



# **Supply Base Report: Scandbio AB**

## **Second Surveillance Audit**

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**The promise of good biomass**



# Completed in accordance with the Supply Base Report Template Version 1.5

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

## *Document history*

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# 1 Overview

**Producer name:** Scandbio AB

**Producer address:** Timmervägen 5, 571 68 Malmbäck, Sweden

**SBP Certificate Code:** SBP-08-61

**Geographic position:** 57.580470, 14.452450

**Primary contact:** Gert Pettersson, +46 725 627 399,gert.pettersson@scandbio.com

**Company website:** www.scandbio.com

**Date report finalised:** 14 Nov 2023

**Close of last CB audit:** N/A

**Name of CB:** Preferred by Nature OÜ

**SBP Standard(s) used:** SBP Standard 2: Verification of SBP-compliant Feedstock, SBP Standard 4: Chain of Custody, SBP Standard 5: Collection and Communication of Data Instruction, Instruction Document 5E: Collection and Communication of Energy and Carbon Data 1.5

**Weblink to Standard(s) used:** <https://sbp-cert.org/documents/standards-documents/standards>

**SBP Endorsed Regional Risk Assessment:** Not applicable

**Weblink to SBR on Company website:** N/A

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

### 2.1 General description

**Feedstock types:** Secondary, Tertiary

**Includes Supply Base evaluation (SBE):** No

**Includes REDII:** No

**Includes REDII SBE:** No

**Feedstock origin (countries):** Sweden, Norway

### 2.2 Description of countries included in the Supply Base

**Country:**Sweden

**Area/Region:** Sweden all regions

**Sub-Scope:** N/A

**Exclusions:** No

Scandbio AB consider all of Sweden as its supply base.

Scandbio AB sources:

Species (English) Latin

- Scots pine            Pinus sylvestris
- Norway spruce       Picea abies

Scandbio AB have approximately 80 suppliers who sources from Sweden.

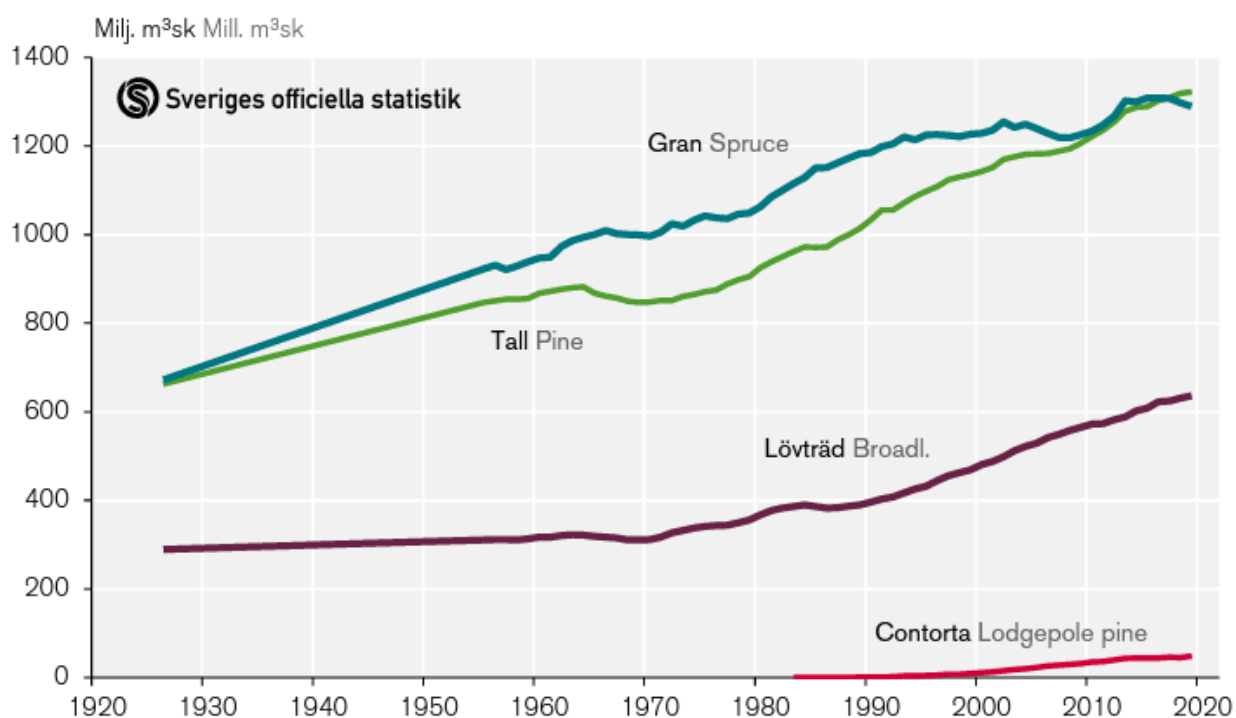
#### Forest cover

Most of Sweden is covered by boreal forest which in its natural state contains a patchwork of habitats shaped by various disturbance regimes, notably fires, storms and flooding. Owing to the large North-South extent of the country, there is a considerable variation in climate and soil conditions, and both conditions favour tree growth in the South. Sweden's forests are among the most northerly in the world. The warming effect of the Gulf Stream permit forest growth at the latitudes that are characterized by treeless tundra in other parts of the world. Most of the country is covered by coniferous forests, but there is a small zone of mainly deciduous forests in the south.

According to the latest forest inventory "Riksskogstaxeringen" with the report "Skogsdata 2022" from 2022 the total land area of Sweden is 40.7 mill ha's (100%). Of these 27.9 mill ha's (69 %) are forest area and 23.4 mill ha's (57 %) of these are defined as productive forests.

Scots pine (*Pinus sylvestris*) and Norway spruce (*Picea abies*) are the dominant tree species in all Sweden. Lodgepole pine (*Pinus contorta*) and the deciduous species Birch (*Betula pendula*), Aspen (*Populus tremula*) and Alder (*Alnus glutinosa*) are used to some extent in northern Sweden. European larch (*Larix decidua*), Douglas fir (*Pseudotsuga menziesii*) and Sitka spruce (*Picea sitchensis*) and

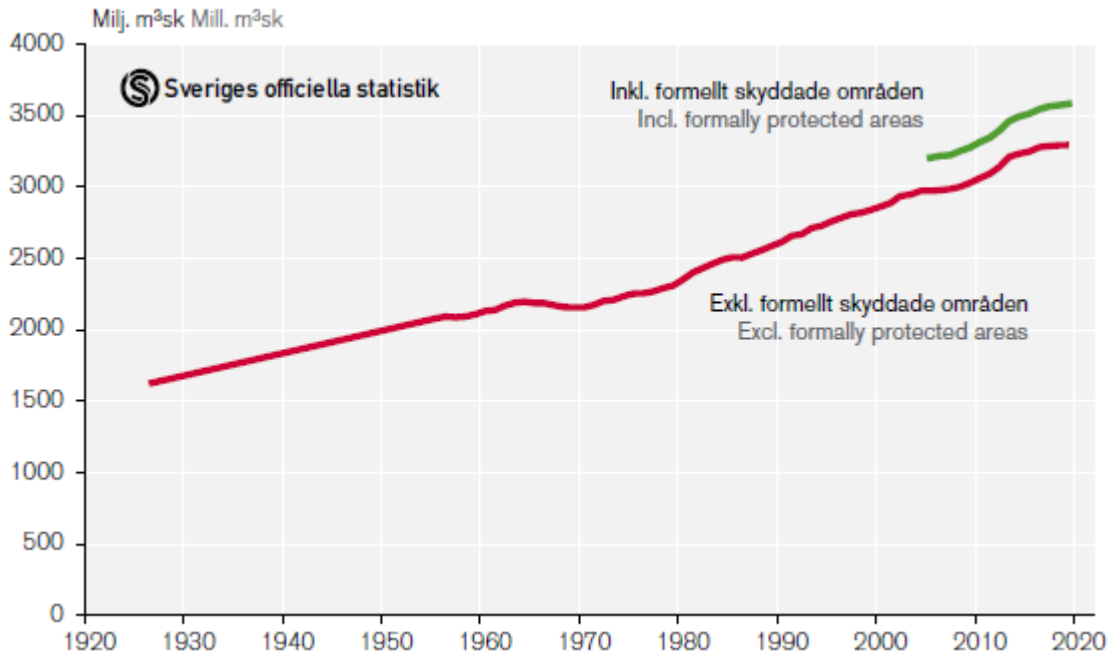
oak (*Quercus robur*) and Beech (*Fagus sylvatica*) is used in the south. The main part of the deciduous forest cover is naturally regenerated.



**Figure 1.** Growing stock by species. 1926–2019. All land use classes outside urban land. Including alpine areas from 2018.

Outside formally protected areas as of 2020. Mean value for 1923–29, linear interpolation for 1938–58 followed by moving five year average

(Source: [https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata\\_2022\\_webb.pdf](https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata_2022_webb.pdf))



**Figure 2.** Total growing stock. 1926–2019. All land use classes outside urban land. Including alpine areas from 2018.

Outside (red) and including (green) formally protected areas as of 2020. Mean value for 1923–29, linear interpolation for 1938–58 followed by moving five year average.

(Source: [https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata\\_2022\\_webb.pdf](https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata_2022_webb.pdf))

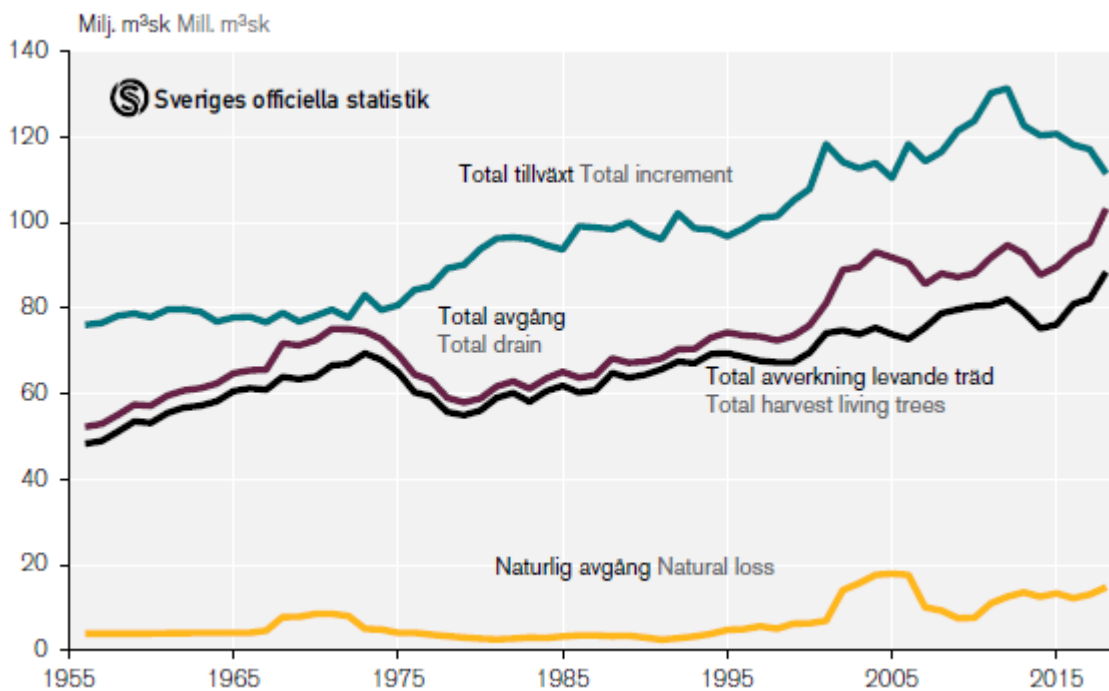


Figure 3. Total annual increment (including increment of felled trees), total annual drain, total annual felling of living trees and total annual natural loss. Swedish NFI 1956–2018.

*All land use classes excluding urban land. Including alpine areas from 2017. Outside formally protected areas as of 2020. Moving five year average.*

## **Ownership**

In Sweden there are at least 3 layers of tenure regimes influencing forest use and forestry: Private land tenure, rights to use the land held by the Sami people in the northern parts of Sweden and the right of public access. While the private ownership of forest is based on possession rights, the two other forms relate to user rights.

Private ownership has been important, first and foremost as a basis for sustainable land use and long-term planning and investments in the regeneration of forests. About half of all forest land in Sweden is owned by private enterprises. There are some 200,000 families with forests area bigger than 5 ha's and most farms are passed on from one generation to the next. The average holding is 50 ha's. Some 90,000 family forest entities are members of a forest cooperative. All the cooperatives together form a National Federation of Family Forest Owners, who seeks to influence national and international forest policies. Some of the cooperatives also run their own sawmills and pulp-industries in a competitive manner.

A small number of large private sector industrial forest enterprises own approx. 25 % of all forest land in Sweden. Only a few Swedish companies have forest holdings combined with industrial capacity. Industrial enterprises tend to buy wood on stumpage basis from private forest owners.

There are 23 pulp and paper enterprises with approx. 50 productions facilities in total and 60 sawmill enterprises with around 115 mills in Sweden. Sawmills, which for the most part are owned by private sector enterprises and do not normally have forest on their own.

Most of the State forest belongs to the state-owned company Sveaskog, which accounts for 14 % of all forest land. Sveaskog is Sweden's largest single forest owner and supply logs, pulp wood and biofuel for 130 large industrial customers.



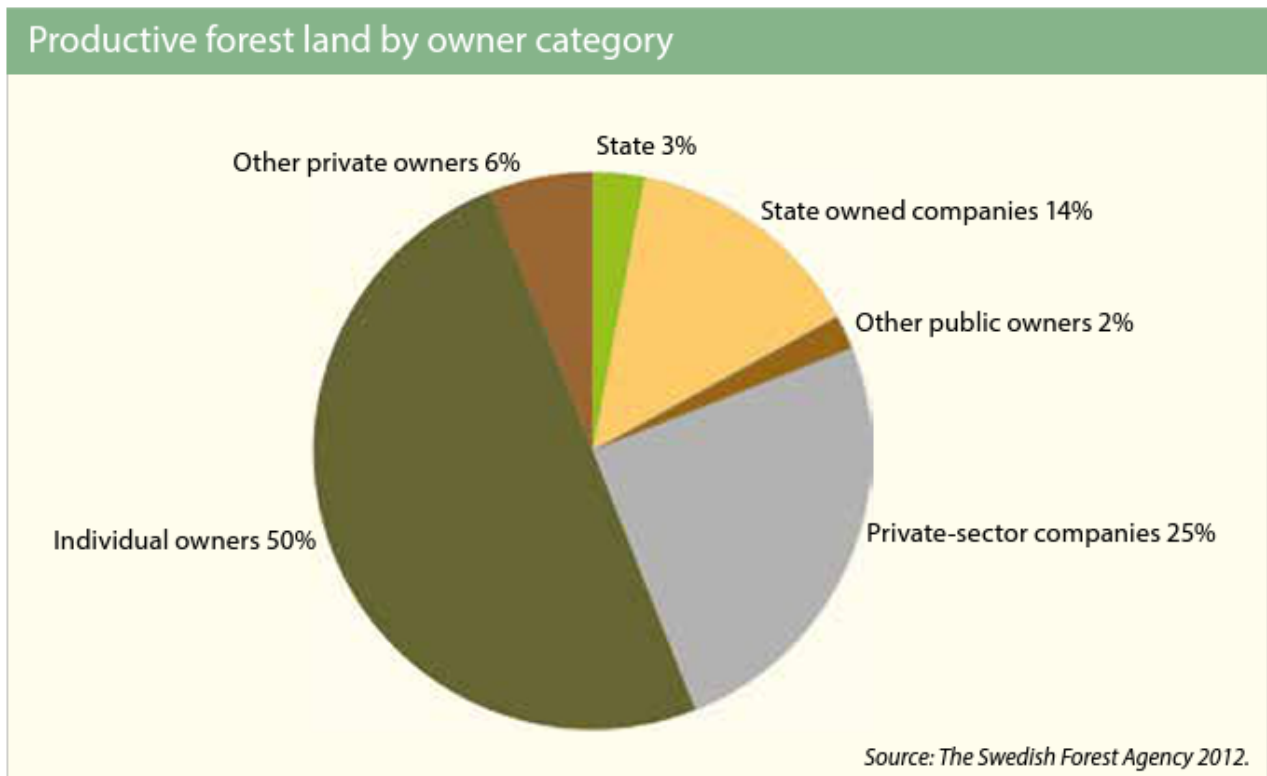


Figure 4. Productive forest land by owner category

(Source: [https://www.skogsstyrelsen.se/globalassets/in-english/forests-and-forestry-in-sweden\\_2015.pdf](https://www.skogsstyrelsen.se/globalassets/in-english/forests-and-forestry-in-sweden_2015.pdf))

### Management Practices

**National Forest Policy.** The main intention of the Swedish National Forest Policy is to ensure sustainable forest management and it focuses on three major objectives, one for production, one for environmental concerns and one for social concerns.

To obtain a long-term sustainable flow of timber from the forests, an even age-class distribution on the regional level is a long-term target in forest policy.

The legal demands on forestry are mainly set by the Forestry Act and the Environmental Code.

The forest sector is considered a commercial sector which should be economically self-sustained and not subsidized. There are, however some state subsidies to enhance the forest sector's environmental value.

The National Forest Policy is influenced by several international regulations and agreements:

- EU Timber Regulation
- Sustainability criteria in EU Renewable energy directive (RED II)

- The Habitat Directive
- The Water Framework Directive
- Convention on Biological Diversity (CBD)
- UN Framework Convention on Climate Change (UNFCCC)
- United Nations Forum on Forests (UNFF)

High and long-term sustainable production of forest raw material combined with social and environmental considerations are the primary goal for most forest owners.

Swedish forest management is highly influenced by market-driven processes of forest- certification following the schemes of FSC and PEFC.

As an extra precaution all final-felling operations above 0,5ha needs to be reported and approved by Swedish forest agency before implementation.

Forest management planning is extensively used by forest managers in everyday forestry as a tool for production planning and for implementing conservation measures.

The most used regeneration method is planting. Almost 400 mill seedlings are planted each year and soil preparation is often a prerequisite for successful regeneration. The planting operation is mostly carried out manually, but research on mechanized tree planting is ongoing. The seedlings have traditionally been treated with pesticides to protect against pests, but nowadays more

environment friendly mechanical protection is used to greater extent.

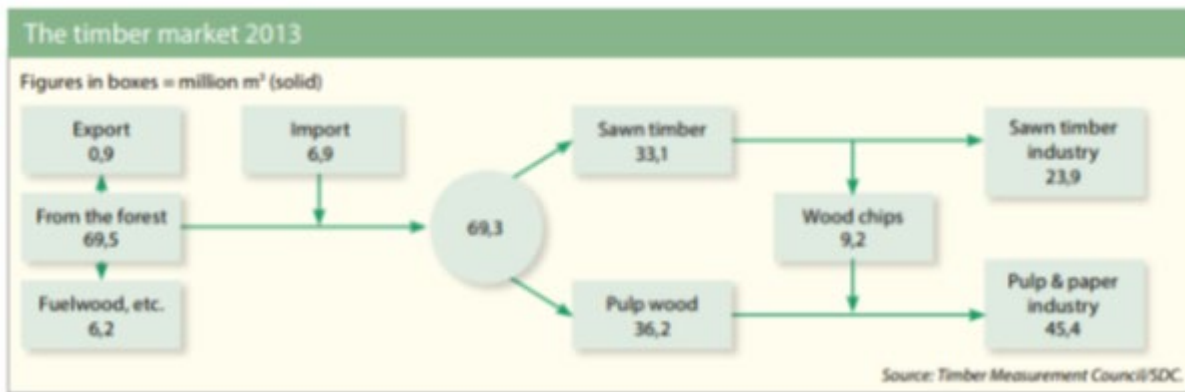
More than half of the annual industrial supply originates from private forest entities. More than 70 % of the yearly wood volume procured in Sweden originates from final felling, with the rest coming from thinning operations.

Harvest operations are usually planned with consideration to natural and cultural features. The harvesting is almost totally mechanized and is carried out with single grip harvesters that measures both length and diameter and thus optimizing the wood revenue

More than 90 % of the forest operations, -planting, cleaning, logging and transportation, are carried out by contractors.

## **Socio-Economic setting**

Sweden is a country dominated by forests and has a rather low population density with only 22 inhabitants per square kilometre. The country cover 450 thousand km<sup>2</sup> and is 1574 km north to south. Sweden is the third largest country in EU by area and has a population of 10.5 mill inhabitants. The country holds almost 1 % of the world's commercial forests, but provides 10 % of the sawn timber, pulp and paper that is traded on the global market.

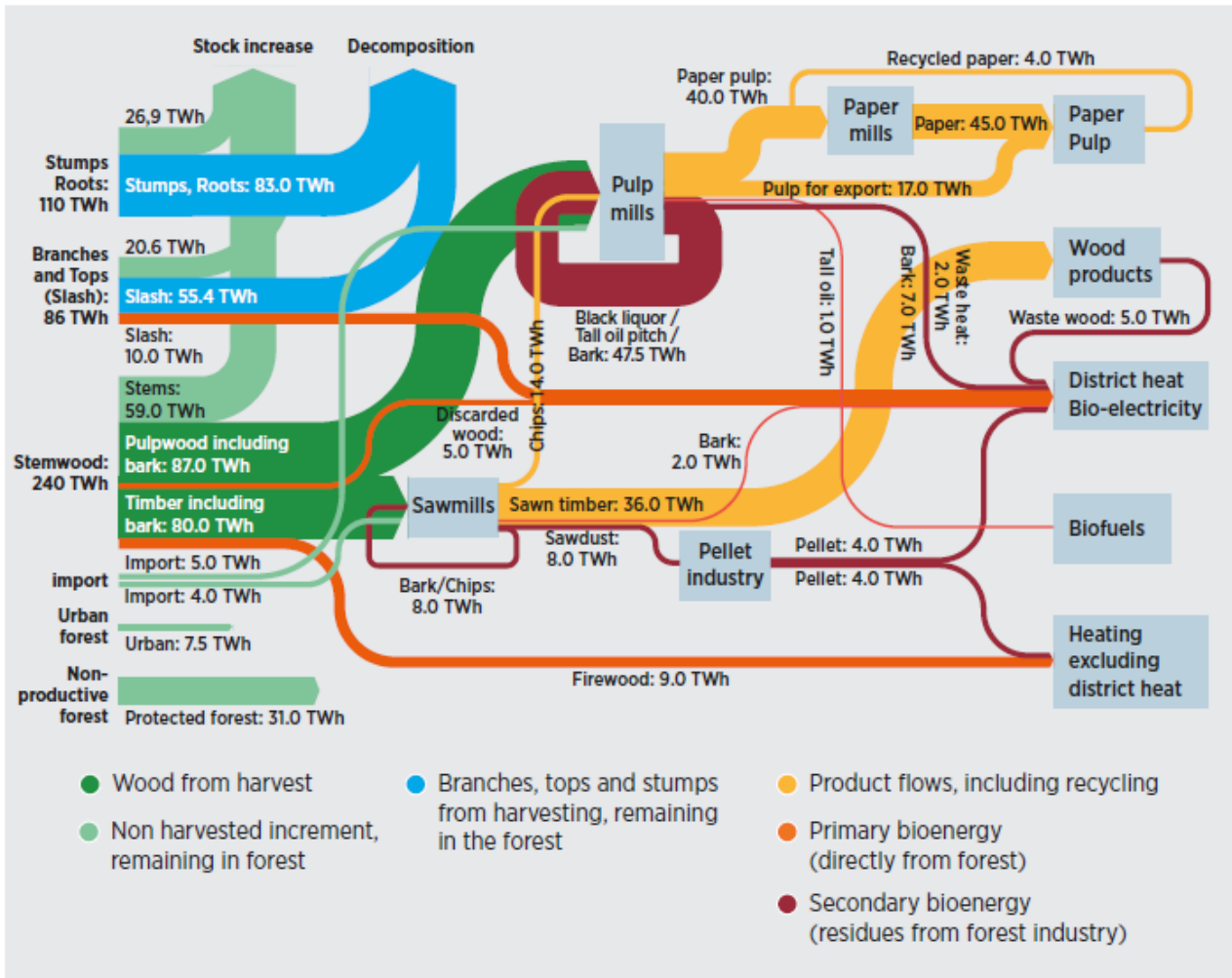


**Figure 5.** Timber supply chain

The Swedish forest products industry provides direct employment for almost 60,000 people. Together with subcontractors and the forest operations, including transportation the sector source about 200,000 jobs. In several counties, the forest products industry accounts for 20% or more of industrial employment.

### Wood-based bioenergy as part of the Swedish energy balance and harvests in forest

Approximately 95% of the harvested Swedish woody biomass is delivered either to a sawmill or a pulp industry. A small part of it, is of low value for the industry and it is discarded and instead used as bioenergy internally or externally. During the industry process there will always be various parts of residue and most of it will be recovered as bioenergy, direct or later in the value chain. The produced products as boards, paper etc. are also a source for bioenergy, though they after usage and re-circulation is sorted out and ends up as biofuel in the energy sector. Approximately 50% of the felling ends up as wood bioenergy in Sweden.



**Figure 6.** Biomass and energy flows from Swedish forest

Source: Bioenergy from boreal forest, Swedish approach to sustainable wood use. IRENA, International Renewable Energy Agency 2019 © IRENA

**Certification**

In Sweden operating both FSC and PEFC certification systems.

- 19 464 908 ha are FSC certified (November 2023). (Source: <https://connect.fsc.org/impact/facts-figures>)
- 16 522 111 ha are PEFC certified (PEFC Global Statistics, November 2022). (Source: Facts and figures - PEFC - Programme for the Endorsement of Forest Certification)

**Conservation CITES or IUCN species**

There are no species from CITES lists fauna in Sweden that Scandbio AB receives. Status of IUCN

defined in table.

| Species (English) | Latin            | CITES status*   | IUCN classification** |
|-------------------|------------------|-----------------|-----------------------|
| Scots pine        | Pinus sylvestris | Not on the list | Least Concern         |
| Norway spruce     | Picea abies      | Not on the list | Least Concern         |

\*<http://checklist.cites.org/>

\*\*<https://www.iucnredlist.org/search?l>

**Country:** Norway

**Area/Region:** Norway all Regions

**Exclusions:** No

Scandbio consider all of Norway as its supply base.

Scandbio sources:

ü Scots pine - Pinus sylvestris

ü Norway spruce - Picea abies.

Scandbio have 0-5 suppliers who indirectly sources from Norway.

### **Forest cover**

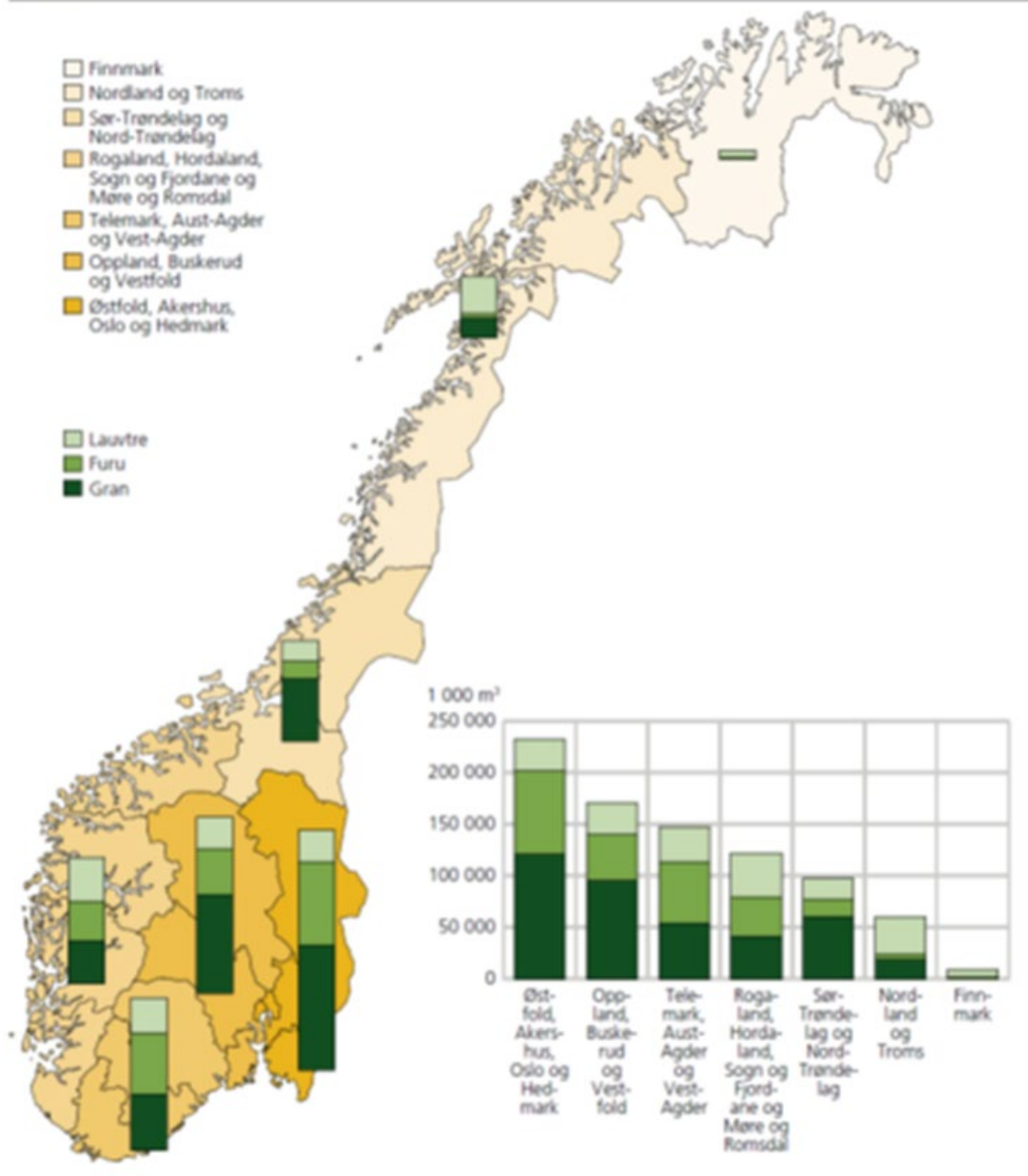
Forests cover about 38 percent of Norway's land area, or about 122.000 square kilometers. Of this, around 86.600 square kilometers are productive forests - that is, they produce enough timber to be important for forestry. In total, Norway today has almost 11 billion trees of 5 cm or more in diameter.

On average, Norwegian forests increase by about 25 million cubic meters of timber per year. Spruce accounts for half of this growth.

It is not only industrial timber that increases. National parks and forest reserves, too, make up an increasing proportion of the forest area in Norway. (Source: <https://www.regjeringen.no/en/topics/food-fisheries-and-agriculture/skogbruk/innsikt/skogbruk/id2009516/>)

Forestry is an industry practically all over the country. The most important species are Norway spruce (44 %), Scots pine (31 %) and birch and other broadleaves (25 %) (Ebook: Rognstad et. al, 2015).

Figur 3.1.4. Stående kubikkmasse under bork fordelt etter treslag og takserte regionar. 2011-2015. 1 000 m<sup>3</sup>



Kjelde: Norsk institutt for bioøkonomi, Landskogtakseringa.

Figure 6. Forest cover by species in Norway.

## Ownership

The forested area is divided between 127 000 properties, many of them are private estates (79% of the area) in combination with agriculture land. In addition, there is a long tradition of using the forests for domestic animal grazing and game hunting.

From figure 7 it can be seen that there are many owners of smaller forests 25-249 Dekar (10 dekar = 1 ha).

Presently, planting is maintained on the level of about 15 K ha per year.

Hedmark is Norway's largest forest county. About 40 percent of round wood is supplied on market from this area. (Source: <http://archnetwork.org/forestry-in-norway-2/>)

### **Socio-Economic setting.**

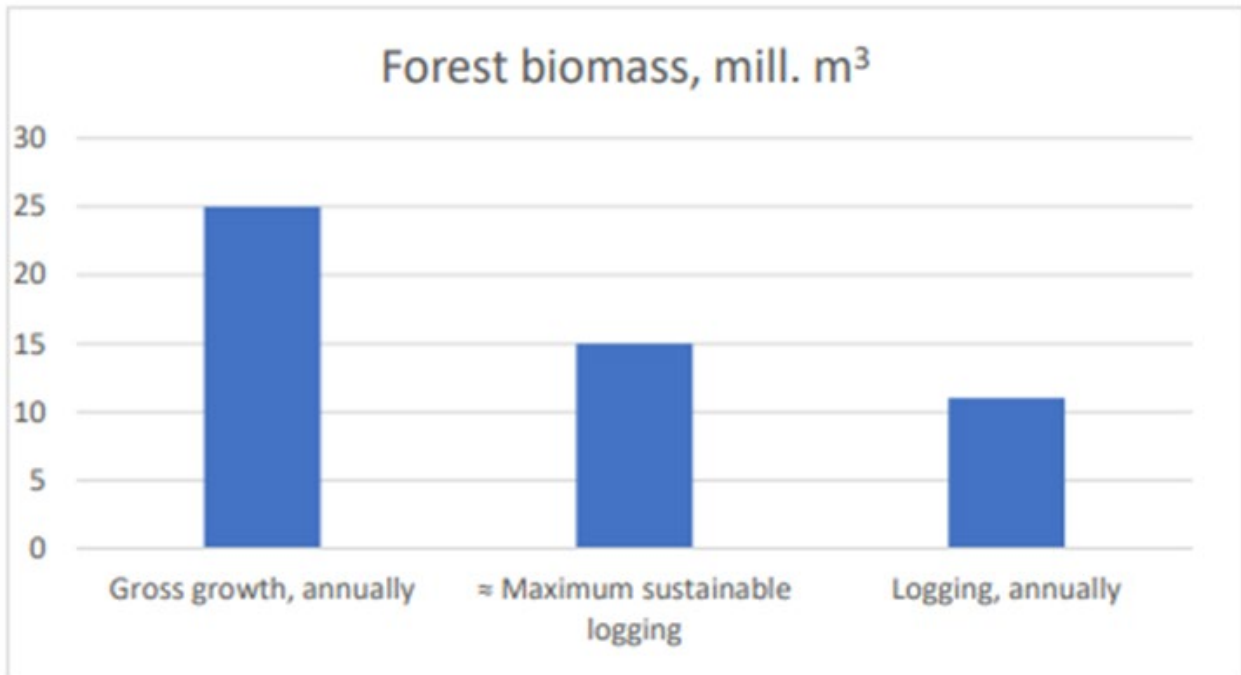
Forestry is a traditional and important industry in Norway. About 50 percent of the harvested timber is used by sawmills in Norway. There are 225 sawmills operating on an industrial scale. It provides jobs and export earnings. Around 25.000 people are employed in the forest-based sector. Norway is one of the world's leader in the development of wooden structures – bridges and buildings.

Wood and forest products cover about 11 percent of the Norwegian mainland product export. Despite the crisis in the industry 2005 – 2014, paper products have the highest export values of all the forest-based products This is slightly less than the export from the Norwegian fishing industry, somewhat higher than both the aluminium and the natural gas export values, but twice the value of Norwegian high-technology exports. The pulp and paper industry is the largest producer of bio-energy in Norway.

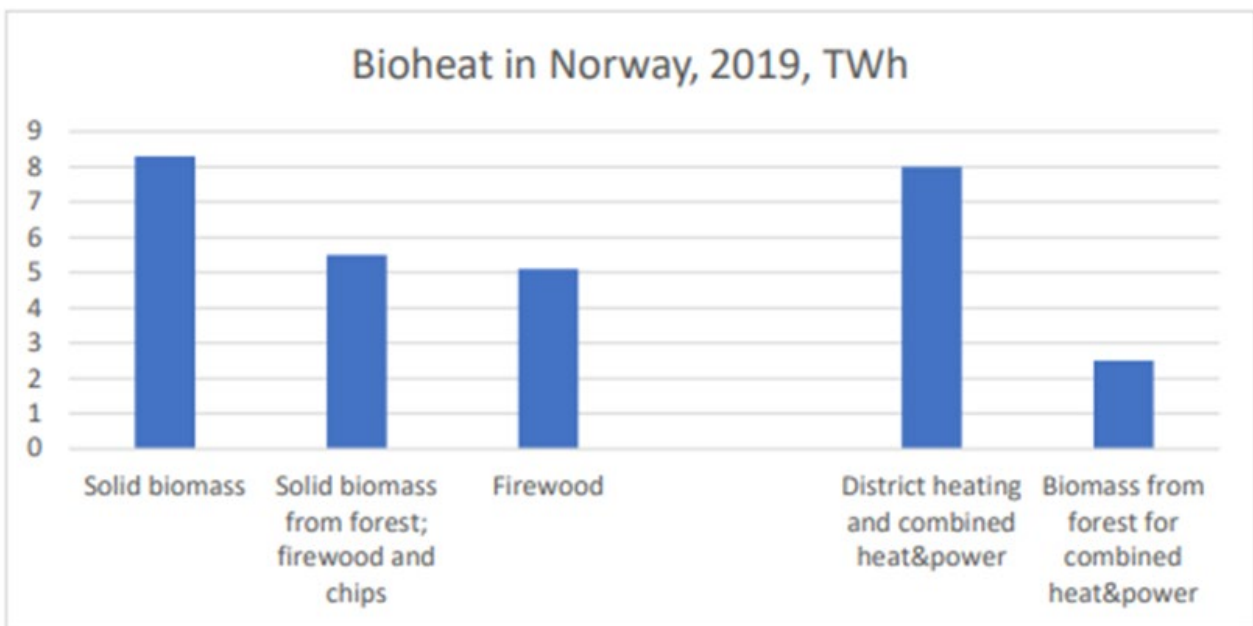
(Source: <http://archnetwork.org/forestry-in-norway-2/>)

### **Use of biomass in energy sector**

The gross annual growth of forest biomass in Norway is at around 25 mill. m<sup>3</sup> and the annual logging at around 11 mill. m<sup>3</sup>, whereas the sustainable use of biomass from Norwegian forests is estimated at about 15 mill. m<sup>3</sup> annually, see Figure 2 (Treindustrien 2016). Figure 3 depicts that 46 % of the forest biomass is used for fiber and bioenergy production, around 21 % for timber production, and about 33 % exported (mostly to Sweden) (Prosess21 2020).



**Figure 2.** Forest biomass and annual logging in Norway, million m<sup>3</sup>.  
Source: Treindustrien (2016).



**Figure 5.** Biomass for heat (bioheat) production in Norway, 2019, TWh.  
Source: Nibio (2016).

(Source: <https://www.sum.uio.no/include/aktuelt/aktuelle-saker/2022/blir-bioenergi-rapporten.pdf> )

## Certification



In Norway are operating both FSC and PEFC certification systems.

705 508 ha are FSC certified (November 2023). (Source:<https://connect.fsc.org/impact/facts-figures>)

7 351 500 ha are PEFC certified (PEFC Global Statistics, November 2023).

(source: Facts and figures - PEFC - Programme for the Endorsement of Forest Certification)

### **Conservation CITES or IUCN species**

There are no species from CITES lists fauna in Norway that Scandbio receives from Norway.

Status of IUCN defined in table.

| <b>Species</b>                       | <b>CITES status*</b> | <b>IUCN classification**</b> |
|--------------------------------------|----------------------|------------------------------|
| Scots pine - <i>Pinus sylvestris</i> | Not on the list      | Least Concern                |
| Norway spruce - <i>Picea abies</i>   | Not on the list      | Least Concern                |

\*<http://checklist.cites.org/>

\*\*<https://www.iucnredlist.org/search?l>

## **2.3 Actions taken to promote certification amongst feedstock supplier**

Scandbio give higher priority for certified feedstock and note as a demand in contracts that FSC certified and Controlled wood material is preferred then possible.

## **2.4 Quantification of the Supply Base**

### **Supply Base**

a. Total Supply Base area (million ha): 40.97

- b. **Tenure by type (million ha):**26.46 (Privately owned), 10.44 (Public)
- c. **Forest by type (million ha):**40.97 (Boreal)
- d. **Forest by management type (million ha):**31.65 (Managed natural), 9.32 (Natural)
- e. **Certified forest by scheme (million ha):**20.11 (FSC), 9.32 (PEFC)

**Describe the harvesting type which best describes how your material is sourced:** Mix of the above

**Explanation:** Only residues from sawmills and wood processing industry

**Was the forest in the Supply Base managed for a purpose other than for energy markets?** Yes - Majority

**Explanation:** Sawdust and shavings from sawmills and wood processing industry

**For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?** Yes - Majority

**Explanation:** Swedish and Norwegian law demand that new forest is established within five years after a clear cutting.

**Was the feedstock used in the biomass removed from a forest as part of a pest/disease control measure or a salvage operation?** Yes - Minority

**Explanation:** Bark Beetle is a problem and forces the forest owner to cut the infected trees earlier than planned. This for avoiding more damages and secure some value in the trunk.

**What is the estimated amount of REDII-compliant sustainable feedstock that could be harvested annually in a Supply Base (estimated):** N/A

**Explanation:**N/A

## Feedstock

**Reporting period from:** 01 Aug 2022

**Reporting period to:** 31 Jul 2023

- a. **Total volume of Feedstock:** 1-200,000 tonnes
- b. **Volume of primary feedstock:** 0 N/A
- c. **List percentage of primary feedstock, by the following categories.**
  - Certified to an SBP-approved Forest Management Scheme: N/A
  - Not certified to an SBP-approved Forest Management Scheme: N/A
- d. **List of all the species in primary feedstock, including scientific name:**
- e. **Is any of the feedstock used likely to have come from protected or threatened species?** N/A
  - Name of species: N/A
  - Biomass proportion, by weight, that is likely to be composed of that species (%):
- f. **Hardwood (i.e. broadleaf trees): specify proportion of biomass from (%):**
- g. **Softwood (i.e. coniferous trees): specify proportion of biomass from (%):**
- h. **Proportion of biomass composed of or derived from saw logs (%):**
- i. **Specify the local regulations or industry standards that define saw logs:** N/A
- j. **Roundwood from final fellings from forests with > 40 yr rotation times - Average % volume of fellings delivered to BP (%):**
- k. **Volume of primary feedstock from primary forest:** N/A
- l. **List percentage of primary feedstock from primary forest, by the following categories. Subdivide by SBP-approved Forest Management Schemes:**

- Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme: N/A
- Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme: N/A

**m. Volume of secondary feedstock:** 1-200,000 tonnes

- Physical form of the feedstock: Sawdust

**n. Volume of tertiary feedstock:** 1-200,000 tonnes

- Physical form of the feedstock: Shavings

**o. Estimated amount of REDII-compliant sustainable feedstock that could be collected annually by the BP:** N/A

| Proportion of feedstock sourced per type of claim during the reporting period |   |        |        |       |
|---|---|--------|--------|-------|
| Feedstock type  | Sourced by using Supply Base Evaluation (SBE) % | FSC %  | PEFC % | SFI % |
| Primary   | 0.00  | 0.00   | 0.00   | 0.00  |
| Secondary   | 0.00  | 100.00 | 0.00   | 0.00  |
| Tertiary  | 0.00  | 100.00 | 0.00   | 0.00  |
| Other   | 0.00  | 0.00   | 0.00   | 0.00  |

### **3 Requirement for a Supply Base Evaluation**

*Note: Annex 1 is generated by the system if the SBE is used without Region Risk Assessment(s). Annex 2 is generated if RED II SBE is in the scope.*

**Is Supply Base Evaluation (SBE) is completed? No**

N/A

**Is REDII SBE completed? N/A**

N/A

## 4 Supply Base Evaluation

*Note: Annex 2 is generated if RED II is in the scope.*

### 4.1 Scope

**Feedstock types included in SBE:**

**SBP-endorsed Regional Risk Assessments used:** Not applicable

**List of countries and regions included in the SBE:**

**Country:**

**Indicator with specified risk in the risk assessment used:**

**Specific risk description:**

N/A

### 4.2 Justification

N/A

### 4.3 Results of risk assessment and Supplier Verification Programme

N/A

### 4.4 Conclusion

N/A

# 5 Supply Base Evaluation process

N/A

## **6 Stakeholder consultation**

N/A

### **6.1 Response to stakeholder comments**

## **7 Mitigation measures**

### **7.1 Mitigation measures**

### **7.2 Monitoring and outcomes**

N/A



## 8 Detailed findings for indicators

Detailed findings for each Indicator are given in Annex 1 in case the Regional Risk Assessment (RRA) is not used.

**Is RRA used?** N/A

## **9 Review of report**

### **9.1 Peer review**

N/A

### **9.2 Public or additional reviews**

N/A

## 10 Approval of report

| Approval of Supply Base Report by senior management   |                 |                        |             |
|---|-----------------|------------------------|-------------|
| Report Prepared by:   | Gert Pettersson | Management team member | 14 Nov 2023 |
|   | Name            | Title                  | Date        |
|   |                 |                        |             |
| <p>The undersigned persons confirm that I/we are members of the organisation's senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report.</p> |                 |                        |             |
| Report approved by:   | Daniel Andoff   | Managing Director      | 14 Nov 2023 |
|   | Name            | Title                  | Date        |

**Annex 1: Detailed findings for Supply Base  
Evaluation indicators**

**Annex 2: Detailed findings for REDII**  
**Section 1. RED II Supply Base Evaluation**

## **Section 2. RED II detailed findings for secondary and tertiary feedstock**

### **10.1 Verification and monitoring of suppliers**

N/A

### **10.2 Feedstock inspection and classification upon receipt**

N/A

### **10.3 Supplier audit for secondary and tertiary feedstock**

N/A