to monitor species, such as the Bonelli's eagle working group (GTAB) and the night birds working group (GTAN). Furthermore, various good practice manuals, leaflets and other relevant information sources are available in the public domain, published by different institutions. **HCV 2 – Low risk** The regulation implemented in Portugal on oak and holm trees and stands, includes a

comprehensive legislative framework with a legal action planning and project but also cuttings protection. This legislation also meet forest management measures themselves related to intensity of exploitation, such as the stripping and pruning.
This regulation is relatively well established and disclosed have being assimilated by the various agents involved as owners, managers, and operators. Also the planned forest management and the proper certification of sustainable forest management expanded in Portugal in recent years is currently counting about 236 000 hectares certified forests entering the cork and holm oak species (is not robust statistics on the certified specific area with cork oak stands).
Following several surveys on the fragilised state of cork and holm oak stands, there were also developed various processes to improve forest management practices, which were disclosed by the various entities involved. This includes a variety of contents and formats such as codes of good cork forest practices but also pest and disease identification guides. More recent investment lines have been created supported by EU grants to assist owners and managers in pest monitoring of cork and holm oak stands (Operation 8.1.3 - Prevention of forest against biotic and abiotic agents) and for health recovery and restoration of forest stands of cork oak (Operation 8.1.4 - forest Restoration affected by biotic and abiotic agents or catastrophic events).
The most current detailed results achieved by management and improvement actions on forest stands of are not fully known, since the full values of the last national inventory (IFN6) are still missing, however it is known that the class of 'wooded area with cork oak' had an increase of 6% from 1995 to 2010, and holm oak has decreased 3% in the same period.

HCV 3 – Specified risk
Information about threats of management activities to this designation can be found in ICNF information, namely in the sectorial plan of Natura2000 and in the Third National Application Report of the Habitats Directive (2007–2012). Portugal publishes graphics of threats to Portuguese habitats and species (Continent+Azores+Madeira) http://www.icnf.pt/portal/naturaclas/rn2000/resource/docs/rel-nac-07-12/docs/nat-summ-pt, as required by arts. 12 and 17 of the report.
The Natura 2000 network database was updated in 2015 and it contains relevant information about the assessment of each habitat for each Common Importance Site.
Furthermore, Portugal approved its ratification of the Convention on Biological Diversity (CBD) via DL no. 21/93, June 29th, which became effective on 21 March 1994.
The Fifth National Report to CBD had as its main objective a review of implementation of the Convention and an assessment of how far we had come in achieving CBD objectives and the Aichi Biodiversity Targets contained in the Strategic Plan for Biodiversity 2011–2020. It also contributed to the development of the Global Biodiversity Outlook report and the review of the fulfilment of the EU Biodiversity Strategy for 2020. The report covers the state and tendencies of biodiversity and detected threats, reporting on actions taken towards fulfilling the Aichi Biodiversity Targets and finally sets out, based on experience, topics most deserving of attention in order to achieve a more adequate and broad-reaching implementation of the CBD's COP (Conference of Parties) decisions in Portugal.
The vertebrate species identified as threatened are listed and described in the Redbook of Vertebrates from Portugal. Similar assessment has been done for Bryophytes in the Redbook of Bryophytes. A study aimed to identified and list the threatened flora is being develop at this

	moment. **HCV 4 & HCV 5 – Specified Risk** There are threats to forests located in critical areas in river basins, such as floodplains and steep areas, and aquifers as defined and mapped in REN-National Ecologic Reserve. Many of these threats include the conversion for forest plantations or other non-forest uses, and are addressed at following indicator 2.1.3. It has been identified very negative effects as a consequence of large forest fires on the river basin, affecting qualitative and quantitative hydrological flows in the following periods. In such cases the forest authorities (ICNF) develop and promote specific plans for the recovery of burned areas with precise information on the destinations of the timber. There are also threats of lesser magnitude caused in private forests, arising from inadequate operations of harvesting and / or maintenance. These operations include tools, interventions and inadequate intensity to the sensitivity of soils and vegetation in these critical areas to the protection of floods. However, the reduced scale of the most forest operations contributes to the reduction of the magnitude of the identified risks. **HCV 6 – Low Risk** The criteria for identifying HCV 6 for Portugal are based on international or legal frameworks that already foresee the safeguards needed to protect/maintain the cultural values identified. At the same time, it is considered that the values are legally recognized and enforced.
Means of Verification	Pinewells Evaluation of the risks and possible impacts of harvesting operations (EoR) FSC or PEFC Forest management certificate public reports Forest Management plan as PGF, PUB, PEIF Regional, publicly available data from credible third parties FSC Supplier audit Records of Pinewells field inspections
Evidence Reviewed	*Bugalho, M. 2011 'Interpretação Nacional das Florestas de Alto Valor de Conservação' Documento de base Trabalhos realizados pelo GT IN FAVC do FSC Portugal* HABEAS: http://www.habeas-med.org/webgis/pt_en/ LEAF_EPICWebGiSPortugal: http://epic-webgis-portugal.isa.ulisboa.pt/maps/epic?format=image/png;%20mode=8bit&startExtent=-1523000,4400000,-143668,5180000 SNAC : Legislation https://dre.pt/application/file/70698029 RNAP: http://www.icnf.pt/portal/ap/ap Rede Natura 2000: http://www.icnf.pt/portal/naturaclas/rn2000 Important Bird Areas of Portugal at : http://ibas-terrestres.spea.pt Site characterization SIC e ZPE: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/Plan-set-docs Cartography : http://www.icnf.pt/portal/naturaclas/cart Protected area plans: http://www.icnf.pt/portal/naturaclas/ordgest/poap Data Base for fauna and flora specific plans: http://www.icnf.pt/portal/naturaclas/patrinatur/especies Red book for Portuguese Vertebrates (2005): http://www.icnf.pt/portal/naturaclas/patrinatur/lvv

	Nesting and wintering Bird Atlas on Portugal (2008): ND online Cartography (2015) http://webgis.spea.pt/AtlasAvesInvernantesMigradoras/ Reptile and amphibious of Portugal (2008): http://www.icnf.pt/portal/naturaclas/patrinatur/atlas-anfi-rept/anfibios Fresh water Fish National cartography : http://www.cartapiscicola.org/# Flora identification: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/psrn-flora Flora cartographic source: http://www.flora-on.pt/ National Conservation Plano of threatened Flora information http://www.icnf.pt/portal/naturaclas/patrinatur/conserv-flora-perigo http://naturdata.com/index.php?option=com_content&view=article&id=78&Itemid=60 Electric wire line manual (ICNB 2008) http://www.icnf.pt/portal/naturaclas/ordgest/aa/resource/doc/man-infra-lin Regional Forest Plans (PROF): http://www.icnf.pt/portal/florestas/profs AIIF : http://www.aiff.org.pt/assets/ESTUDO_Prospetivo_-Sector-Florestal.pdf AIIF: http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-res-prelimv1-1 UNECE:https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ICNF: http://www.icnf.pt/portal/florestas/dfci/Resource/doc/rel/2013/relatorio-dfci-ap-2013 ICNF: http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/rel-tec/picoes-rel-tecn WILDER: http://www.wilder.pt/historias/pedida-actualizacao-de-lei-com-16-anos-sobre-especies-invasoras/ QUERCUS: http://www.quercus.pt/comunicados/2009/maio/924-especies-invasoras-continuam-sem-controlo UNECE https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf Good Forest Practices http://www.icnf.pt/portal/florestas/gf/documentos-tecnicos/resource/doc/Boas-Praticas-Florestais.pdf Martins M.J & Cerdeira, J.O. (2009) do Departamento de Matemática do Instituto Superior de Agronomia. Referências R Core Development Team, 2009, R: A Language and Environment for Statistical Computing. Vienna, Austria, R Foundation for Statistical Computing; & Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º Inventário Florestal Nacional. in Habeas - Habeas-Hotspot Areas for Biodiversity and Ecosystem Services http://www.habeas-med.org/webgis/pt_en/ APFC: http://www.apfc.pt/xms/files/Eventos/Projetos_APFC_para_a_sanidade.pdf INIAV: http://www.iniav.pt/fotos/gca/livro_causas_doc_sintese_1369127896.pdf ICNF: http://www.icnf.pt/portal/florestas/foflo/pdr2020/resource/doc/Areas-rrc-v-final.pdf Planos de Gestão Florestal de areas públicas: http://www.icnf.pt/portal/florestas/gf/pgf/publicitacoes/encerradas Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/rel-fin

	ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 PANCD https://dre.pt/application/file/65985917 PDR2020 http://www.pdr-2020.pt/site/O-PDR2020/Arquitetura/Area-3-Ambiente-Eficiencia-no-Uso-dos-Recursos-e-Clima/Medida-7-Agricultura-e-Recursos-Naturais/Acao-7.11-Investimentos-nao-produtivos/Operacao-7.11.1-Investimentos-nao-produtivos Fundo Florestal Permanente: http://www.icnf.pt/portal/icnf/noticias/gloablnews/fundo-florestal-permanente-ffp Alves, A. M., Pereira, J. S., Correia, A. V., 2012. *Silvicultura - A gestão dos ecossistemas florestais.* Fundação Calouste Gulbenkian. Capítulo 5 'Condenação de Aprígio Santo', Comunicado - s, 23/02/12 at Almargem-Associação de Defesa do Património Cultural e Ambiental do Algarve https://www.facebook.com/associacaoalmargem/notes 'Abate de sobreiros na Zona de Protecção Especial do Estuário de Tejo em Benavente' 19/06/2014, Quercus - Associação Nacional de Conservação da Natureza at (http://www.quercus.pt/comunicados-floresta/644-2014/3708-abate-de-sobreiros-na-zona-de-proteccao-especial-do-estuario-de-tejo-em-benavente); 'Zona de Proteção Especial do Estuário do Tejo ameaçada por novas áreas turísticas' 22/05/2014, Quercus - Associação Nacional de Conservação da Natureza at (http://www.quercus.pt/comunicados-floresta/644-2014/3652-zona-de-proTecao-especial-do-estuario-do-tejo-ameacada-por-novas-areas-turisticas); Acescimo http://acrescimoapif.blogspot.pt/2012/08/porque-ardem-as-florestas-em-portugal.html Lourenço, L e Outros (2011) Causas de incêndios florestais em Portugal continental. Análise estatística da investigação efetuada no último quindénio (1996 a 2010) QUERCUS http://www.quercus.pt/comunicados/2015/agosto/4419-politicas-publicas-desajustadas-favorecem-incendios 'Butwell condenada por crime contra a Natureza e desobediência qualificada na Ria de Alvor' Rodrigues, E. 11/07/2015 at Sulinformação http://www.sulinformacao.pt/2015/07/butwell-condenada-por-crime-contra-a-natureza-e-desobediencia-qualificada-ria-de-alvor/.
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The control system for feedstock, which also includes regular inspections of suppliers, is duly implemented. All used material is traceable to its origin through the harvest manifests and transport guides. All suppliers have to comply with the laws in force, which are supervised by the Tax Authority and the ICNF (Please see the file 'Plano Regional de Ordenamento Florestal' 'Documentation point 4 'cartografia síntese' (ICNF) for each region). Some HCV areas are designated as protected and classified areas at the national or EU level (Natura 2000). There are also smaller areas or biotopes important to biodiversity, or classified as priority species' habitats. Pinewells identifies and maps of areas with high conservation values (HCVs). HCV 1, 3, 4 and 5 were assessed to have a specified risk. Extra effort is needed to identify and map these values. Internet sources, as well as the local situation need to be studied. In the process, HCV 6 is also checked. Previous cartography is useful for field work preparations. General approach to mitigating the risks:

1) Pinewells prepares (publicly available) data on all relevant HCV. This information is given to all feedstock suppliers.
2) Feedstock suppliers are trained to recognize the HCV and how to conserve them.
3) The harvesting teams inspect visually the plot, make photos and report on the results. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers.
4) Best practices are used, including measures to conserve and increase HCV.
5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers.

Below are listed the main sources of information, used to prepare the identification of these values. The feedstock suppliers evaluate every plot before the harvesting operations begin. Pinewells inspects the suppliers and harvesting areas.

HCV 1 – Species diversity:

- Classified areas: http://www.icnf.pt/portal/naturaclas/cart
- Protected area plans: http://www.icnf.pt/portal/naturaclas/ordgest/poap
- Endangered species: http://www.icnf.pt/portal/naturaclas/patrinatur/especies
- Endemic species: http://naturdata.com/index.php?option=com_content&view=article&id=78&Itemid=60
- Digital mapping information from the Manual das Linhas Eléctricas [Manual of Electric Lines] (ICNB 2008)
- Important Bird Areas of Portugal at: http://ibas-terrestres.spea.pt/
- Regional Forest Plans (PROF): http://www.icnf.pt/portal/florestas/profs

HCV 3 – Ecosystems and habitats:

- Habitats Directive (2007-2012)
- Rede Natura 2000 database: http://www.icnf.pt/portal/naturaclas/rn2000
- Important Bird Areas of Portugal at: http://ibas-terrestres.spea.pt/
- Convention on Biological Diversity (CBD) via DL no. 21/93, dated 29 June

HCV 4 – Critical ecosystem services & HCV 5 – Community needs:

- Habeas-Hotspot Areas for Biodiversity and Ecosystem Services http://www.habeas-med.org/webgis/pt_en/
- Forests located in critical areas - defined and mapped in REN-National Ecological Reserve.

General sources of information:

- HABEAS: http://www.habeas-med.org/webgis/pt_en/ http://www.icnf.pt/portal/florestas/profs
- SNAC Legislation https://dre.pt/application/file/70698029
- RNAP: http://www.icnf.pt/portal/ap/ap
- National Conservation Plano of threatened Flora information http://www.icnf.pt/portal/naturaclas/patrinatur/conserv-flora-perigo
- Site characterization SIC e ZPE: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/Plan-set-docs
- Data Base for fauna and flora specific plans: http://www.icnf.pt/portal/naturaclas/patrinatur/especies

	➢ DRE: http://www.icnf.pt/portal/icnf/legisl/legislacao/2012/lei-n.o-53-2012-de-5-de-setembro.-d.-r.-n.o-172-serie-i ➢ http://www.icnf.pt/portal/florestas/profs/alt-minh ➢ http://www.icnf.pt/portal/florestas/profs/baix-minh ➢ http://www.icnf.pt/portal/florestas/profs/nordest ➢ http://www.icnf.pt/portal/florestas/profs/centr-lit ➢ http://www.icnf.pt/portal/florestas/profs/ampedv ➢ Reptile and amphibious of Portugal (2008): http://www.icnf.pt/portal/naturaclas/patrinatur/atlas-anfi-rept/anfibios ➢ Red book for Portuguese Vertebrates (2005): http://www.icnf.pt/portal/naturaclas/patrinatur/lvv ➢ Flora identification: http://www.icnf.pt/portal/naturaclas/rn2000/p-set/psrn-flora ➢ Electric wire line manual (ICNB 2008) http://www.icnf.pt/portal/naturaclas/ordgest/aa/resource/doc/man-infra-lin ➢ Law for natural values cadastre: Decree-Law n.º 242/2015 at 15/10 https://dre.pt/application/conteudo/70693924 ➢ Fresh water Fish National cartography: http://www.cartapiscicola.org/ ➢ Flora cartographic source: http://www.flora-on.pt/ ➢ Cartography (2015) http://webgis.spea.pt/AtlasAvesInvernantesMigradoras/ ➢ AIIF: http://www.aiff.org.pt/assets/ESTUDO_Prospetivo_-Sector-Florestal.pdf ➢ AIIF: http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-res-prelimv1-1 ➢ Status & Trends in Sustainable Forest Management in Europe https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/dfci/Resource/doc/rel/2013/relatorio-dfci-ap-2013 ➢ ICNF: http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ➢ ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/rel-tec/picoes-rel-tecn ➢ UNECE https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf ➢ Martins M.J & Cerdeira, J.O. (2009) A Language and Environment for Statistical Computing. Vienna, Austria, R Foundation for Statistical Computing; & Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/florestat ➢ ICNF: http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-term-def ➢ APFC: http://www.apfc.pt/xms/files/Eventos/Projetos_APFC_para_a_sanidade.pdf ➢ INIAV: http://www.iniav.pt/fotos/gca/livro_causas_doc_sintese_1369127896.pdf ➢ ICNF: http://www.icnf.pt/portal/florestas/foflo/pdr2020/resource/doc/Areas-rrc-v-final.pdf ➢ Planos de Gestão Florestal de areas públicas: http://www.icnf.pt/portal/florestas/gf/pgf/publicitacoes/encerradas ➢ Kirkby, M.J et all. European Soil Bureau Research Report No.16, EUR 21176, 18pp. and 1 map in ISO B1 format. Office for Official Publications of the European Communities,

	Luxembourg. European Soil Portal, 2013, ➢ http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/esb_rr/n16_ThePeseraMapBkLet52.pdf ➢ Autoridade Florestal Nacional, 2010, Florestat – Aplicação para a Consulta dos Resultados do 5º ➢ Inventário Florestal Nacional. Disponível em http://www.icnf.pt/portal/florestas/ifn/ifn5/florestat ➢ Reserva Ecológica Nacional https://dre.pt/application/dir/pdf1sdip/2012/11/21200/0630806346.pdf ➢ Sistema Nacional de Defesa da Floresta Contra Incêndios: https://dre.pt/application/dir/pdf1sdip/2006/06/123A00/45864599.pdf ➢ ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 ➢ PANCD https://dre.pt/application/file/65985917 ➢ PDR2020 http://www.pdr-2020.pt/site/O-PDR2020/Arquitetura/Area-3-Ambiente-Eficiencia-no-Uso-dos-Recursos-e-Clima/Medida-7-Agricultura-e-Recursos-Naturais/Acao-7.11-Investimentos-nao-produtivos/Operacao-7.11.1-Investimentos-nao-produtivos ➢ Fundo Florestal Permanente:http://www.icnf.pt/portal/icnf/noticias/gloablnews/fundo-florestal-permanente-ffp ➢ Alves, A. M., Pereira, J. S., Correia, A. V., 2012. Silvicultura - A gestão dos ecossistemas florestais. Fundação Calouste Gulbenkian. ➢ ICNF http://www.icnf.pt/portal/florestas/aip/aip-monum-pt

	Indicator
2.1.3	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not sourced from forests converted to production plantation forest or non-forest lands after January 2008.
Finding	Portugal's forest is marked by its recent origins and by heavy human intervention. In a general way, the Portuguese forest is recent. In Europe, Portugal is the country in which the transition from deforestation to reforestation occurred most rapidly: forest cover, which was between 4 and 7 per cent in 1870, grew in one century to cover more than 30 per cent of the continental territory. The definition of natural forest, as defined in the FSC forest management standard for Portugal (approved by FSC on 18 February 2016) is: forest areas where many of the principal characteristics and key elements of native ecosystems such as complexity, structure, soil properties, and biodiversity are present, and where all or most of the trees are indigenous species. Natural forests can include forest areas where forestry or other intervention is characterized by a combination of natural regeneration and artificial regeneration, composed of local indigenous species and in which many of the characteristics of natural forests are present. Natural forests do not include: • Areas where the vegetation is not dominated by trees; • Areas that were not previously forested;

- Areas that do not yet contain many of the characteristics and elements of native ecosystems.

Hence, the majority of the present forest cover have developed from afforestation activities of Pinus Pinaster and Eucalyptus Globulus. Thereby, forest areas considered as primary forest, as is published by FAO, account for around 0.8% of overall forest cover.
Furthermore, the overall dynamics of the Portuguese forest cover is not promoted or supported by the demand of biomass. Simultaneously, the development of forest energy crops is not permitted in Portugal, through several legislation limitations, namely the mandatory previous authorization for premature final cut of eucalyptus stands (Law-decree nº173/88 from May 17th), regulations for the introduction and environmental control of non-indigenous species (Law-decree nº565/99 from December 21st) and mainly the mandatory previous authorization for afforestation and reforestation activities using short rotation crops (Law-decree nº175/88 from May 17th).

We can also conclude that the remains of the forest ecosystems that would have survived this destruction will be concentrated in the Fundamental Nature Conservation Network (RFCN) (defined by Decree-Law no. 142/2008, amended by Decree-Law no. 242/2015 dated 15 October) and made up of the Sistema Nacional de Áreas Classificadas [National Classified Areas System], which incorporates the central areas of nature conservation and biodiversity: i) RNAP; ii) SICs and ZPEs of the Natura2000 network; iii) any other areas classified under the umbrella of international commitments agreed upon by the Portuguese state; and areas of continuity: i) REN; ii) RAN iii) DPH (public hydric domains), safeguarded by the respective legal regulations.

FAO's Global Forest Resources Assessment of 2010 [2] shows the following data regarding Portuguese forest area:

- 37% of areas are defined as permanent forest
- 20% of the forest is within proTected areas
- Primary forest only represents 1%
- Other naturally regenerated forest just 75%
- Planted forest 25%.

Altering land cover in the protected areas is prohibited by Article 43 of Decree-Law no. 242/2015, as is the disturbance or destruction of threatened species and their habitats, under Article 44.

As far as conversion to forest plantations is concerned, the provisions of Decree-Law no. 96/2013, 19 July, apply to the whole of the continental territory. This establishes the legal framework, for the whole of the continental territory, to which actions of afforestation and reforestation of forest species (RJAAR) are subject. However, any planting/replanting of forest species, independently of the area of intervention that alters the dominant species previously installed (including the conversion of natural forest to plantations) is subject to advance authorization by the ICNF.

It's important to highlight that the article nº9 of RJAAR defines that if an intervention area is situated inside the National Ecologic Reserve, a consult must be addressed to the CCDR as

	well as the related municipality. The article nº10 defines the factors that should be taken into account in the decision-making process including protection of forest against forest fires, hydric related issues, biodiversity and habitat protection, among others. There are 135 Forest Producers Organizations registered on ICNF data base [3], whose offer multiple services, such as the preparation and implementation of Forest Management Plan, creation and management of Forest Intervention Zones, promotion of forest best practices, management of forest intervention teams, among others. As far as conversion that is not for agriculture or forestry is concerned, Decree-Law no. 139/89 is applicable to all Portuguese territory, and establishes protection measures for natural landscape, arable soil, and plant cover. These actions are subject to prior licensing by the municipal council. There is also specific protection legislation for: • Cork and holm oak (D-L no. 169/2001, amended by D-L no. 155/2004 of 30 June); • Riparian vegetation (Law 58/2005 and Law 54/2005); • Holly (Decree-Law no. 423/89). The latest RJAAR informative application note [3] summarizes the main points in this legal regime, including that actions of afforestation and reforestation are to be authorized by the ICNF, approved for public funding support programmes, decided upon by environmental impact reviews or environmental incidence assessments, and authorized or carried out by the ICNF, in properties managed by the same. 15% of the reforestation activities comprising the change of species, in the period of assessment, consisted on Pinus Pinaster converted to Eucalyptus. 4% of the referenced activities comprise the plantation of Eucalyptus on areas occupied by other, non-specified, species. The Minister Council from March 21st 2017, approved a law proposal that reviews the Legal Regime of the Arborization and Reforestation Actions [RJAAR] blocking the expansion of the eucalyptus plantation area, allowing new plantations only as compensation for areas previously occupied by eucalyptus and currently abandoned, being mandatory that the areas of previously occupied by this species shall be cleaned and in condition to be used for another agricultural or forestry activity. Risk Conclusion: Specified risk. Conversion of forest cover is possible in Portugal, although previous authorization by ICNF is mandatory. • Several legal mechanisms and monitoring practices are put in place in order to control forestry activities in sensitive areas, comprising proTected tree species. • The exotic tree species most relevant in Portugal is the Eucalyptus Globulus as is described above. The area of Eucalyptus settlements is constrained and thereby, conversions from other species will not be possible. • The change of land use is limited.
Means of Verification	Pinewells Evaluation of the risks and possible impacts of harvesting operations (EoR) Pinewells DDS

	FSC and SBP manual
Evidence Reviewed	ICNF -Ações de arborização e rearborização. Principais indicadores (outubro de 2013 a janeiro de 2016) Nota informativa n.º 4: http://www.icnf.pt/portal/florestas/arboriz/resource/docs/not-info/RJAAR-nota-informativa-n4-jan2016.pdf ICNF, 2013. IFN6 – Áreas dos usos do solo e das espécies florestais de Portugal continental. Resultados preliminares. [pdf], 34 pp, Instituto da Conservação da Natureza e das Florestas. Lisboa. http://www.icnf.pt/portal/florestas/ifn/resource/ficheiros/ifn/ifn6-res-prelimv1-1 'Abate de centenas de azinheiras e sobreiros para instalação de olival intensivo', 2006 Quercus - Associação Nacional de Conservação da Natureza at: http://www.quercus.pt/comunicados/2006/outubro/1650-abate-de-centenas-de-azinheiras-e-sobreiros-para-instalacao-de-olival-intensivo 'Obras no terreno continuam após abate ilegal de azinheiras promovido por empresários espanhóis para plantação de olival intensivo' 25/09/2008 Direcção Nacional da Quercus – Associação Nacional de Conservação da Natureza & Núcleo Regional de Beja/Évora http://www.quercus.pt/contactos/341-comunicados/2008/setembro/1222-obras-no-terreno-continuam-apos-abate-ilegal-de-azinheiras-promovido-por-empresarios-espanhois-para-plantacao-de-olival-intensivo Natural Forest Area change 2010-2015 Map at Global Forest Resources Assessments-FAO - Food and Agriculture Organization of the United Nations at http://www.fao.org/forest-resources-assessment/current-assessment/maps-and-figures/en/ Forest Change - GIS/Map in Global Forest Watch at: http://www.globalforestwatch.org/map/5/39.60/-8.50/PRT/grayscale/loss,forestgain?begin=2001-01-01&end=2014-12-30&threshold=30 **Legislation:** Conversion from natural *Quercus suber* and *Quercus rotundifolia* to other land uses: DL 169/2001, de 25/05 Artº 2º https://dre.pt/application/dir/pdf1sdip/2001/05/121A00/30533059.pdf) updated by DL155/2004, 30/06 https://dre.pt/application/dir/pdf1sdip/2004/06/152A00/39673968.pdf Conversion inside ProTected and Classified areas: DL142/2008 at 24/07 Artº 43º https://dre.pt/application/dir/pdf1sdip/2008/07/14200/0459604611.PDF DL 49/05 24/02 https://dre.pt/application/dir/pdf1sdip/2005/02/039A00/16701708.pdf Destruction of natural riparian vegetation: Law 58/2005 29/12; Law 54/2005,at 15/11 (Artº 25º) https://dre.pt/application/dir/pdf1sdip/2005/11/219A00/65206525.pdf Conversion from natural Ilex aquifolium DL 423/89, 4/12 (Artº 1) https://dre.pt/application/dir/pdf1sdip/1989/12/27800/52915292.pdf Conversion from natural landscapes and hillside/slope erosion: DL 139/89 28/04 artº1 http://www.icnf.pt/portal/icnf/faqs/arbor/dl139-89 Conversion by deforestation above 50ha (10ha in Sensitive Areas) or for reforestation with fast growth forest species on areas above 350ha (or 70 ha in sensitive areas) DL 151-B/2013 Artº 1º https://dre.pt/application/dir/pdf1sdip/2013/10/21102/0000600031.pdf

Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	Pinewells considers all pine stands as forests and eucalyptus and Poplar stands as plantations. Pinewells checks if forests have been changed to (eucalyptus) or Poplar plantations after 2008. Pinewells always demands its 'Evaluation of the risks and possible impacts of harvesting operations' (EoR), which covers these points. The fulfilment of the EoR is fixed in the Feedstock Supplier Declaration. Pinewells checks the EoR of its suppliers on 'SBE program approved feedstock suppliers' and keeps records on monitoring harvesting plots. The approach to mitigating this risk: 1) Feedstock suppliers are trained to recognize converted lands to eucalyptus plantations; 2) The harvesting teams inspect visually the plot, make photos and report on the results. When a eucalyptus or and Poplar plantation is cut the history of the plantation is investigated. First the age of the plantation is determined. If could be form after Jan. 2008, the land owner and/or residents are questioned, and the plot is searched for old tree stumps. The results are reported in the Evaluation of the risks and possible impacts of harvesting operations (EoR). 3) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers.

	Indicator
2.2.1	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation and monitoring to minimise them.
Finding	Most environmental legal requirements relating to forestry planning activities are included in Portugal's forestry legislation. In the administrative process of forest planning or forestation projects, the competent entities are centrally consulted by the national forest authority (ICNF). Management Plans including Forest Intervention Zone (ZIF), Community Use Area Plan (PUB) and Intervention Special Plan (PEIF) have been in place since 2000, and (to 2013) cover about 44% of Portuguese forest area. In private areas, forest plans are mandatory for all forest areas greater than a certain area (from 25 ha. to 100ha, depending on the region); however lack of this requirement has not resulted in any known penalties. In public areas, forest plans are obligatory for all areas (state forest, municipalities, etc.); however numbers from 2012 indicate that only 43% of these forests have the PGF. As of 2015, it is an objective of the forest authority ICNF that 100% of its areas should have a PGF by 2017 (for all public areas). In communitarian forests plans are obligatory for all areas however 2015 data show that Forest Plans (PUB) are in place in only 60% of cases. Forest Management Plans should include identification of most part of potential impacts and measures to minimize them. However, it is not a specific tool used to monitor environmental impacts, on FMU Management Plans. Instead there are the Regional Forest Plan covering all country which contains the most part of recommendations and tools to address forest impacts.

	Regional Forest Management Plans (PROF's) include monitoring specifications related to sustainability of forest resources, detailing all biotic and abiotic factors but also soils, and a list of potential impacts. Best practices are included for each forest management program. First generation PROF's were approved ten years ago, and they are all in a revision, being expected to be approved soon. No clear cuts are allowed, sustainable and best practices are mandatory by the authorities, especially under Portuguese Natura 2000 law. The national nature conservation system is based on legal protection regimes (such as The National network of protected areas, Natura 2000 network, etc.), which limits the activities allowed in these areas. There is also an inspection authority, SEPNA, and a strong system of protection (effective protected areas and legislation) in place. Even so Pinewells is concerned and the Manager of the Certificate or the Responsible of Reception carries out audits to suppliers (Beginning of the year or part 1 of the process) by documenting it. The procedures are in document 'Pinewells DDS and FSC manual' (please see attached). The supplier agrees to alert, if it changes the source of the supply area. As a result, this control has made it possible to have a better understanding of all the traceability of raw material and this is reflected in the fact that there are no problems with suppliers, raw materials or land disputes. Larger scale activities are obliged to address a legal impact assessment and monitoring processes so an Evaluation of the risks and possible impacts of harvesting operations (EoR) must be done to conversions above 50 ha. or reforestations with fast growth species above 350 ha. These figures are lower when they occur inside Sensitive Areas (ProTected, Classified and Monumental Areas), where it is obligatory to have this approved EoR if conversion to non-forest uses involves an area greater than 10 ha or forestation/ reforestation is taking place with fast-growing forest species covering over 70 ha. In case no forest plan is available (no PROF, PGF ZIF, PUB, SNAC, as well as no PEFC or FSC certification) an additional assessment of environmental impacts is made and recorded before harvest. Pinewells always demands an Evaluation of the risks and possible impacts of harvesting operations (EoR). Therefor it is concluded that the impact assessment is covered by various tools and it is considered as specified risk.
Means of Verification	Pinewells' Evaluation of the risks and possible impacts of harvesting operations (EoR) Manifest Regional Forest Plan (PROF) Pinewells DDS FSC manual Records of Pinewells field inspections SNAC framework Evaluation of the risks and possible impacts of harvesting operations (EoR)
Evidence Reviewed	**Government sources** Instituto da Conservação da Natureza e Florestas at http://www.icnf.pt/portal APA-Agência Portuguesa de Ambiente at http://apambiente.pt/index.php

	Municipalities at (http://www.cm-<NAME>.pt/) Alvaiazere Municipalitie forest regulation includes clearcutting fellings: http://ftp.cm-alvaiazere.pt/regulamentos/Regulamento_florestal.pdf **Non-Government sources** Quercus - Associação Nacional de Conservação da Natureza at http://www.quercus.pt/ LPN-Liga para a ProTecção da Natureza at http://www.lpn.pt GEOTA - Grupo de Estudos de Ordenamento do Território e Ambiente at http://www.geota.pt/scid/geotawebpage Greenpeace International at http://www.greenpeace.org/international/en/ World Wildlife Fund -Portugal at: http://www.wwf.pt/ **Legislation:** National Ecological Reserve DL 239/12 at 2/11 artº20ºnº1 e) EIA DL 151-B/2013 de 31/10 artº 1º nº3 b) Anexo II https://dre.pt/application/dir/pdf1sdip/2013/10/21102/0000600031.pdf DLnº 47/2014, 24/03 31/10 DLnº 179/2015, 27/08 artº2º Environment Law Lei de Bases de Política do Ambiente: Lei n.º 19/14 de 14/04 artº10ºd) DL nº49/05, de 24/02 artº20º DL 197/2005, de 8/11 artº 1º, nº3 b) e nº4, Machinery NP 1948, de 1994 Forest Equipament Chainsaw: NP 2761, de 1988 NP EN 13525:2005+A2:2009 Forest fire areas: DL nº55/2007, de 12/03 artº1º Lei n.º 54/91, de 8/08 DL nº34/99, de 5/02 artº1º Ministry Council Resolution nº 5/2006, de 18/01
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	There is a specified risk on this point, mainly in case no forest plan is available (no PROF, PGF ZIF, PUB, SNAC, as well as no PEFC or FSC certification). Pinewells always demands its Evaluation of the risks and possible impacts of harvesting operations (EoR). The EoR evaluates: a. The possible economical, ecological and social impact of the forest operations including its surroundings. Harvesting operations can be changed to avoid negative impacts. b. The quality of the management (by the land owner) prior to harvesting and regeneration plan. Indicators 2.2.2, 2.2.3, 2.2.4, 2.2.6, and 2.4.2 include relevant management measures which are checked during the EoR. Pinewells monitors the plots to be harvested and checks the EoR of its feedstock suppliers and the performed Risk Mitigation Measures (RMM). Pinewells does not classify all feedstock coming from the 'SBE approved suppliers' as 'SBP-

	compliant feedstock'. For example, if an estate has been poorly managed by a forest owner in the past, or does not comply with the SBE requirements on forest regeneration. Pinewells does not upgrade feedstock to 'SBP-compliant feedstock'. Also for areas without the legally mandatory EIA, Pinewells requires evaluations of the area, with relevant information to ensure compliance with this indicator. This information will be checked in the field during the audits made by Pinewells team.

	Indicator
2.2.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is sourced from forests where management maintains or improves soil quality (CPET S5b).
Finding	Soil quality in Portugal has not a positive evolution since historic times as the major part of Mediterranean region. Following FAO. 2013. State of Mediterranean Forests. Rome. http://www.fao.org/docrep/017/i3226e/i3226e.pdf At national level, following Desertification Convention 5.1 Desertification Susceptibility (https://dre.pt/application/file/65985917): for Portugal, it can be concluded that, in the last half a century, the area of susceptibility to desertification clearly expanded in the mainland territory particularly in the period 1970-2000, and then for the 1980-2010 series, and is even more relevant as expansion for the 2000-2010 series, which corresponds to the most recent period analyzed, with annual droughts particularly severe. It is known, therefore, that aridity, then susceptibility to desertification, affected, in the last three decades (1980-2010), 58% of the territory of the Continent, when in the series of 1960-1990 this affectation was of 36%, being included in this context mainly the areas of the South and the Interior Center and North. In the climatic series of the last decade, about 63% of the mainland territory is classified as areas susceptible to desertification. FAO- Land Degradation Index — LDI, developed for mainland Portugal (2000-2010) states that the national territory has 32.6% degraded lands and 60.3% are included in the fair to good condition. Lands and soils that accumulate biomass over time are about 67,8% but static trends were observed in 30,8% of territory and 1,5% have a regression on land quality. Later on, Forest Services used aridity index to produce the susceptible map of desertification, indicating priority areas for EU forest grants for forestation projects. The results of this FAO study, among others, where used to create National Program Against Desertification, which is adopted, among others by Regional Forest Plans, defining forest procedures for spaces for carbon sink and other for energetic use of biomass. The private and public Forest Management Plans should adopt these designations and procedures on their implemented management practices and procedures. Specifically on forest soils it is recognized the problem of nutrient and carbon exportation due to harvesting and residues removal in a significant part of the country which is affected by erosion and desertification problems

	Although there is a broad consensus over soils fragility in much of the country, policies that contribute decisively to the conservation and improvement of soil quality in Portugal have not been implemented on the last decades. These implemented forest policies have not prevented the installation and exploitation of commercial timber forest stands including plantations of intensive softwood and hardwood plantations in sensitive soils with erosion risks contributing to expand the susceptible areas to desertification. The legal and regulatory framework includes restrictions and safeguards for soil use and mobilization operations with particular emphasis on sensitive, steep and near-water areas (called the National Ecological Reserve). However, as shown by above cited studies and data, reality at ground level does not reflect the application of these restrictions. Also forest residues removal from the field is regulated in Portugal, so loggers and owners have some legal obligations, related with both fire and phytosanitary policies. These obligations are depending on species, areas, seasons and regions. Process of forest residue treatment is commonly included on Best Practices but also on wood supply contracts, and forest land leasing. According to the available information, it is considered that on small size forest properties risk is low, as small scale also reduces the threats and risks involved with soil operations. Therefore, and using a precautionary approach, it is considereed specified the risks for soil quality of sourcing biomass feedstock on forest lands located on desertification susceptible area according to Forest Services (ICNF) cartography and with size above minimum size required for Forest Management Plan, is considered a specified risk.
Means of Verification	Pinewells Evaluation of the risks and possible impacts of harvesting operations (EoR) Manifest Evaluation of environmental impacts Erosion and desertification programs and maps (REN)
Evidence Reviewed	National System for Forest Fire Prevention: Harvesting temperate forests reduces soil carbon http://ec.europa.eu/environment/integration/research/newsalert/pdf/23si6_en.pdf Susceptible areas to desertification map: http://www.icnf.pt/portal/naturaclas/ei/unccd-PT/pancd/o-pancd-2014-2020/pdr-2020-areas-susceptiveis-e-nao-susceptiveis-a-desertificacao ICNF http://www.icnf.pt/portal/florestas/dfci/relat/raa/resource/ficheiros/ree2012/rel-recup-inc-catraia-set-v5 PANCD https://dre.pt/application/file/65985917 Reserva Ecológica Nacional https://dre.pt/application/dir/pdf1sdip/2012/11/21200/0630806346.pdf Kirkby, M.J., Jones, R.J.A., et all (2004). Pan-European Soil Erosion Risk Assessment: The PESERA Map, Version 1 October 2003. Explanation of Special Publication Ispra 2004 No.73 (S.P.I.04.73) . European Soil Bureau Research Report No.16, EUR 21176, 18pp. and 1 map in ISO B1 format. Office for Official Publications of the European Communities, Luxembourg. European Soil Portal, 2013, http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/esb_rr/n16_ThePeseraMapBkLet52.pdf

	Good Forest Practices http://www.icnf.pt/portal/florestas/gf/documentos-Tecnicos/resource/doc/Boas-Praticas-Florestais.pdf LEAF: Epic WebGis Portugal: http://epic-webgis-portugal.isa.ulisboa.pt/maps/epic?format=image/png;%20mode=8bit&startExtent=-1523000,4400000,-143668,5180000 Pinus Nematode: Dec.Retificação n.º 38/2015 de 01/09 DL 123/15, at 3/07 DL 95/2011, de 8/08 DL 154/05 6/09 Dec. n. 30-A/2011, de 7/10 Madeira. M, Fabião A., Páscoa F., Magalhães M., Cameira,M , Ribeiro C. (2009) Carbon and nutrient amounts in aboveground biomass, understory and soil in a pine stand chronosequence, http://www.scielo.mec.pt/pdf/rca/v32n2/v32n2a15.pdf Madeira, M. (2015) Thirty years of research on soil quality in forest systems under Mediterranean conditions. Trends and future. http://www.repository.utl.pt/bitstream/10400.5/9277/1/REP-M.Madeira-Spanish%20j.S.C..pdf Magalhães, M., Cameira M., Pato, Santos R. & Bandeira, J (2011) Residual forest biomass: effects of removal on soil quality http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S0871-018X2011000200019
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	Pinewells does fields inspections and checks feedstock and the felling area. In addition, trainings are given to suppliers on best forest practice guide. Pinewells demands an Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. The EoR addresses the specified risk on soil degradation. Best practices regarding harvesting operations have to be applied. a. Low intensity of forestry, selective cuttings and small clear cuts of maximally 5 ha. were needed considering the soil and groundwater level. b. Regeneration focusses on tree species that maintain or improve soil quality c. Leave nutrients in the forests, mainly the green fraction of forest residues (on the other hand other forest residues need to be cleared to prevent forest fires. d. Do not operate near-water areas. For example, on dry locations (elevated grounds or on slopes) selective cuttings are required, because the ground gets less direct impact of the sun and the forest and (natural) regeneration can maintain soil quality. On other locations (small) clear cuts can sometimes have the advantage that several kinds of broadleaved trees regenerate naturally, what improves soil quality. After clear cuts, the groundwater level can rise, what sometimes is an advantage, sometimes a disadvantage. The approach to mitigating this risk: 1) Pinewells prepares (publicly available) data. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognize the soil quality and how to conserve them.

	3) Before harvesting operations commence the plot is evaluated on this point and records are kept. Best forestry practises are applied. Maps can be obtained from 'Reserva Ecológica Nacional' (REN). 4) Best practices are used, including measures to conserve and increase soil quality. 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. Poor soil quality can lead to erosion, etc; this indicator is related to indicator 2.2.6.

	Indicator
2.2.3	The Biomass Producer has implemented appropriate control systems and procedures to ensure that key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).
Finding	Our pellets are FSC and SBP certified. Our forest specialist studies the environmental aspects of the forest harvest and ensures endangered species are not used and protected. Portuguese authorities have listings as well on-the ground agents to ensure compliance with legislation, specially protected areas (Natura 2000) and FSC/PEFC areas. Portugal has identified the Natura 2000 areas (protected areas) and PROF regions and they have a FSC Controlled Wood low risk assessment. There are no CITES tree species in our supply base. In Portugal, key ecosystems and habitats occur mostly in Protected areas and in Classified Areas (Natura 2000). The overlap of classified areas over protected areas is approximately 1/3 of the total, which means that approximately 2/3 of classified areas are not included on protected areas of the National Network of Protected Areas. Also, there are key ecosystems and habitats occurring outside Protected and Classified areas.
Means of Verification	Pinewells Evaluation of the risks and possible impacts of harvesting operations (EoR) Supply contracts Pinewells DDS FSC manual
Evidence Reviewed	See evidences reviewed listed at indicators 2.1.1 and 2.1.2, above.
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Pinewells prepares (publicly available) data on ecosystems and habitats (see above 2.1.1 on mapping and 2.1.2 on identifying and addressing potential threats). The key ecosystems and habitats are identified in Protected and Classified areas. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognise key ecosystems and habitats. 3) Before harvesting operations commence the plot is evaluated on this point and records are kept. Best forestry practises are applied. Most importantly, the feedstock suppliers inspect visually the harvesting plot and report on the results. Key ecosystems and

	habitats are indicated on the harvesting maps. Best practises are used to protect the high ecological values. The harvesting operations conserve these objects, mainly by not cutting the woodland or forest directly around them. In exceptional cases, low intensity harvesting operations are possible without damaging these objects. a. Study key ecosystems on the harvesting plot, conserve areas of ecological value b. Study flora and fauna at the harvesting plot, nests, breeding areas, anthills conserve protected tree species and habitats c. Do not operate near-water areas. 4) Best practices are used. Pinewells as its own Best Forest Practice Guide. 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. The protection and conservation of ecosystems and habitats are also covered in indicator 2.2.4 (biodiversity protection indicator).

	Indicator
2.2.4	The Biomass Producer has implemented appropriate control systems and procedures to ensure that biodiversity is proTected (CPET S5b).
Finding	Biodiversity is included on fundamental environmental law on its article 10th (Law 19/2014 14/04) and is fully covered by biodiversity and nature conservation legal framework. In Continental Portugal the protected areas and Natura 2000 sites covers 2.017.803 ha meaning 20.47% of the territory. As on Convention on Biological Diversity: '*Portugal's National Biodiversity Strategic Action Plan NBSAP was based on the following ten guiding principles: an overall higher level of protection; the sustainable use of biological resources; prevention; precaution; recuperation; responsibility; integration; participation; international cooperation and decentralization. The NBSAP then lists 10 fundamental strategies that form the basis of their action plan, which include: to promote scientific research and knowledge of local patrimony; to enhance the National Protected Areas Network; to promote the valorisation of the protected areas, and ensure the conservation of all social, cultural and natural components; ensure conservation and valorisation of areas within the Natura 2000 Network; implement, across the entire national territory, actions specific to the conservation and management of species and habitats of particular interest; integrate conservation and sustainable use principles into national and regional policies and laws; reinforce cooperation between all levels of administration; promote education and formation in conservation fields; ensure public education, awareness and sensitization; and strengthen international cooperation.*' (...) About 3,600 species of plants occur in Portugal. There are 69 taxa of terrestrial mammals, a total of 313 bird species, of which around 35% are threatened in some ways, and 17 amphibian and 34 reptile species that occur in Portugal. Some of the main threats to the biological diversity of Portugal include: alteration or destruction of habitats; pollution;

	overexploitation; invasive alien species; urbanization and fires. It is considered that a significant part of biodiversity is covered and detailed by indicators 2.1.1 and 2.1.2, for which low risk was not reached in this risk assessment. All classified habitats, besides priority ones included on HCV, must be included in this indicator.
Means of Verification	Pinewells' Evaluation of the risks and possible impacts of harvesting operations (EoR) Evidences of described in the 2.1.1, 2.1.2 and 2.2.3.
Evidence Reviewed	Fundamental Environmental Law n.º 19/2014 of 14/04 : http://www.icnf.pt/portal/icnf/legisl/legislacao/2014/lei-n-o-19-2014-de-14-de-abril-d-r-n-o-73-serie-i Dec -Law.nº 142/2008, of 24/07 https://dre.pt/application/file/70698029 Convention on biological diversity: https://www.cbd.int/countries/profile/default.shtml?country=pt#nbsap (see also evidence reviewed at indicators 2.1.1 and 2.1.2)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Pinewells prepares (publicly available) data on biodiversity researches and programs, red lists of Portugal, CITES, etc (see above 2.1.1 on mapping and 2.1.2 on identifying and addressing potential threats, HCV 1 – Species diversity). This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognise the protected biodiversity and how to conserve them. These species are often related (it can be indicator species) to key ecosystems which need conserved (previous indicator). 3) The harvesting teams inspect visually the plot, make photos and report on the results. Endangered flora and fauna are indicated on the harvesting maps. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. 4) Best practises are used, including measures to conserve and increase biodiversity (for example, standing dead wood, prescribed burning and other disturbances improving the conditions for endangered species flora and fauna). 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers.

	Indicator
2.2.5	The Biomass Producer has implemented appropriate control systems and procedures for verifying that the process of residue removal minimises harm to ecosystems.
Finding	For soil matters related with residue removal see indicator 2.2.2. In Portugal forest residues removal from forests is regulated so loggers and owners have some legal obligations, related with both fire and phytosanitary policies. The manifest document informs that the executing company is responsible for residues removal.

	In addition, this document refers to the destination / location where the wood will be treated Based on the available information this indicator is considered low risk.
Means of Verification	Manifest Records of Pinewells field inspections
Evidence Reviewed	National System for Forest Fire Prevention: https://dre.pt/application/dir/pdf1sdip/2006/06/123A00/45864599.pdf Good Forest Practices: http://www.icnf.pt/portal/florestas/gf/documentos-Tecnicos/resource/doc/Boas-Praticas-Florestais.pdf **Pinus Wilt Disease:** Dec.Retif. n.º 38/2015 de 01/09 DL 123/15, at 3/07 DL 95/2011, de 8/08 DL 154/05 6/09 Dec. n. 30-A/2011, de 7/10 See also evidences listed on 2.2.2
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.6	The Biomass Producer has implemented appropriate control systems and procedures to verify that negative impacts on ground water, surface water and water downstream from forest management are minimised (CPET S5b).
Finding	Pinewells considers the landscape where the harvest operations are executed, including hill slopes and streams that can over flood and demands the same from its feedstock suppliers. Clear cutting (of several ha.) is avoided in areas where all conditions are at high risk for soil erosion. In these cases, is followed the ICNF Handbook for forest best practices: 'In the areas surrounding the water lines the risk of erosion is often very high, since these are areas of concentration of rainwater runoff. In these bands (with a minimum width of 10 meters for each side, as stated in the legal definitions and conditions of legal limits (Decree-Law no. 468/71, of 5 November) a strict prevention of erosion phenomena shall be performed, and it is therefore essential to adopt measures to proTect it, such as maintaining all or a significant part of the natural vegetation and not inflict harm to the soil.' These best practises are required to comply with the requirements of SBE program. Water legal framework includes water law and national and hydrographical basin plans, being Portuguese Environment Agency the national authority. Other authorities like SEPNA (National Republican Guard) and Nature Guards and Vigilantes, also have competencies of water resources inspection actions. Pinewells has never been penalized by any of these entities because it never operates on water lines.

	National Ecological Reservation is a territory classification of sensitive areas for 'ecosystem services' where water issues are addressed, and some restrictions are in place to prevent negative impacts in slopes, valleys and other sensible situations. Every forest projects and plans must comply with this regulation, and they should be in place, for example in projected soil preparation techniques. The risk is applied to all private, communitarian, and public forest areas which are not managed by ICNF. ICNF Handbook for forest best practices defines: 'In the areas surrounding the water lines the risk of erosion is often very high, since these are areas of concentration of rainwater runoff. In these bands (with a minimum width of 10 meters for each side, as stated in the legal definitions and conditions of legal limits (Decree-Law no. 468/71, of 5 November) a strict prevention of erosion phenomena shall be performed, and it is therefore essential to adopt measures to proTect it, such as maintaining all or a significant part of the spontaneous vegetation and not perform any mobilization of the soil.' Usually prevented by legal and regulatory framework, however in Portuguese implemented legislation there is not a clear and effective legal tool over all territory, being exceptions the Northern regions, where 10 hectares is defined as the maximum clearcuttings area as defined on Regional Forest Plans. Also some Municipalities may have municipal regulations about clearcutting fellings. So it is considered there are specified risks that feedstock is sourced from forests when clear cuttings are done over a specific size area. This specific area is defined regionally by each Regional Forest Plan (PROF), as the maximum clearcutting area or the size of even aged monospecific forest stand.
Means of Verification	Pinewells Evaluation of the risks and possible impacts of harvesting operations (EoR) Internet research GIS maps of HCV areas Regional, publicly available data from a credible third party as FSC and PEFC reports Game management plans Regional Forest Plans Forest Operating Procedures Publicly available information on the protection of the values identified Aerial photos Assessment at an operational level of measures designed to minimise impacts on the values identified Erosion and desertification programs and maps FSC Manual DDS
Evidence Reviewed	Law: Dec-Law n.º 130/2012 22/06 https://dre.pt/application/dir/pdf1sdip/2012/06/12000/0310903139.pdf National Water Plan: http://www.apambiente.pt/?ref=16&subref=7&sub2ref=9&sub3ref=833 Hydrographical basin Plans

	http://www.apambiente.pt/?ref=16&subref=7&sub2ref=9&sub3ref=834#pgbh-tabela Reserva Ecológica Nacional Law: https://dre.pt/application/dir/pdf1sdip/2012/11/21200/0630806346.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	See also indicators 2.1.1, 2.1.2, 2.1.3, 2.2.1 and 2.2.2

	Indicator
2.2.7	The Biomass Producer has implemented appropriate control systems and procedures for verifying that air quality is not adversely affected by forest management activities.
Finding	Air legal framework includes air law and national air quality plan, being Portuguese Environment Agency the national authority. Other police authorities like SEPNA (National Republican Guard) and Nature Guards and Vigilantes, also have competencies of air pollution inspection actions. Generally, forests are considered the best use of soil compared with other land use possibilities and forest management activities are not known in the country as to cause air pollution. Major negative impacts from forests are due to forest fires which are not considered management activities. Burning forest residues at the forest site as the traditional way is prevented with forest feedstock sourcing for biomass legal framework in force at high fire hazard periods. Forest equipment must comply with EU directives about air pollution. The forestry equipment is checked by our forestry specialist. There is a checklist of a number of parameters, from operating conditions, safety, cleaning and leaks. Based on available information the requirements included in this indicator are considered low risk.
Means of Verification	Procedure 'Best practices regarding harvesting operations'. Supply contracts Check lists on feedstock suppliers and harvesting operations Assessment at an operational level of measures designed to minimise impacts on the values identified Publicly available information on the protection of air quality as APA website. Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	**Environmental Laws** : Law n.º 19/14 de 14/04 artº10ºd) • DL nº49/05, de 24/02 artº20º • DL 197/2005, de 8/11 artº 1º, nº3 b) e nº4, Decree-Law n.º 102/2010 of 23/09 https://dre.pt/application/dir/pdf1sdip/2010/09/18600/0417704205.pdf **Machinery**

	• NP 1948, de 1994 • NP 2761, de 1988 • NP EN 13525:2005+A2:2009
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.8	The Biomass Producer has implemented appropriate control systems and procedures for verifying that there is controlled and appropriate use of chemicals, and that Integrated Pest Management (IPM) is implemented wherever possible in forest management activities (CPET S5c).
Finding	The legal framework for agrochemicals use is the Law nº 26/2013 from April 11th which applies to Portuguese context the EU Directive n.º2009/128/CE, of 21/10. Fertilisers are prescribed on some forest management systems like installation period or forest plantations, but the intensity of this use is very low according to every perspective. The implementation of this law had a very positive impact on use of agrochemicals, and included the needing of accredited training, and records (quantities, disposals, etc) to all the involved people. The use of chemicals on Portuguese forests is not common and it is very restricted to a few cases because, among others, there are few homologate products applying to the most important phitosanitary forest plagues and diseases. Exceptional cases are pine processionary (*Thaumetopoea pityocampa*) and the eucalyptus snout beetle (*Gonipterus platensis*), but in both cases there are also other biologic and genetic measures. Based on available information the requirements included in this indicator are considered low risk.
Means of Verification	Existing legislation Level of enforcement Assessment at an operational level of measures designed to minimize impacts on the values identified Monitoring record
Evidence Reviewed	Law n.º 26/2013 de 11 /04: https://dre.pt/application/file/260367 Pine processionary official Plan: http://www.icnf.pt/portal/florestas/prag-doe/resource/doc/proc/proc-florest-2015.pdf Eucalyptus snout beetle official plan: http://www.icnf.pt/portal/florestas/prag-doe/ag-bn/gorg-eucal
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.9	The Biomass Producer has implemented appropriate control systems and procedures for verifying that methods of waste disposal minimise negative impacts on forest ecosystems (CPET S5d).
Finding	The legal framework for waste disposal is based on a recent law which applies to Portuguese context the EU Directive n.º 2008/98/CE. Portuguese Environment Agency is the national authority but other police authorities like SEPNA (National Republican Guard) and Nature Guards and Vigilantes, also have competencies of waste disposal. Also municipal authorities can apply municipal rules to implement applicable legislation. Waste disposal on forest lands exist in Portugal and it affects both private and public lands. But as it is illegal in the country there are efforts made by private ours suppliers and authorities to collect the waste and send it to final legal destination. Some of the measures used by owners include fencing of their lands, sign installation against waste disposal and formalizing complaints to authorities in case of illegal waste disposal. Based on available information the requirements included in this indicator are considered low risk.
Means of Verification	Existing legislation; Level of enforcement; Regional Best Management Practices
Evidence Reviewed	Waste Management and Planning Official page: https://www.apambiente.pt/index.php?ref=16&subref=84 Decree-Law n.º 73/2011 de 17/06: https://www.apambiente.pt/_zdata/Politicas/Residuos/DL_73_2011_DQR.pdf Waste National Management Plan: file:///C:/Users/imobi_000/Downloads/Projeto_PNGR_2011-2020.pdf European Waste Statistical: http://ec.europa.eu/eurostat/statistics-explained/index.php/Waste_statistics/pt
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.1	Analysis shows that feedstock harvesting does not exceed the long-term production capacity of the forest, avoids significant negative impacts on forest productivity and ensures long-term economic viability. Harvest levels are justified by inventory and growth data.
Finding	Statistical information on National Forest Inventory is fully available from IFN5 (2005) and preliminary results from IFN6 (2010). Preliminary results from IFN6 (2010) for main species in pellet production show that: Total forest area in Mainland Portugal is 3,154,800 has of which 2,972,356 has correspond to forested area. • **Eucalyptus** plantations are larger Portuguese forests. Forest cover with Eucalyptus has increase 13% from 1995 to 2010 (over 90,000 has in the period to a total surface of

	812,000 has in 2010; 755,355 has on forested areas) mostly on areas converted from Pinus pinaster (70,000 has in the period). Pinus Wilt Disease/Nemátodo-do-pinheiro pest, fires and economic motivations can be behind it. • **Pinus pinaster** forests have decrease significantly from 1995 to 2010: 27% on total surface (263,000 has in the period to a total surface of 713,000 has in 2010; 624,248 has on forested areas). 163,000 has was converted to open land, mostly related to Pinus Wilt Disease/Nemátodo-do-pinheiro pest and fires and 70,000 has to Eucalyptus plantations, which can also include economic motivations. Represents the majority of inputs in BP feedstock. Analysing statistical information available for average annual growth (AMA) from IFN5 (2005) show for Mainland Portugal: On *Eucalyptus* an average annual growth of 4,375,000 m3/year based on 2005 inventory data. Currently the value will be significantly higher. Eucalyptus wood from Portugal consumption in 2014 was 5,400,000 m3 (CELPA data). Eucalyptus is fast growing specie, over 12 years, with one and only cut on the period: final clear cut. So harvesting does not compromise long-term production of the forest. On *Pinus pinaster* an average annual growth of 3,650,000 m3/year based on 2005 inventory data. Currently the value will be lower. Pinus pinaster wood from Portugal harvested in 2014 was 2,247,000 m3 (Centro Pinus data). So Pinus pinaster wood available from Portugal in under AMA. On the analysis it is relevant also to take into account that: 1. Pinus Wilt Disease/Nemátodo-da-madeira-do-pinheiro pest have affected significantly to *Pinus pinaster*. 2. Fires continue to be a relevant problem in Portugal. 3. Data from CentroPinus states that pine wood consumption of timber industry in 2014 was 4,360,000 m3, with a relevant data a 1,400,000 m3 for pellets, 32% of total. Also 32% of pine wood used by CentroPinus partners was imported in 2014. Percentage of imported pine wood used in 2006 was 3%. So lack of pine wood from Portugal is being covered with importations, mainly from Spain. 4. Data from CELPA states that Eucalyptus consumption of pulp and paper industry in 2014 was 7,800,000 m3 (4,980,000 m3 in 2005), of which 2,415,000 m3 were imported, mainly from Spain. So all above information shows that actual harvesting volume does not exceed sustainable values and compromises long-term economic viability of stands. Thus the risk for this indicator has been assessed as Low. Although harvest levels are not justified by inventory and growth data in many cases at a forest level.
Means of Verification	Volume and growth data and yield calculations, and Operational Practice indicate that biomass feedstock harvesting rates avoid significant negative impacts on forest productivity and long-term economic viability.
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) Estatísticas Agrícolas 2015.xls, Instituto Nacional Estatística

	(https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=271434407&PUBLICACOESmodo=2) Inventario Florestal Nacional IFN5 (FloreStat_IFN5); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn5/rel-fin) Inventario Florestal Nacional IFN6, preliminary results (IFN6 - Resultados preliminares.pdf); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn6) Boletim-Estatístico-da-Celpa-de-2014 (http://www.celpa.pt/wp content/uploads/2016/09/Boletim_WEB_2015.pdf) Relatório-de-Caracterizacão-da-Fileira-Florestal-2014 (http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf) Fileira do Pinho: desafios e oportunidades (centroPINUS_JoaoGonçalves dados fileira pinho 2014.pdf); Centro Pinus (http://www.centropinus.org/index.php?lingua=1) Decreto lei 16-2009 planos gestão florestal (https://dre.pt/application/dir/pdf1sdip/2009/01/00900/0026800273.pdf) ; ICNF portal (http://www.icnf.pt/portal/icnf/legisl/legislacao/2009/decreto-lei-n.o-16-2009-de-14-de-janeiro.-d.r.-n.o-9-serie-i) Normas Tecnicas Planos Gestão Florestal, ICNF portal (http://www.icnf.pt/portal/florestas/gf/pgf/resource/doc/manual/normas-Tecn-PGF-AFN.pdf)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.2	Adequate training is provided for all personnel, including employees and contractors (CPET S6d).
Finding	A centre for forestry professional training under the direct management of the ICNF and has as main objective the training and professional enhancement, with special emphasis with regard to forestry operations. He has a decision power in forestry operations, use of machines, methods and techniques used, always giving due and necessary attention to compliance with safety, hygiene and health at work. All our suppliers provide training and qualifications for the management of forestry machines. NOTE**:** Portugal is a country with an old tradition on forests activities. University education is provided on the technical side with several colleges in the country. There are specific courses for field machinery operators, but it is planned to be updated on the National Catalogue of Formations a new training on Forestry Machinery technician not yet available. Under this information the indicator is assessed as specified risk.
Means of Verification	Records of Pinewells field and company inspections. Qualifications of employees at Pinewells Suppliers. Training course Existing legislation Level of enforcement

	Pinewells monitoring procedure includes checklists on feedstock suppliers and harvesting operations.
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) (http://www.icnf.pt/portal/florestas/gf/cotf); (http://www.icnf.pt/portal/florestas/gf/cotf/o-q-e) ; (http://www.icnf.pt/portal/florestas/gf/cotf/formacao)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	Pinewells trains its personnel on all relevant aspects and demands the same from its feedstock suppliers. During the supplier's office inspections are checked: the training records, (new) workforce, and the hiring of specialists. The level of knowledge of personnel is inspected during site visits. Pinewells does specialized training during the field inspections. It is done by a forest engineer and a Health and Work Safety Engineer. In addition, Pinewells checks the training registry of the employees of their suppliers, to ensure that adequate training is given, regarding the functions of the forest workers. The approach to mitigating this risk: 1) Feedstock suppliers are trained by Pinewells about Good Forest Practice Guide and Health and Safety at work. The owner of harvesting company demands from its workers to have specified training to work on forest. 2) Best practises are used. 3) Pinewells monitors the harvesting operations of its feedstock suppliers.

	Indicator
2.3.3	Analysis shows that feedstock harvesting, and biomass production positively contribute to the local economy, including employment.
Finding	At the regional and local level, Pinewells is one of the largest companies contributing to the increase in employment. We have our teams and teams from our suppliers. The Pinewells contributes a lot to local employment with qualified professionals. Statistic for forest sector in total, shown that value added of forest production in Portugal is 1,193 million euro (M€) in 2014, with a sustained growth over last years. Also 2014 forestry goods production have an estimation of 878.25 M€ of which wood for energy is 55.38 M€ (6%). Data from INE 2012 states that 91% of Portuguese forest sector enterprises have from 1 to 10 workers. Forest industries employ 78,000 people (12% of all Portuguese processing industry, 1.7% of Portuguese employed population) of which 10,600 work on logging companies and 20,800 on wood industry. Also, annual turnover of forest sector industries was in 2012 over 7,392 M€ (2,497.6 M€ wood and furniture industry, 1,320.4 M€ cork industry and 3,574.6 M€

	pulp and paper industry), representing 10% of all Portuguese processing industry. Despite the recent crisis, the forest sector has maintained its contribution, in macroeconomic terms, in terms of added value. Biomass/Feedstock with origin in Portuguese forest is supplied through domestic supply chains to BP's so economic impact related to feedstock chain from the forest, transportation, processing and BP is local. Also it is mainly complementary with other wood industries as use on their processes low quality wood (which previously it was not exploited or it was burned) or wastes from industrial processes. With all of these considerations we can conclude that biomass production contributes positively to local economy and thus the indicator has been assessed as low.
Means of Verification	Data on Pinewells and the regional economy
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) Estatísticas Agrícolas 2015.xls, Instituto Nacional Estatística (https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_publicacoes&PUBLICACOESpub_boui=271434407&PUBLICACOESmodo=2) Relatório-de-Caracterizacão-da-Fileira-Florestal-2014 (http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf) Fileira do Pinho: desafios e oportunidades (centroPINUS_JoaoGonçalves dados fileira pinho 2014.pdf); Centro Pinus (http://www.centropinus.org/index.php?lingua=1)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that the health, vitality and other services provided by forest ecosystems are maintained or improved (CPET S7a).
Finding	Although there is a specified risk for insufficient assessment of the impact of harvesting operations that replace (destroy) the existing forest ecosystem, nearly all risks are addressed by other indicators (with specified risk), such as indicators 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.6, 2.4.2, and 2.6.1. In addition to measures taken to comply with the specified risks of other indicators, to comply with indicator 2.4.1 the possible impacts of the harvest operations on the forest and its surroundings are assessed (before the harvesting operations commence), not only in relation to the environment, but also in relation to the interests of the local population, farmers, and people interested in recreation. The 'health, vitality and other services provided by forest ecosystems' can be of importance to the local population. Forests can be of importance to the environment around the forests, they

	can reduce the impact of extreme weather, and reduce the impact of air-pollution, and noise. For example, it takes only one dense forest stand to improve the perception of an area / to cover up 'visual pollution'. Forest (ecosystems) can be essential for: • Breaking hard winds and rainfall (roads and houses); • Recreation in and around the forests; • Hunting, fishing and gathering of berries and mushrooms; • Agriculture near the forests (this is of importance in Portugal). The indicator needs to be assessed as specified risk for health and vitality of forests ecosystems.
Means of Verification	Pinewells' Evaluation of the risks and possible impacts of harvesting operations (EoR) Manifest Overall evaluation of potential impacts of operations on forest ecosystem health and vitality Assessment of potential impacts at operational level and of measures to minimise impacts Regional Best Management Practices Supply contracts Interviews with local people
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) UNECE, Forest Europe report 2011 (https://www.unece.org/fileadmin/DAM/publications/timber/Forest_Europe_report_2011_web.pdf) Programa Operacional de Sanidade Florestal, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/posf) Fitossanidade florestal. Divulgação e informação, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/divulg) Programas de Monitorização e Controlo de Pragas e Doenças, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/resource/img/apr-progr-monit-c-pragas-e-d/view) Medias Controlo Nemátodo-da-Madeira-do-Pinheiro_03_2015, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/resource/doc/divul/apresentacoes/2015-03-12/NMP_03_2015.pdf) Inventario Florestal Nacional IFN5 (FloreStat_IFN5); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn5/rel-fin) Inventario Florestal Nacional IFN6, preliminary results (IFN6 - Resultados preliminares.pdf); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn6) Relatório-de-Caracterizacão-da-Fileira-Florestal-2014 (http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf) Quercus NGO Manifesto da Quercus pelas florestas (http://www.quercus.pt/documentos-floresta/2955-manifesto-da-quercus-pela-florestas)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that natural processes, such as fires, pests and diseases are managed appropriately (CPET S7b).
Finding	Pests, diseases and fires are today the greatest perceived risks in the Portuguese forest sector. As stated in previous indicator biotic and abiotic risks are supported by disturbances affect in 2011 24% of the forest area, generated by a regressive vicious cycle that combines fire, 'seca', pests, diseases and invasive species. The national program for forest fire protection (PNDFCI) establishes various levels (national, regional, municipal and local) in order to create a network of forest fire prevention (primary and secondary on public level and tertiary on forest owner level). This system aims to compartmentalize extensive woodlands and contribute to the containment and firefighting. The identification of these elements is defined in the various plans in force particularly in the Forestry Management Regional Plans (PROF) and Forest Defense Municipal Plans Against Fires (PMDFCI), which also define the responsibilities for its implementation on field. In terms of forest owners are defined in Forest Management Plans and related (PEIF, PUB). Until July 2016 they are constituted 179 ZIF, covering 924,447 hectares of territory. One of the objectives of ZIFs is to reduce the conditions of ignition and fire spread implementing on the field planned measures. Field implementation of planned measures is uneven in Portugal. On the above information specified risk is assessed on the fire management at forest level There are enforcement and monitoring on the performance of our part: harvest, transporters and warehouses. Every step need of official document.
Means of Verification	Pinewells Evaluation of the risks and possible impacts of harvesting operations (EoR) Regional Best Management Practices Supply contracts Assessment of potential impacts at operational level and of measures to minimise impacts Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) Programa Operacional de Sanidade Florestal, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/posf) Fitossanidade florestal. Divulgação e informação, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/divulg) Programas de Monitorização e Controlo de Pragas e Doenças, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/resource/img/apr-progr-monit-c-pragas-e-d/view) Medias Controlo Nemátodo-da-Madeira-do-Pinheiro_03_2015, ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/resource/doc/divul/apresentacoes/2015-03-12/NMP_03_2015.pdf)

	Decreto lei 123-2015 nematodo do Pinheiro (https://dre.pt/application/file/67649256) ; ICNF portal (http://www.icnf.pt/portal/florestas/prag-doe/ag-bn/nmp) Declaração Retificação n.º 38/2015 de 01/09 (https://dre.pt/application/file/70144398) Inventario Florestal Nacional IFN5 (FloreStat_IFN5); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn5/rel-fin) Inventario Florestal Nacional IFN6, preliminary results (IFN6 - Resultados preliminares.pdf); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn6) Plano Nacional de Defesa da Floresta Contra Incêndios (https://dre.pt/application/dir/pdf1sdip/2006/05/102B00/35113559.pdf); ICNF portal (http://www.icnf.pt/portal/florestas/dfci/planos/PNDFCI) Zonas de Intervenção Florestal, ICNF portal (http://www.icnf.pt/portal/florestas/gf/zif/sit-ger-inf) Relatório-de-Caracterizacão-da-Fileira-Florestal-2014 (http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Pinewells studies data (from publicly available information, researches and programs) for harvesting teams on risks and regulations regarding fires, pests and diseases. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognise poor forest management and on mitigation measures. Pinewells team gives suppliers a Best Forest Practice Guide which includes prevention measures of fire risk. In addition, Pinewells gives training about this Guide to forest workers during the visits to the suppliers. This measure ensures that the workers are aware of the prevention measures. 3) The harvesting teams inspect visually the plot and make photos. Pinewells demands its EoR from all feedstock suppliers, in which this point is addressed. Feedstock suppliers inspect if the plot was managed well on these points, if not, the feedstock is not considered compliant to the SBE program (will not become SBP-compliant feedstock). Regarding fires, before every harvesting operation an evaluation is made about the fire risk in that day. It will be checked if the harvesting area there is prevention measures applied in the case of fires. 4) Best practises are used by the harvesting teams regarding management of fires, pests and diseases. These include: a. Traps for NMP (Pine Wood Nematode *Bursaphelenchus xylophilus*, and its vector the insect *Monochamus galloprovincialis*); b. Use of net (cover) during transport of wood in the period insect vector NMP; c. Phytopharmaceutical application on the ground; d. Crushing of the same wood with no lead time of 2, 3 days (wood with symptoms); e. Ensure that all suppliers have an economic operator registration; f. Pinewells only accepts the raw material with the manifest; g. Cleaning of all utensils and machinery used in the handling of woody material; h. Application of good forest practices to avoid a spread of this pest. 5) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the

	submitted EoRs. Sufficient management by the forest owner and best practises by the harvesting teams are required to comply with the SBE program requirements.

	Indicator
2.4.3	The Biomass Producer has implemented appropriate control systems and procedures for verifying that there is adequate protection of the forest from unauthorised activities, such as illegal logging, mining and encroachment (CPETS7c).
Finding	Unauthorized activities such as illegal logging, mining and encroachment are not a significant problem in Portugal. There are low scale problems as illegal littering, loose dogs, unauthorized sports, theft of firewood, wood or fruits, poaching. Illegal or unauthorised activities in Portuguese forests generally have limited economic or biological impact. There are also some problems related to Conversion which can be catalogued under unauthorized activities but they are described in its corresponding indicator (2.1.3). The indicator has been assessed as low.
Means of Verification	Records of Pinewells field inspections Publicly available information (News and media)
Evidence Reviewed	ILLEGAL LOGGING PORTAL, Portugal (http://www.illegal-logging.info/regions/portugal) Transparency international, corruption perception index Portugal (https://www.transparency.org/country/#PRT)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.5.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that legal, customary and traditional tenure and use rights of indigenous people and local communities related to the forest are identified, documented and respected (CPET S9).
Finding	97% of Portuguese forests are private. Approximated number of private owners in Portugal is over 500,000. 8% of private forest are under communitarian management (Baldios) based in old customary and traditional tenure and rights and regulated by specific law. As most of the country forest is under private property civil code is applied which includes the following rights: • - to use; • - to transform; • - to exclude and defend including the rights to delimitation, prohibition and defense. • - to return and compensation; • - to sale.

	These rights are applied to the most part of forest resources and to all of the wood resources. The customary rights include the right to entry inside forest properties, and even the recollection of private natural resources of free use like mushrooms or aromatic plants. This customary right does not include licensed fenced properties for cattle or big game hunting zones. Car circulation is limited to public use roads and/or public domain waters and other specific situations. Over the years, legislation about private things of free use became regulated and some of them of private use. Several situations may happen, for example the pine cones were of free use until forty years ago when it became private. Another example is the game hunting which is still a public thing but private entities can pay for a hunting concession to manage it. The rights of recollection of mushrooms, aromatic and medicinal plants still have a lack in legislation as 2009 Forest Code was revoked on 2012. This Code was giving more rights for these natural resources to land owners. Conflicts may exist between land owners rights based on the private things defence against the customary rights of accessing and free use recollection, as no specific legislation was updated about this issue. These conflicts may become more relevant where resources are easy to steal, like pine cones or other NTFP-Non Timber Forest Products. In the ground situations of use and abuse of fences and inadequate signs are common, including closed gates. In those situations, it is believed that customary rights are not respected, and there is a specified risk on this indicator. This specified risk doesn't include the licensed cattle parks or big game hunting areas. The customary right is described in the article 348th of the Portuguese civil code. The interpretation of laws is described in the article 9th of the Portuguese civil code. In the case of community areas, specific legislation regulates rights of use of common forest areas. (Lei dos Baldios)
Means of Verification	Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR). Customary use rights are identified and documented Appropriate Pinewells mechanisms exist to resolve disputes
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf) Lei nº 68-93 Baldios (http://www.proder.pt/ResourcesUser/Legisla%C3%A7%C3%A3o/Nacional/Lein%C2%BA68-93.pdf) Coelho, I.S. (2003) Propriedade da Terra e Política Florestal em Portugal (http://www.scielo.mec.pt/pdf/slu/v11n2/v11n2a05.pdf) Dec-Law n.º 254/2009 of 24/09 (http://www.proder.pt/ResourcesUser/Legisla%C3%A7%C3%A3o/Nacional/Decreto-Lein%C2%BA254-2009.pdf) Law n.º 12/2012 of 13/03

	(https://dre.pt/application/dir/pdf1sdip/2012/03/05200/0110301103.pdf) Port. n.o 247/2001 of 22/03 (https://dre.pt/application/dir/pdf1sdip/2001/03/069B00/16111612.pdf)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Feedstock suppliers are trained to recognise possible issues with legal, customary and traditional tenure and use rights. 2) The harvesting teams inspect visually the plot have and abusive use of fences and inadequate sings including closed gates. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers. This aspect is addressed. If the land area to be harvested is fenced, moreover, if it has been fenced recently, the opinion of residents is assessed. Abuse of fences, blocked roads, and inadequate signs makes the feedstock non-compliant the SBE program. 3) Pinewells monitors the harvesting operations of its feedstock suppliers and checks the EoR of its suppliers. By addressing sustainable forest management and making an extra effort on indicators 1.2.1 and 2.6.1, Pinewells integrates respecting the interests of local people into its main procedures. There are no indigenous people in Portugal nor minorities dependant on forests for their livelihood.
	Indicator
2.5.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that production of feedstock does not endanger food, water supply or subsistence means of communities, where the use of this specific feedstock or water is essential for the fulfilment of basic needs.
Finding	Subsistence needs for local communities are assessed as being not applicable for Portugal. Based on the above, it is concluded that there is a low risk of non-compliance with the requirement.
Means of Verification	
Evidence Reviewed	
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.6.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate mechanisms are in place for resolving grievances and disputes, including those relating to tenure and use rights, to forest management practices and to work conditions.

Finding	Although this risk is addressed in the general legal framework of Portugal, Pinewells is of the opinion that this indicator needs additional attention as a 'safety net', in order to perform well on other indicators, which are categorised 'specified risk'. Because of the very large number of land owners with extremely small forested properties in Portugal, and, for example, the lack of cadastral in some regions of the country, Pinewells actively prevents grievances and disputes to arise. The aim is to track down and solve grievances and disputes before the harvesting operations commence. The procedures assess the work of Pinewells harvesting teams and feedstock suppliers. The feedstock suppliers are also required to actively implement a complaint procedure and keep records (which are checked). Pinewells takes seriously any complaint of any person or organisation considering harvesting operations. This also improves performance on respecting local interests (HCV 5) and cultural values (HCV 6). Grievances and disputes, including those relating to tenure and use rights, forest management practices and work conditions in Portugal are regulated by laws. Legal framework includes the Portuguese Constitution, the Labour Code and other specific regulations. The detailed procedures, duties and responsibilities of involved persons are defined in both legislation and other legal regulations. Legislation and justice system provides a route for appeal should people or companies be dissatisfied with the outcome of the dispute resolution process. Land tenure and use rights are object of Civil Code, being land tenure included on private property rights on Constitution article 62th. These rights include communitarian forests and also Forest Renting/leasing contracts. Disputes about forest management practices would involve forest authorities ICNF on both public and private forests. Specific forest management practices should be included on renting and forest services contracts as harvesting contracts. The disputes related to work conditions shall be resolved according to administrative procedures and labour legislation. Trade unions may help in disputes over work conditions. Pinewells has an internal procedure for resolving grievances and disputes regarding primary feedstock: Firstly, our specialist need to collect this information: • Identification of the plot / area (harvesting area permit); • Identification of the owner (citizen card); • Proof of the relationship between the seller and the land in question; • Mapping; • Formalization of the business through a purchase and sale agreement between the parties; • Invoice or self-invoice if the seller cannot do it.

	In addition to the information collected, at least one site visit is always conducted with the owner or his representative, where information is taken about: • Type of vegetation / species; • Ground boundaries / Confrontations; • Accesses. This procedure also indicates the resolution of grievances and disputes, including those relating to tenure and land use rights to forest (or land) management practices and working conditions. Whenever any of the above occurs, the technical responsible is contacted and called to the location whenever necessary. In the case of Work Accidents, Theft and Forest Fires and after ascertaining the severity of the situation are contacted the competent entities, as well as the Department of Hygiene, Security of the company. In case of Failures or maintenance, the means are put on the ground in order to solve the situation. These means can be from the company itself or from the company representative of the equipment. In case of Complaint related to court, the person in charge of the company meets at the place of court with all parties involved (seller / claimant or other). When the facts are proven, and all parties are heard, the responsible person decides to adjust the business according to what happened. The closing of the complaint can be done in two ways: • If the claimant understands the purchase, the remaining portion. That is, a new buying process is opened where one makes the acquisition of what was cut by lapse together with what is standing; • The claimant does not accept to sell the remaining portion. The wood cut is evaluated and paid to the owner considering the occurrence as a payment of damages to the owner.
Means of Verification	Pinewells 'Procedure on the legality and origin of raw material' Existing legal systems Level of enforcement Forest Best Management Practices Renting and harvesting contracts
Evidence Reviewed	Labour Code: Law n.º 7/09 12/02 (http://www.act.gov.pt/(pt-PT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx Portuguese Constitution Civil Code: http://www.pgdlisboa.pt/leis/lei_mostra_articulado.php?nid=775&tabela=leis
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Pinewells actively prevents grievances and disputes to arise. The aim is to track down and solve grievances and disputes before the harvesting operations commence (or not to buy from the disputed plots). 2) Pinewells makes clear to the local population that any complaint or comment related to feedstock supply is taken very seriously (via website and other communications).

	Pinewells takes seriously any complaint of any person or organisation considering harvesting operations. This also ensures sufficient performance on respecting local interests (HCV 5) and cultural values (HCV 6). 3) Pinewells has a complaint procedure and keep records. The feedstock suppliers are also (contractually) required to actively implement a complaint procedure and keep records. Pinewells demands its EoR from all feedstock suppliers, in which the interests of local population are assessed. 4) Pinewells monitors the harvesting operations of its feedstock suppliers and checks their records on Complaints and Comments. It checks with relevant stakeholders, such as land owners, if no comments were submitted, or if the complaints were dealt with sufficiently. The results of the inspections of Pinewells have direct influence on the 'SBE program approved' status of feedstock suppliers.

	Indicator
2.7.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that Freedom of Association and the effective recognition of the right to collective bargaining are respected.
Finding	Portugal has signed the ILO fundamental conventions, which includes the C87 Freedom of Association and Protection of the Right to Organize Convention (1948) on 1977th and C98 Right to Organize and Collective Bargaining Convention (1949) on 1964. This right is included on Portuguese constitution on article 56. Most part of working activities is covered by an annual working collective convention, which includes the forest sector. International Trade Union Confederation (IUTC) ranks 139 countries against 97 internationally recognised indicators to assess where workers' rights are best protected, in law and in practice. Portugal has a rating of 3, from 1 to 5+, in the ITUC Global Rights Index 2014. This score is given for countries where there are 'Regular violation of rights. The government and/or companies are regularly interfering in collective labour rights. There are deficiencies in laws and/or certain practices which make frequent violations possible.' Authority directly involved on employment rights and conditions is Work Conditions Authority (ACT) but for many reasons other authorities are related to the issue, as Immigration and Borders Services (SEF) social security services or even tax services. All of them can make inspections to different issues related to work, with the joining of policies authorities as GNR-Republican National Guard and PSP-Public Security Police. ACT has strategic Plans for Agriculture and Forest activities and also does integrated inspections with Spanish authorities for agriculture and forestry activities. Recently one notice state that ACT bought a drone to help agriculture and forestry inspections. Inspective activities of ACT and SEF result on penalties or suspensions when illegal situations

	are found. It wasn't found law violations identified on the right of freedom of association and collective bargaining in Portuguese forest sector. According to the available information this indicator is classified as low risk.
Means of Verification	Legislation Level of enforcement Portuguese constitution Regional, publicly available data from a credible third party Publicly available information (News and media)
Evidence Reviewed	Agriculture, Food and Forest Union: http://www.setaa.pt/index.php/Geral/ Boletim do Trabalho e Emprego: http://bte.gep.msess.gov.pt/ ; http://bte.gep.msess.gov.pt/completos/2016/bte4_2016.pd f WWW.ILO: http://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO::P13100_COMMENT_ID,P13100_LANG_CODE:3253858,en:NO Overview of ILO convention ratifications by Portugal: http://www.ilo.org/public/portugue/region/eurpro/lisbon/html/portugal_convencoes_numero_pt.htm ITUC Global RIGhTs Index The woRld's woRsT CoUnTRIes foR workers: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Labor Code• Law n.º 7/09 12/02 and updates like L69/13, de 30/08 includes collective convention http://www.act.gov.pt/(pt-PT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx Portuguese Constitution **Government sources:** SEF Statistical Annual reports: http://sefstat.sef.pt/relatorios.aspx SEF Inspective news about forest sector: http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=7018 http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=6802 ACT Annual Reports: http://www.act.gov.pt/(pt-PT)/SobreACT/DocumentosOrientadores/RelatorioActividades/Paginas/default.aspx News about ACT inspective work including forest: http://www.act.gov.pt/(pt-PT) /Itens/Noticias/Paginas/ACTeInspe%C3%A7%C3%A3odoTrabalhodeEspanhaema%C3%A7%C3%B5esco njuntas.aspx http://sol.sapo.pt/artigo/500544/utilizacao-de-drones-pela-inspeccao-geral-do-trabalho-gera-polemica ACT Strategic Plan for Agriculture and Forestry Activities: http://www.act.gov.pt/(pt-PT) /Campanhas/Campanhasrealizadas/Trabalho_Agricola_Florestal/Documents/Relat%C3%B3rio%20-%20Plano%20a%C3%A7%C3%A3o%20setor%20agr%C3%ADcola%20e%20florestal.pdf

Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.2	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not supplied using any form of compulsory labour.
Finding	Portugal has ratified the convention against forced labour (nº29) in 1956. Portuguese legislation is applied against any form of compulsory labour in accordance with Article 160 of the Criminal Code, one who offers, gives, servicemen, calls accepts, transports, harbours or receives a person for the purpose of exploitation, including sexual exploitation, labour exploitation, begging, slavery, harvest organs or other exploitation by criminal activities and he / she has abused the authority resulting from a hierarchical relationship of dependency (whether financial, family or work related) is punished with imprisonment of three to ten years. Source: § (Article 160 of Decree-Law No. 400/82 Penal Code amended by Law No. 59/2007 and Law No. 60/2013) International Trade Union Confederation (IUTC) ranks 139 countries against 97 internationally recognised indicators to assess where workers' rights are best proTected, in law and in practice. Portugal has a rating of 3, from 1 to 5+, in the ITUC Global Rights Index 2014. This score is given for countries where: (There are) 'Regular violation of rights. The government and/or companies are regularly interfering in collective labour rights. There are deficiencies in laws and/or certain practices which make frequent violations possible.' Some cases of compulsory labour were found on agriculture activities on recent years, and same data is available about those cases on Observatory on Traffic in Human Beings Reports. Authority directly involved on employment rights and conditions is Work Conditions Authority (ACT) but for many reasons other authorities are related to the issue, as Immigration and Borders Services (SEF) social security services or even tax services. All of them can make inspections to different issues related to work, with the joining of policies authorities as GNR-Republican National Guard and PSP-Public Security Police. ACT has strategic Plans for Agriculture and Forest activities and also does integrated inspections with Spanish authorities for agriculture and forestry activities. Recently one notice state that ACT bought a drone to help agriculture and forestry inspections. Inspective activities of ACT and SEF result on penalties or suspensions when illegal situations are found. Nevertheless, in forestry there wasn't found any evidence confirming the existence of risks of compulsory and/or forced labour in Portugal. According to the available information this indicator is classified as low risk.

Means of Verification	Legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (News and media)
Evidence Reviewed	III National Plan to Prevent and Combat Trafficking in Human Beings 2014-2017 at http://www.igualdade.gov.pt/images/stories/documentos/legislacao/legislacao/Planos_Nacionais/2014-2017-iii-pnpc-tsh-en.pdf Observatory on Traffic in Human Beings: http://www.otsh.mai.gov.pt/Recursos/Pages/default.aspx Reports of Observatory on Traffic in Human Beings: 2015 ; 2014 ; 2013; 2012 ; 2011 Overview of ILO convention ratifications by Portugal: http://www.ilo.org/public/portugue/region/eurpro/lisbon/html/portugal_convencoes_numero_pt.htm ITUC Global RIGhTs Index The woRld's woRsT CoUnTRIes foR workers: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Government sources: SEF Statistical Annual reports: http://sefstat.sef.pt/relatorios.aspx SEF Inspective news about forest sector: http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=7018 http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=6802 ACT Annual Reports: http://www.act.gov.pt/(pt-PT)/SobreACT/DocumentosOrientadores/RelatorioActividades/Paginas/default.aspx News about ACT inspective work including forest: http://www.act.gov.pt/(pt-PT) /Itens/Noticias/Paginas/ACTeInspe%C3%A7%C3%A3odoTrabalhodeEspanhaema%C3%A7%C3%B5esconjuntas.aspx http://sol.sapo.pt/artigo/500544/utilizacao-de-drones-pela-inspeccao-geral-do-trabalho-gera-polemica ACT Strategic Plan for Agriculture and Forestry Activities: http://www.act.gov.pt/(pt-PT)/Campanhas/Campanhasrealizadas/Trabalho_Agricola_Florestal/Documents/Relat%C3%B3rio%20-%20Plano%20a%C3%A7%C3%A3o%20setor%20agr%C3%ADcola%20e%20florestal.pdf
Risk Rating	☒ Low Risk ☐ Specified Risk ☐ Unspecified Risk at RA

	Indicator
2.7.3	The Biomass Producer has implemented appropriate control systems and procedures to verify that feedstock is not supplied using child labour.
Finding	In Portugal the minimum age for employment is 16 years. A minor of 16-year-old can't be used to carry out a paid activity delivered with autonomy unless he / she has completed compulsory education or is enrolled and attending secondary education, and is a work light. This light work

	should consist of simple tasks and is not likely to adversely affect the physical integrity, safety and health, school attendance, or their, moral, psychological, intellectual and cultural physical well-being. (Art.le 66-83 of the Labour Code) 2009. Portugal has ratified Minimum Age Convention (1973) C138 in 1989th and the convention C182 Worst Forms of Child Labour Convention (1999) on 2000th. International Trade Union Confederation (IUTC) ranks 139 countries against 97 internationally recognised indicators to assess where workers' rights are best protected, in law and in practice. Portugal has a rating of 3, from 1 to 5+, in the ITUC Global Rights Index 2014. This score is given for countries where: (There are) 'Regular violation of rights. The government and/or companies are regularly interfering in collective labour rights. There are deficiencies in laws and/or certain practices which make frequent violations possible.' UNICEF report 2012 'Measuring Child Poverty was rating 14,7% of Portuguese children below 16 years age as below 'poverty line'. Robust data about child labour are not recent, as the last official inquiry report is from 2001, and the results were not positive as 4,1% of children of the study were affected by child labour (CNASTI), with half of this proportion related to agriculture. 2015: FSC Portugal CNRA report states 'Despite evidence of some (remaining) cases of child labour, there is evidence that this problem is not structural nor of large size. No evidence found of cases of child labour in the forest sector. The national CWRA explicitly mentions 'child labour in the forest sector in Portugal is very low'. There is evidence that the number of minors working illegally is rather insignificant. Authority directly involved on employment rights and conditions is Work Conditions Authority (ACT) but for many reasons other authorities are related to the issue, as Immigration and Borders Services (SEF) social security services or even tax services. All of them can make inspections to different issues related to work, with the joining of policies authorities as GNR-Republican National Guard and PSP-Public Security Police. ACT has strategic Plans for Agriculture and Forest activities and also does integrated inspections with Spanish authorities for agriculture and forestry activities. Recently one notice state that ACT bought a drone to help agriculture and forestry inspections. Inspective activities of ACT and SEF result on penalties or suspensions when illegal situations are found. Based on the available information it wasn't found any evidence confirming the existence of risks of child labour in forestry in Portugal.
Means of Verification	Existing legislation Level of enforcement

	Regional, publicly available data from a credible third party Publicly available information (News and media)
Evidence Reviewed	**Legislation:** Labor Code: Law n.º 7/09 from 12/02 http://www.act.gov.pt/(pt-PT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx Law n.º 47/2012, de 29/08 at http://www.cnasti.pt/cnasti/documentos/1403451265.pdf Decree Republic President 28/2000 1/06 at http://www.ilo.org/public/portugue/region/eurpro/lisbon/pdf/conv_182.pdf Republic Assembly Resolution 11/98 at http://www.ilo.org/public/portugue/region/eurpro/lisbon/pdf/conv_138.pdf **Government sources:** SEF Statistical Annual reports: http://sefstat.sef.pt/relatorios.aspx SEF Inspective news about forest sector: http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=7018 http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=6802 ACT Annual Reports: http://www.act.gov.pt/(pt-PT)/SobreACT/DocumentosOrientadores/RelatorioActividades/Paginas/default.aspx News about ACT inspective work including forest: http://www.act.gov.pt/(pt-PT)/Itens/Noticias/Paginas/ACTeInspe%C3%A7%C3%A3odoTrabalhodeEspanhaema%C3%A7%C3%B5esconjuntas.aspx http://sol.sapo.pt/artigo/500544/utilizacao-de-drones-pela-inspeccao-geral-do-trabalho-gera-polemica ACT Strategic Plan for Agriculture and Forestry Activities: http://www.act.gov.pt/(pt-PT)/Campanhas/Campanhasrealizadas/Trabalho_Agricola_Florestal/Documents/Relat%C3%B3rio%20-%20Plano%20a%C3%A7%C3%A3o%20setor%20agr%C3%ADcola%20e%20florestal.pdf **Other Sources:** Overview of ILO convention ratifications by Portugal: http://www.ilo.org/public/portugue/region/eurpro/lisbon/html/portugal_convencoes_numero_pt.htm Social characterization of aggregates Portuguese Family with Children in School Age http://www.cnasti.pt/cnasti/documentos/1403450788.pdf UNICEF Innocenti Research Centre (2012), 'Measuring Child Poverty: New league tables of child poverty in the world's rich countries', Innocenti Report Card 10, UNICEF Innocenti Research Centre, Florence at ITUC Global RIGhTs Index The woRld's woRsT CoUnTRIes foR workers: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.4	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is not supplied using labour which is discriminated against in respect of employment and occupation.
Finding	Protection against discrimination in labour is included in Portuguese constitution (Article 55th), and labour code. Portugal has ratified ILO convention about discrimination on work and career C111 (1958) on year 1959th. Also convention about equal remuneration C100 was ratified on year 1966th. Portugal is well positioned at majority of international reports: • Corruption Perception Index scores 63 meaning low perceived level of corruption; • Worldwide Governance Indicators (WGI) from 73.3 to 84.13 (1-100points) • The WGI report six aggregate governance indicators for over 200 countries and territories over the period 1996-2014, covering i) Voice and Accountability, ii) Political Stability and Absence of Violence/Terrorism, iii) Government Effectiveness, iv) Regulatory Quality, v) Rule of Law, and vi) Control of Corruption. • Free country on press, net, political rights and civil liberties. On the other side Portugal (including human rights, illegal logging , forest and timber) is not listed in alarming reports or indexes such as: • Committee to ProTect Journalists Impunity Index; • Human Rights Watch; • Global Witness • Chatham House • Amnesty International Some observations were found about women discrimination on jobs and remuneration and gender pay gap (see below Direct Request (CEACR) - adopted 2014, published 104th ILC session (2015) Equal Remuneration Convention, 1951 (No. 100) – Portugal). Also, discrimination episodes were found against Roma and LGB (see below Amnesty International 2014/2015 report The State of the World's Human Rights) but not related to work activities. Authority directly involved on employment rights and conditions is Work Conditions Authority (ACT) but for many reasons other authorities are related to the issue, as Immigration and Borders Services (SEF) social security services or even tax services. All of them can make inspections to different issues related to work, with the joining of policies authorities as GNR-Republican National Guard and PSP-Public Security Police. ACT has strategic Plans for Agriculture and Forest activities and also does integrated inspections with Spanish authorities for agriculture and forestry activities. Recently one notice state that ACT bought a drone to help agriculture and forestry inspections. Inspective activities of ACT and SEF result on penalties or suspensions when illegal situations are found. Based on the available information, it wasn't found any evidence that confirms the existence of

	risks of discrimination against in respect of employment and occupation in forestry in Portugal.
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (News and media)
Evidence Reviewed	**Legislation:** •Portuguese Constitution •Labor Code•:Law n.º 7/09 from 12/02 http://www.act.gov.pt/(pt-PT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx •Dec-Law 42520/1959 23/09 at http://www.ilo.org/public/portugue/region/eurpro/lisbon/pdf/conv_111.pdf •Dec-Law 47 302/1966 on 04/11 at http://www.ilo.org/public/portugue/region/eurpro/lisbon/pdf/conv_100.pdf **Other sources:** •Transparency International http://www.transparency.org/cpi2015#map-container •UN Sanctions List at: https://www.un.org/sc/suborg/en/sanctions/un-sc-consolidated-list •World Bank: Worldwide Governance Indicators http://info.worldbank.org/governance/wgi/index.aspx#countryReports •Freedom house: https://freedomhouse.org/report/freedom-world/freedom-world-2016 •Committee to ProTect Journalists https://www.cpj.org/reports/2014/04/impunity-index-getting-away-with-murder.php •Human Rights Watch: http://www.hrw.org/world-report/2015 •Global Witness: www.globalwitness.org Chattam House Illegal Logging Indicators Country Report Card http://www.illegal-logging.info •Amnesty International 2014/2015 report: https://www.amnesty.org/en/documents/pol10/0001/2015/en/ •Direct Request (CEACR) - adopted 2014, published 104th ILC session (2015) Equal Remuneration Convention, 1951 (No. 100) – Portugal http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:13100:0::NO::P13100_COMMENT_ID:3186668 •Overview of ILO convention ratifications by Portugal: http://www.ilo.org/public/portugue/region/eurpro/lisbon/html/portugal_convencoes_numero_pt.htm SEF Statistical Annual reports: http://sefstat.sef.pt/relatorios.aspx SEF Inspective news about forest sector: http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=7018 http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=6802 ACT Annual Reports: http://www.act.gov.pt/(pt-PT)/SobreACT/DocumentosOrientadores/RelatorioActividades/Paginas/default.aspx News about ACT inspective work including forest: http://www.act.gov.pt/(pt-PT)/Itens/Noticias/Paginas/ACTeInspe%C3%A7%C3%A3odoTrabalhodeEspanhaema%C3%A

	7%C3%B5esconjuntas.aspx http://sol.sapo.pt/artigo/500544/utilizacao-de-drones-pela-inspeccao-geral-do-trabalho-gera-polemica ACT Strategic Plan for Agriculture and Forestry Activities: http://www.act.gov.pt/(pt-PT)/Campanhas/Campanhasrealizadas/Trabalho_Agricola_Florestal/Documents/Relat%C3%B3rio%20-%20Plano%20a%C3%A7%C3%A3o%20setor%20agr%C3%ADcola%20e%20florestal.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.5	The Biomass Producer has implemented appropriate control systems and procedures for verifying that feedstock is supplied using labour where the pay and employment conditions are fair and meet, or exceed, minimum requirements.
Finding	Minimum wage is included in Portuguese constitution (Article 59th), and labour code. Portugal has ratified ILO convention about minimum wage C131 (1970) on year 1981th. Also, convention about salary protection C95 was ratified on year 1981th. Payment and employment conditions are included and are updated on labour code. Authority directly involved on employment conditions is Work Conditions Authority (ACT) but for many reasons other authorities are related to the issue, as Immigration and Borders Services (SEF) social security services or even tax services. All of them can make inspections to different issues related to work, with the joining of policies authorities as GNR-Republican National Guard and PSP-Public Security Police. ACT has strategic Plans for Agriculture and Forest activities and also does integrated inspections with Spanish authorities for agriculture and forestry activities. Recently one notice state that ACT bought a drone to help agriculture and forestry inspections. Inspective activities of ACT and SEF result on penalties or suspensions when illegal situations are found. According to the available information about employment conditions, there is a legal framework in the country, and there are legal authorities to enforce legislation. So it is considered that Portugal has low risk that pay and employment conditions are not fair and doesn't meet, or exceed, minimum requirements.
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (News and media)
Evidence Reviewed	**Legislation:** •Portuguese Constitution •Labor Code •Law n.º 7/09 from 12/02

	http://www.act.gov.pt/(pt-PT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx Dec-Law: 77/81 on 19/06 at http://www.ilo.org/public/portugue/region/eurpro/lisbon/pdf/conv_131.pdf Dec-Law: 88/81 on 14/07 at http://www.ilo.org/public/portugue/region/eurpro/lisbon/pdf/conv_95.pdf **Government sources:** SEF Statistical Annual reports: http://sefstat.sef.pt/relatorios.aspx SEF Inspective news about forest sector: http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=7018 http://www.sef.pt/portal/v10/PT/aspx/noticias/Noticias_Detalhe.aspx?id_linha=6802 ACT Annual Reports: http://www.act.gov.pt/(pt-PT)/SobreACT/DocumentosOrientadores/RelatorioActividades/Paginas/default.aspx News about ACT inspective work including forest: http://www.act.gov.pt/(pt-PT)/Itens/Noticias/Paginas/ACTeInspe%C3%A7%C3%A3odoTrabalhodeEspanhaema%C3%A7%C3%B5esconjuntas.aspx http://sol.sapo.pt/artigo/500544/utilizacao-de-drones-pela-inspeccao-geral-do-trabalho-gera-polemica ACT Strategic Plan for Agriculture and Forestry Activities: http://www.act.gov.pt/(pt-PT)/Campanhas/Campanhasrealizadas/Trabalho_Agricola_Florestal/Documents/Relat%C3%B3rio%20-%20Plano%20a%C3%A7%C3%A3o%20setor%20agr%C3%ADcola%20e%20florestal.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.8.1	The Biomass Producer has implemented appropriate control systems and procedures for verifying that appropriate safeguards are put in place to protect the health and safety of forest workers (CPET S12).
Finding	Pinewells Pellets has a rigorous control system and adequate procedures on the health and safety of forest workers. Pinewells Pellets (contractually) demands the same from its feedstock suppliers and checks the health safety of harvesting personnel during its monitoring inspections. Portugal has ratified convention ILO 184 on 2012, about agriculture health and safety in agriculture which includes forestry activities with exception of industrial forest harvesting. ILO forestry H & S code includes some of forestry activities on 'high risk operations' such as climbing above 3m, but in Portuguese legislation any forestry activity is included on legal list of 'High Risk Activity'. Work legislation aims to create a safe and healthy work environment at all times in accordance

	with society's technical and social development. Historically, a risk under this category has been present based on a low level of compliance with the requirements for accreditation and/or professional training. In recent years, many obligations have changed, and private entities have started to develop courses for some activities of forest workers (for example for chainsaw, machinery or phytopharmaceuticals users). Legal authority for work health and safety is ACT (Working Conditions Authority), who as an inspective role on the ground. ACT promoted the development of the Strategic Action Plan for Agriculture, livestock and Forestry sectors from 2012 to 2015 producing the assessment report for this initiative (see report). From the execution of this plan 6 informative leaflets were produced as well as 8 instruments for the application of the respective law framework (checklists). The plan involved the participation of several social partners as well as public partners which can be consulted in the report. An estimate of 9000 employers and employees were reached throughout the development of this plan as well as 560 associative managers and technicians. The plan also comprised an inspective component materialized on 1700 inspections over 3 years reaching to 10 000 workers. Pinewells Pellets have a specialist in hygiene and safety at work. This specialist has a responsibility to evaluate all situations that compromise workers. Also, all employees of the company, including the forestry specialist, have annual internal and external training (operations by certified companies) on workers' safety and health. The personal protective equipment is also delivered to all employees and is sensitive. It also has internal and external formations in forestry machinery and works in height. The Pinewells pellets use high quality equipment for better management and safety of the work. International Trade Union Confederation (IUTC) ranks 139 countries against 97 internationally recognised indicators to assess where workers' rights are best protected, in law and in practice. Portugal has a rating of 3, from 1 to 5+, in the ITUC Global Rights Index 2014. This score is given for countries where: (There are) 'Regular violation of rights. The government and/or companies are regularly interfering in collective labour rights. There are deficiencies in laws and/or certain practices which make frequent violations possible.'
Means of Verification	Pinewells monitoring procedure includes checklists: • Felling area checklist; • Feedstock checklist; • Documentation checklist; Pinewells ensures: • Accredited professional courses (chainsaws, machinery operator, phytopharmaceuticals applicator) card and/or specific certificates of training sessions. • Records of H& S procedures and Personal Protection Equipment distribution by the organization. • Record of machinery safety tools and equipment on original documental register.

Evidence Reviewed	**Government sources** •Labour Conditions Authority-ACT (http://www.act.gov.pt/(pt-PT)/Paginas/default.aspx •Work accident statistics from ACT http://www.act.gov.pt/(pt-PT)/CentroInformacao/Estatistica/Paginas/AcidentesdeTrabalhoGraves.aspx (http://www.act.gov.pt/(pt-PT)/CentroInformacao/Estatistica/Paginas/AcidentesdeTrabalhoMortais.aspx http://www.act.gov.pt/(pt-PT)/crc/PublicacoesElectronicas/Documents/RelatorioAtividadesPromocaoSegurancaSaudeTrabalho2015.pdf •General Direccion of Social Security : http://www.seg-social.pt/dgss-direccao-geral-da-seguranca-social •Employment and Professional Training Institute at (https://www.iefp.pt/) Strategy and Planning Cabinet: http://www.gep.msess.gov.pt/estatistica/acidentes/index.php **Non-Government sources** Safety and health in the European forestry sector – The impact of more open markets and of increased regulation: http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_160880.pdf Guidelines for labour inspection in forestry: http://www.ilo.org/wcmsp5/groups/public/---ed_proTect/---protrav/---safework/documents/normativeinstrument/wcms_107610.pdf Code of Practice: Safety and Health in forestry work: http://www.ilo.org/wcmsp5/groups/public/@ed_proTect/@protrav/@safework/documents/normativeinstrument/wcms_107793.pdf ITUC Global RIGhTs Index The woRld's woRsT CoUnTRIes foR workers: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf • SETAA-Sindicato da Agriculture, Alimentação e Florestas: at http://www.setaa.pt/ • UGT-União Geral de Trabalhadores at https://www.ugt.pt/ • CGTP - Confederação Geral de Trabalhadores Portugueses at http://www.cgtp.pt/ Legislation Labor Code• Código do Trabalho :Lei n.º 7/09 12/02 artº127º i) http://www.act.gov.pt/(pt-PT)/Legislacao/Codigodotrabalhoatualizado/Paginas/default.aspx • Resolução da Assembleia da República nº109/2012 de 08/08 art 6º (Convention 184 doesn't apply to industrial forest work) http://dre.pt/util/getpdf.asp?s=diad&serie=1&iddr=2012.153&iddip=20121525 • Aviso n.º 6/2014. 01/09 https://dre.pt/util/getpdf.asp?s=diad&serie=1&iddr=2014.6&iddip=20140033 • Law nº 3/2014 from 28/01 https://dre.pt/application/dir/pdf1sdip/2014/01/01900/0055400591.pdf • DLnº441/91, de 14/11capIII • DL nº133/99, de 21/04 artº1º • DL nº26/94, de 1/02 artº3º •Lei n.º 98/2009, de 04/09 artº7º •DLnº 128/93, de 22/04 artº1º

	• Port. 988/93, de 06/10; • DL nº141/95, de 14/06 artº5º •Portaria n.º 1456-A/95, de 11/10; artº2º • DL nº331/93 de 25/09, artº4º DLnº 330/93, de 25/09 artº4º • DL 182/2006, de 6/09 , artº4º • NP 2761:1988 Law 102/2009 10/09 :http://www.dgpj.mj.pt/sections/leis-da-justica/pdf-ult2/lei-n-102-2009-de-10- de/downloadFile/file/lei_102.2009.pdf?nocache=1252570336.84 High Risk Works and Activities: http://www.act.gov.pt/(pt-PT)/PromocaoSST/RegulacaoServicosSST/Documents/anexos/CAE_20%2005%202014.pdf • Health and Safety Guide for Agroforestry works: http://www.act.gov.pt/(pt-PT)/Itens/Noticias/Documents/Seguran%C3%A7a%20e%20Saude%20no%20Trabalho%20no%20Setor%20Agro-Florestal.pdf
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Pinewells has a rigorous control system and adequate procedures on the health and safety of forest workers. Pinewells demands the same from its feedstock suppliers and checks the health safety of harvesting personnel during its monitoring inspections. 2) During the office inspections of feedstock suppliers are checked: the H&S training records, workforce, and the hiring of specialists in forest security. 3) To ensure compliance with this indicator Pinewells has implemented a field inspection system. The inspections are conducted and verified with a checklist filled in with supplier evidences and information by Pinewells. Protective equipment and knowledge of personnel is inspected during site visits. a. Interviews with staff; b. Equipment safety measures; c. Fire extinguisher availability (normally in the forest tractor); d. First aid kit availability (normally in the forest tractor). 4) Pinewells gives training to all workers about Best Forest Practice during the inspections, that includes an indicator about Health and safety. Every time Pinewells finds a lack of compliance, specific training will be given about the correct wear of protective equipment and the risks that are implied of not wearing it.

	Indicator
2.9.1	Biomass is not sourced from areas that had high carbon stocks in January 2008 and no longer have those high carbon stocks.
Finding	There is a specified risk of reducing high carbon stocks, but it is not a high one, and by addressing sustainable forest management and the above-mentioned indicators and risks, this indicator is adequately addressed. Considering the positive general trend of carbon accumulation by forests in Portugal, this risk has a regional to local (exceptional) character and is more specifically related to the risks mentioned in the following indicators:

	a. 2.1.3 (land conversion) b. 2.2.2 (degradation of grounds), and c. 2.4.2 (fires and pests). According to the National Inventory Report on Greenhouse Gases 1995-2015 developed by Portuguese Environment Agency (APA), Portuguese forest acted as a carbon sink in the period of the study with a net carbon sequester of 753.2 Gigagrams. The high carbon stocks are considered to be in wetlands, peatlands (no forested areas related) and old mature forests stands. Information regarding wetlands in Portugal states that as usual in the region they are threatened ecosystems even when they are proTected. Portugal currently has 1.8% of its territory occupied by wetlands, 79% of which is proTected by the Ramsar Convention, covering this proTection figure of 31 sites (about 132,487 hectares). 82% of habitats related to wetlands are degraded. Epic WebGis Portugal provides geographical information about wetlands. In the revised information one relevant risks is associated to forestry: cutting of riparian vegetation so specified risk needs to be assessed on this issue. Pinewells ensure that feedstock does not come from riparian vegetation in wetlands complies with legislation (felling license) and do not affect to carbon stocks. There is an increase of pine areas around the plant in the last decade (Portuguese Forest Inventory) i.e., around the region where Pinewells operates and its suppliers harvest from, there was an increase of forested areas, both Pine and Eucalyptus. The consumption of Pinewells is mainly of wood from the pine species. Forest fires are a big risk in Portugal, which can have a devastating effect on forest carbon. Thinning activities and use of end of life timber by Pinewells has positive effects on mitigating this risk.
Means of Verification	Maps, WebPages Procedures Regional, publicly available data from a credible third party The existence of a strong legal framework in the region Felling license
Evidence Reviewed	HABEaS -Hotspot Areas for Biodiversity and Ecosystem Services; important areas for carbon storage (http://www.habeas-med.org/webgis/pt_en/) Epic WebGis Portugal (http://epic-webgis-portugal.isa.ulisboa.pt/) Quercus NGO (http://www.quercus.pt/comunicados/2011/fevereiro/522-zonas-humidas-continuam-ameacadas-em-portugal) Quercus NGO (http://www.quercus.pt/comunicados-floresta/593-2013/2982-corte-de-sobreiros-em-santa-maria-da-feira-para-construcao-de-novo-parque-empresarial) , (http://www.quercus.pt/comunicados/2014/junho/3707-abate-de-sobreiros-na-zona-de-proTeccao-especial-do-estuario-de-tejo-em-benavente) ; (http://www.quercus.pt/comunicados/2012/setembro/43-abate-ilegal-de-centenas-sobreiros-e-carvalhos-portugueses-no-parque-natural-do-sudoeste-alentejano-e-costa-vicentina)

	ICNF habitat 7140; peatlands/turfeiras (http://www.icnf.pt/portal/naturaclas/rn2000/resource/docs/rn-plan-set/hab/hab-7140) ICNF habitat 9230; oak forests (http://www.icnf.pt/portal/naturaclas/rn2000/resource/docs/rn-plan-set/hab/hab-9230) A distribuição do Carvalho Português (http://naturlink.pt/article.aspx?menuid=3&cid=1145&bl=1&viewall=true) MedWet Mediterranean wetlands initiative (http://medwet.org/aboutwetlands/) Inventario Florestal Nacional IFN5 (FloreStat_IFN5); ICNF portal (http://www.icnf.pt/portal/florestas/ifn/ifn5/rel-fin) Inventario Florestal Nacional IFN6, preliminary results (IFN6 - Resultados preliminares.pdf); ICNF portal Law 58/2005 29/12; Law 54/2005, at 15/11 (Artº 25º) Titularidade dos recursos hídricos (https://dre.pt/application/dir/pdf1sdip/2005/11/219A00/65206525.pdf)
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The approach to mitigating this risk: 1) Pinewells studies data (from publicly available information, researches and programs) for its harvesting teams on aspects that can decrease the carbon stock. This information is given to all feedstock suppliers. 2) Feedstock suppliers are trained to recognise areas where carbon stocks have decreased. 3) The harvesting teams inspect visually the plot and make photos. Pinewells demands its Evaluation of the risks and possible impacts of harvesting operations (EoR) from all feedstock suppliers, which includes this point. Studied are the history, the present harvesting plans, and the future of the land use. This risk has a regional to local (and exceptional) character and relates to changes to the standing stock and accumulated carbon in the ground. It is partly covered by the mitigation measures mentioned in the following indicators: a. 2.1.3 (land conversion); b. 2.2.2 (degradation of grounds); Pinewells checks plots and the submitted EoRs.

	Indicator
2.9.2	Analysis demonstrates that feedstock harvesting does not diminish the capability of the forest to act as an effective sink or store of carbon over the long term.
Finding	It was found on information reviewed that according to National Inventory (APA, I.P., 2014), from 1990 to 2012 forests are a net carbon sink, with annual sequestration values ranging between -11 MtCO eq and -18 MtCO eq. However, on its 2015 report it is stated the negative impact of forest fires

	(..) Estimates of emissions and sinks from land use change and forestry category show that this category has changed from being a net emitter in 1990 (1.8 Mt CO2 eq.) to a carbon sink in 1992. This situation was again reverted in the years 2003 and 2005 due to the severe forest wildfires events registered in these years. In 2013 this sector represents a sequester of -9.4 Mt CO2e.. Questions regarding forest fires are addressed at indicators 2.4.1 and 2.4.2. Under this information this indicator can be assessed al low risk.
Means of Verification	Results of analysis Regional, publicly available data from a credible third party The existence of a strong legal framework in the region. Interviews with experts
Evidence Reviewed	Estrategia Nacional das Florestas (RCM n.º 6-B/2015 - Diário da República n.º 24/2015, 1º Suplemento, Série I de 2015-02-04); ICNF portal (http://www.icnf.pt/portal/icnf/docref/enf). Relatório-de-Caracterizacão-da-Fileira-Florestal-2014(http://www.aiff.org.pt/assets/Relatorio-de-Caracterizacao-da-Fileira-Florestal-2014-160p-CAPA-3-spread....pdf). Portuguese National Inventory Report on Greenhouse Gases 1990 – 2013. http://www.apambiente.pt/_zdata/Inventario/NIR_global_20151030_UNFCCC.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.10.1	Genetically modified trees are not used.
Finding	In Portugal there is not a specific legal framework for GMO trees, but for all vascular plants. This legislation doesn't prohibit commercial use of GMO plants which is legal in the country since 1999. However, only corn (maize) is cultivated (around 6% of the total production). It hasn't been found any recent trial of GM trees in the country. A low risk conclusion is justified because it was not evidenced interest for GMO use in the forestry sector.
Means of Verification	List of species used. EU Register of authorised GMOs http://ec.europa.eu/food/dyna/gm_register/index_en.cfm
Evidence Reviewed	• DL 55/2015 at 17/04 http://apambiente.pt/_zdata/Politicas/MGM/DL%2055_2015.pdf • DL 72/2003 de 10/04 (http://apambiente.pt/_zdata/Politicas/OGM/DL_72_2003.pdf • APA-Agência Portuguesa de Ambiente at webpage: http://apambiente.pt/index.php?ref=16&subref=85&sub2ref=430 • DGAV- Direcção Geral de Alimentação e Veterinária webpage: http://www.dgv.min-agricultura.pt/portal/page/portal/DGV/genericos?generico=3665233&cboui=3665233 • Plataforma Transgénicos Fora at http://stopogm.net/ensaios

	• EU Register of authorised GMOs http://ec.europa.eu/food/dyna/gm_register/index_en.cfm • Global Forest Registry: http://www.globalforestregistry.org/
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**