



# Supply Base Report: Scandbio Latvia SIA

Fourth Surveillance Audit

[www.sbp-cert.org](http://www.sbp-cert.org)



**The promise of good biomass**



# Completed in accordance with the Supply Base Report Template Version 1.6

*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 Latvia SIA

**Producer address:** "Griķi", LV-3285 Talsu district, Laucienes parish, Latvia

**SBP Certificate Code:** SBP-01-01

**Geographic position:** 57.244200, 22.830400

**Primary contact:** Ilze Ļutjanska, +371 251 582 41, ilze.lutjanska@scandbio.com

**Company website:** www.scandbio.lv

**Date report finalised:** 21 May 2024

**Close of last CB audit:** 10 Jul 2024

**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:** <https://www.scandbio.lv/documents/SBR-ScandbioLV.pdf>

| 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            |
| <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

## 2 Description of the Supply Base

### 2.1 General description

**Feedstock types:** Secondary, Tertiary

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

**Includes REDII:** N/A

**Includes REDII SBE:** No

**Includes RED II TOF:** N/A

**Feedstock origin (countries):** Latvia, Lithuania, Finland, Sweden, Norway

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

**Country:** Latvia

**Area/Region:** Latvia all Regions

**Sub-Scope:** N/A

**Exclusions:** No

SIA "Scandbio Latvia" consider all of Latvia as its supply base.

SIA "Scandbio Latvia" sources:

- ü Scots pine - *Pinus sylvestris*
- ü Norway spruce - *Picea abies*;
- ü Downy birch - *Betula pubescens*;
- ü Silver birch – *Betula pendula*;
- ü Oak - *Quercus robur* (L.);
- ü Aspen - *Populus tremula*;
- ü Grey alder - *Alnus incana*;
- ü Black Alder - *Alnus glutinosa*;
- excelsior (L.);
- ü Willow – *Salix alba*.

Ash - *Fraxinus*

SIA "Scandbio Latvia" have 15-20 suppliers in Latvia.

Proportions of SBP feedstock product groups is as follows:

Controlled Feedstock 9,8% (5-10 suppliers);

SBP-compliant Secondary Feedstock 90,1% (10-15 suppliers);

SBP-compliant Tertiary Feedstock 0,1% (0-5 suppliers).

Physical form of the Feedstock is sawdusts and chips.

#### **Forest cover**

Latvia has the fourth highest forest cover among all EU countries, surpassed only by Finland (77 %), Sweden (76 %) and Slovenia (63 %). In the European Union, 33 % of the overall territory is forestland, and

over the past 20 years, the overall area of forestland has increased by 17 million ha's. Forests in Latvia take up 3,383 mill ha's of land, or 52 % of the country's territory. 53 % of all trees in Latvian forests are deciduous trees, and they dominate the amount of stock volume. The number of stands of young birch trees and white alder has increased rapidly in the past few years. The predominant forest species in Latvia are: Pine 33 %, Birch 30 %, Spruce 19 %, Grey Alder 7 %, Aspen 7 %, Black Alder 3 %, Ash 1%, Oak 0,1%, Other Species 1 %.

(Source:[https://www.zm.gov.lv/public/files/CMS\\_Static\\_Page\\_Doc/00/00/01/54/24/VMD\\_Publiskais\\_parskats\\_2018\\_.pdf](https://www.zm.gov.lv/public/files/CMS_Static_Page_Doc/00/00/01/54/24/VMD_Publiskais_parskats_2018_.pdf))

Forest land consists of:

- ü forests 3,05 mill.ha (90,6%);
- ü marshes 0,17 mill.ha (5,0%);
- ü glades (forest meadows) 0,03 mill.ha (0,9%);
- ü flooded areas 0,017 mill.ha (0,5%);
- ü objects of infrastructure 0,083 mill.ha (2,5%);
- ü other forest land 0,017 mill.ha (0,5%).

(Source:<https://www.vmd.gov.lv/valsts-meza-dienests/statiskas-lapas/-meza-apsaimniekosana-?nid=1472#jump>)

Historically, extensive use of forests as a source of profit began later than in many other European countries, therefore a greater biological diversity has been preserved in Latvia.

For the sake of conservation of natural values, a total number of 674 protected areas have been established. Part of the areas has been included in the European network of protected areas Natura 2000. Most of the protected areas are state-owned.

In order to protect highly endangered species and biotopes located without the designated protected areas, if a functional zone does not provide that, micro-reserves are established. According to data of the State Forest Service (2015), the total area of micro reserves is 40 595 ha. Identification and protection planning of biologically valuable forest stands is carried out continuously.

On the other hand, for preservation of biological diversity during forest management activities, general nature protection requirements binding to all forest managers have been developed. They stipulate that at felling selected old and large trees, dead wood, underwood trees and shrubs, land cover around wet micro-lowlands (terrain depressions) are to be preserved, thus providing habitat for many organisms.

### **Ownership**

The Latvian state owns around one-half of the country's forests, while most of the rest of the forest belongs to approximately 135,000 private owners.

### **Management practices**

The forest sector in Latvia is under the supervision of the Ministry of Agriculture. It works with stakeholders to draft forest policies, development strategies for the sector, as well as regulations on forest management, the use of forest resources, environment protection and hunting. (Source: [www.zm.gov.lv](http://www.zm.gov.lv)) The State Forest Service, under the Ministry of Agriculture, is the responsible agency for supervising how the provisions of the laws and regulations are observed in forest management irrespective of the ownership type.

(Source:[www.vmd.gov.lv](http://www.vmd.gov.lv).) State owned forests are managed by Stock Company "Latvian State Forests", which was established in 1999. It implements the state's interests in terms of preserving and increasing the value of the forest and enhancing the contributions of the forest to the national economy. There are management restrictions in 28.2 % of the total forest area in Latvia. This includes areas that are strictly protected from forestry, which cover 3.3 %. Also included are areas with some restrictions on forestry, which cover 10.4 % of the total forest area. In the remaining 14.5 %, other types of management are restricted depending on the values in the forest. Due to the dramatic increase in forest cover in the last 100 years, the current proportion of old-growth forests in Latvia is low (75); as such, a major challenge of forest conservation in Latvia is to ensure that such oldgrowth forests and features are protected and allowed to develop. (Source:[www.lvm.lv](http://www.lvm.lv))

## **Socio-Economic setting**

The forest sector is one of the cornerstones of the national economy at this time. Forestry, wood processing and furniture manufacturing represented 5,2 % of GDP in 2015, while exports amounted to EUR 2 billion – 20 % of all exports. Currently, there is no parish in Latvia where one cannot be found a smaller or larger wood processing plant. Often they are the most important employers in the area and, consequently, the local economies and the mainstay of the population.

(Source:[https://www.zm.gov.lv/public/ck/files/skaitlifakti\\_LV\\_2018web.pdf](https://www.zm.gov.lv/public/ck/files/skaitlifakti_LV_2018web.pdf))

According to the Latvian Ministry of Agriculture, Latvia is a net exporter of forestry industry products. In 2015 Latvia exported EUR 2.04 billion (U.S. \$ 2.23 billion) worth of forest industry products, which was 3.1 % more than in 2014 when exports amounted to EUR 1.98 billion (U.S. \$ 2.41 billion). In 2015 Latvia exported EUR 1.74 billion (U.S. \$ 1.90 billion) worth of timber and timber products, 2 percent up from EUR 1.70 billion (U.S. \$ 2.07 billion) exported in 2014.

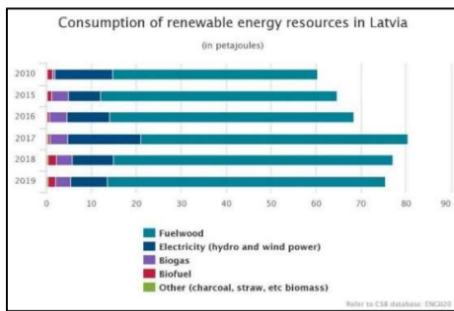
The EU is the main trading partner for the Latvian wood sector with an almost 90 percent share of the total Latvian wood export volume. Traditionally, Latvia's largest forestry export markets are the UK, Germany and Sweden. In 2015, Latvia supplied its forestry products mainly to the UK (18.9 % of total exports), Germany (10.5 %) and Sweden (9.5 %).

Areas where recreation is one of the main forest management objectives add up to 8 % of the total forest area. Observation towers, educational trails, natural objects of culture history value, picnic venues: they are just a few of recreational infrastructure objects available to everyone free of charge. Special attention is devoted to creation of such areas in state-owned forests. Recreational forest areas include national parks (excluding strictly protected areas), nature parks, protected landscape areas, protected dendrological objects, protected geological and geomorphologic objects, nature parks of local significance, the Baltic Sea dune protection zone, protective zones around cities and towns, forests within administrative territory of cities and towns. Management and governance of specially protected natural areas in Latvia is co-ordinated by the Nature Conservation Agency under the Ministry for Environmental Protection and Regional Development

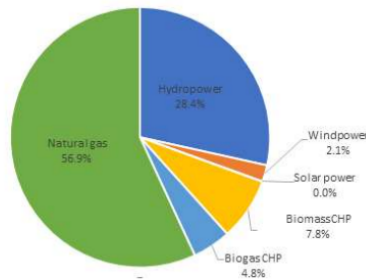
## **Use of biomass in energy sector**

Sustainability is a very important issue for the whole sector not only for certain products such as biomass (wood for energy production). Even more – fuelwood is not the driver for forest management – it is only by-product. Latvia has quite detailed legislation on forest management based on sustainable forest management principles. Forest management is regularly evaluated according to the national sustainable forest management criteria and indicators (based on Pan European criteria and indicators). This basis ensure that biomass meets sustainability criteria at state level. In 2019 gross consumption of RES in Latvia amounted to 75.5 PJ that is 16.7% increase in 2015–2019. Fuelwood is 82 % of the RES consumption. During the last five years, gross consumption of fuelwood increased by 9.3 PJ 2019. In 2018-2019, the volume of wood chips produced went up by 5.8 % and 39.1 PJ of pelleted wood were exported- 26.4 % more than in 2018; during the last five years exports of pelleted wood increased by 40 %. The largest share of export of all kinds of fuelwood are to Estonia, Denmark, UK and Sweden. The main use of the fuelwood is in H&C. According to Shares data in 2018 92% of RES-H&C share is ensured by biomass, but in RES-E – 14% (as a by-product of high efficient CHP). 35.4 % of fuelwood is consumed in transformation sector in 2019 (>53% of heat energy is produced from fuelwood). Fuelwood consumption in households comprised 34.4 %.

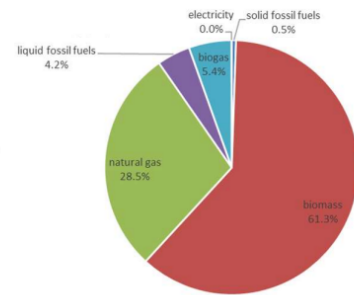
Consumption of renewable energy resources in Latvia (PJ)



Electricity production in 2019



Fuel consumption in heating in 2019



(Source: <https://www.em.gov.lv/sites/em/files/content/fact-sheet-on-forest-biomass-in-latvia.pdf> )

**Certification**

In Latvia are operating both FSC® and PEFC certification systems.

1 122 293 ha are FSC® certified (Q2 June 2020).

(Source: <https://fscint.maps.arcgis.com/apps/webappviewer/index.html?id=06188ad39e5344db96a4a181e135c393&mobileBreakPoint=300>)

1 747 003 ha are PEFC certified (PEFC Global Statistics, March 2020).

(Source: <https://cdn.pefc.org/pefc.org/media/2020-05/1a524ab5-1ba2-4185-8f8a-9cb16e29150e/22b08b97-31c05a60-8ac2-a3d2fb0e9868.pdf>)

**Conservation CITES or IUCN species**

Latvia has ratified the CITES Convention (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) in 1997. There are no species from CITES lists fauna in Latvia.

Status of IUCN defined in table.

| Species                               | CITES status*   | IUCN classification** |
|---------------------------------------|-----------------|-----------------------|
| Scots pine - <i>Pinus sylvestris</i>  | Not on the list | Least Concern         |
| Norway spruce - <i>Picea abies</i>    | Not on the list | Least Concern         |
| Aspen - <i>Populus tremula</i>        | Not on the list | Least Concern         |
| Grey aldes - <i>Alnus incana</i>      | Not on the list | Least Concern         |
| Black alder - <i>Alnus glutinosa</i>  | Not on the list | Least Concern         |
| Silver birch - <i>Betula pendula</i>  | Not on the list | Least Concern         |
| Downy birch - <i>Betula pubescens</i> | Not on the list | Least Concern         |
| Oak - <i>Quercus robur</i> (L.)       | Not on the list | Least Concern         |
| Ash - <i>Fraxinus Excelsior</i> (L.)  | Not on the list | Near Threatened       |
| Willow - <i>Salix alba</i>            | Not on the list | Least Concern         |

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

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

**Country:** Lithuania

**Area/Region:** Lithuania all Regions

**Sub-Scope:** N/A

**Exclusions:** No



SIA "Scandbio Latvia" consider all of Lithuania as its supply base.

SIA "Scandbio Latvia" sources:

- ü Scots pine - *Pinus sylvestris*
- ü Norway spruce - *Picea abies*.

SIA "Scandbio Latvia" have 0-5 suppliers who indirectly sources from Lithuania.

Proportions of SBP feedstock product groups is as follows:

SBP-compliant Secondary Feedstock 100% (0-5 suppliers);

Physical form of the Feedstock is sawdusts and chips.

### **Forest Cover**

Lithuania is situated within the so-called mixed forest belt with a high percentage of broadleaves and mixed conifer-broadleaved stands. Most of the forests - especially spruce and birch - often grow in mixed stands. According to 2017 forest statistics, the total forest land occupies 33,5 % of the country's territory or 2,189 mill ha. The south-eastern part of the country is most heavily forested. Average annual increase in forest area is about 7.000 ha. The huge differences in forest coverage during the last 10 years is explained by insufficient data previously used by Forest Assessment. Occupying 1,145 mill ha, coniferous stands prevail in Lithuania, covering 55.6% of the forest area. They are followed by softwood deciduous forests (0.841 mill ha, 40.9 %). Hardwood deciduous forests occupy 72,000. ha (3.5 %). Over the last 14 years total area of softwood deciduous forests increased by 142,700 ha. The area of hardwood deciduous has decreased by 20,400 ha over the last 14 years, and coniferous forest area in last 14 years decreased by 14,900 ha.

Distribution of most common species: Scots pine (*Pinus sylvestris*) – 33 %; Norway spruce (*Picea abies*) - 20 %; Birch (*Betula pendula*) – 21 %; Black alder (*Alnus glutinosa*) – 7 %; Grey alder (*Alnus incana*) – 6 %; Aspen (*Populus tremula*) – 4 %; Oak (*Quercus robur*) - 2 %; Ash (*Fraxinus excelsior*) – 1 %; Other - 7 %

### **Ownership**

State forest 1.089 mill ha, private forest area 1.101 mill ha.

### **Socio-Economic setting**

The wood processing sector accounts for about 2.0 % of GDP, employing around 32,200 workers or 3.5 % of total employment. 2,257 companies were active in the sector at the beginning of 2016, 99.8 % of them were SME (small and medium sized enterprises). In 2015 production of the wood processing sector (at current prices excl. taxes) amounted to 973 mill EUR, which was a 10.4 % increase compared to 2014. Around 2/3 of production is exported to more than 90 countries around the world.

The most important export markets for the wood processing sector in 2015 were Germany, followed by Norway,

Latvia and the United Kingdom. European Union countries accounted for almost 70 % of exports by the wood processing sector.

Key products is Sawn timber; Prefabricated buildings; Practical boards and board of wood; Wooden windows and doors; Flooring panels and Exterior and interior planks.

### **Management**

All Lithuanian forests are distributed into four functional groups. In the beginning of 2017, distribution of forests by functional groups was as follows: group I (strict nature reserves) – (1.1%); group II (ecosystems protection and recreational forests) (11.9%); group III (protective forests) (14.6%); and group IV (exploitable forests) (72.3%).

#### *Fellings*

Over 1990-1995 felling rates in all Lithuanian forests (irrespective of their ownership) were unstable, but still slightly increasing and reached the peak in 1995 with the total of 9.43 mill. m<sup>3</sup> of living trees felled.

After 1995 felling were decreasing to 7.71 mill. m<sup>3</sup> of living trees felled in 1997 and then started to increase again. The highest point over the whole accounting period was reached in 2003 (10.34 mill. m<sup>3</sup> of living

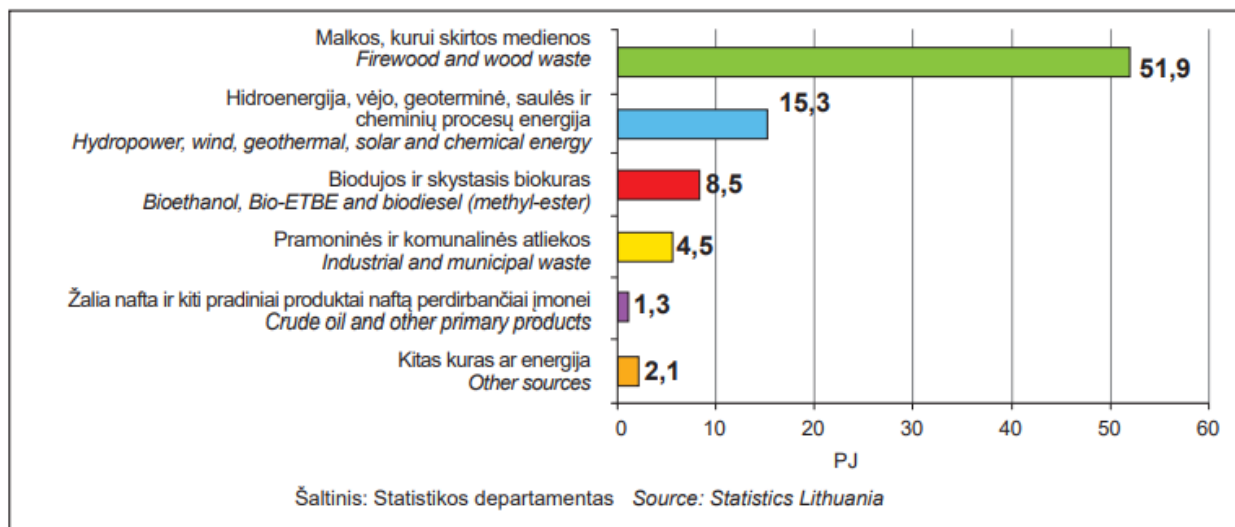
trees felled) and then started slightly to decrease until 2012 (8.05 mill. m3 of living trees felled). Over the past years, marginal increase in forest felling is observed (9.86 mill. m3 in 2016). State forest of Lithuania are FSC® certified. The audit of this certification confirms the fact that Lithuanian State forests are managed responsibly, in compliance with the requirements of protection and conservation of biodiversity. (Source: <http://www.fao.org/docrep/w3722e/w3722e22.htm>)

### Use of biomass in energy sector

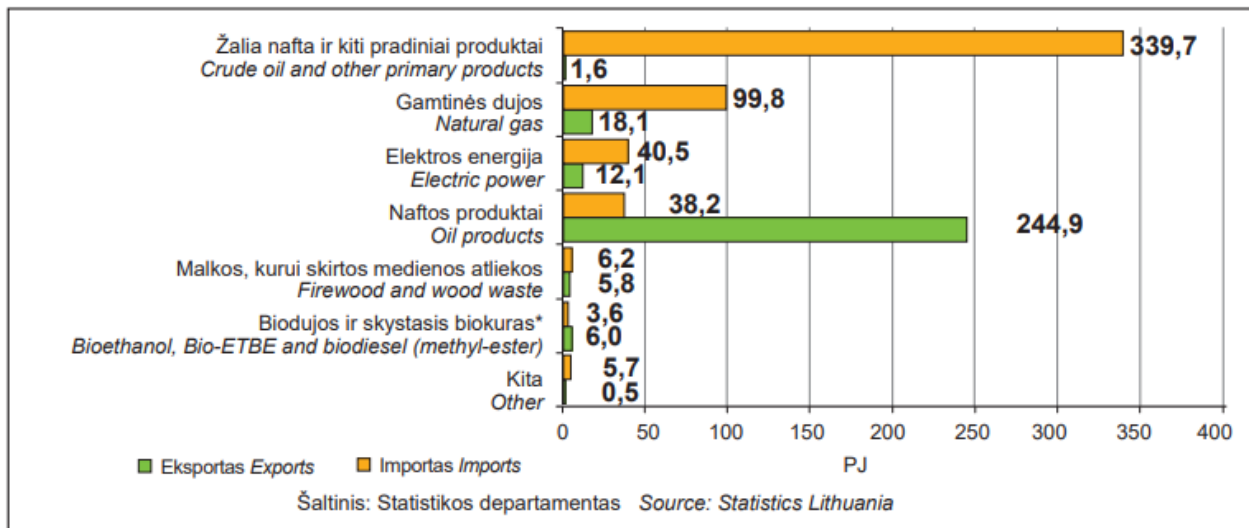
According to the Department of Statistics of Lithuania, 3.9 mm3 of firewood and industrial wood waste were used for energy production in 2009. The State Forest Enterprise plans to increase the supply of forest biomass for energy to 0.367 mm3 in 2019 and to 0.500 mm3 in 2023.

(Source: <https://energysustainsoc.biomedcentral.com/track/pdf/10.1186/s13705-019-0229-9.pdf>)

#### PRODUCTION OF PRIMARY ENERGY 2020



#### IMPORTS AND EXPORTS BY TYPE OF FUEL AND ENERGY IN 2020



**FIREWOOD AND WOOD WASTE CONSUMED FOR THE PRODUCTION OF FUEL AND ENERGY IN 2018–2020**

| Rodiklis<br>Characteristic                                 | 2018                |             | 2019                |             | 2020                |             |
|--|---------------------|-------------|---------------------|-------------|---------------------|-------------|
|  | 1000 m <sup>3</sup> | PJ          | 1000 m <sup>3</sup> | PJ          | 1000 m <sup>3</sup> | PJ          |
| <b>Transformuota</b><br><b>Transformation</b>              | <b>3 252</b>        | <b>26,7</b> | <b>3 234</b>        | <b>26,5</b> | <b>3 226</b>        | <b>26,5</b> |
| Elektrinėse <i>Public CHP plants</i>                       | 894                 | 7,3         | 886                 | 7,3         | 935                 | 7,7         |
| Katilinėse <i>Public heat plants</i>                       | 2 187               | 17,9        | 2 124               | 17,4        | 1 956               | 16,0        |
| Pramonės įmonių katilinėse <i>Autoproducer heat plants</i> | 171                 | 1,4         | 224                 | 1,8         | 335                 | 2,8         |
| Kitose įmonėse <i>In other enterprises</i>                 | 3                   | 0,0         | 4                   | 0,0         | 3                   | 0,0         |
| <b>Galutinis suvartojimas</b><br><b>Final consumption</b>  | <b>3 213</b>        | <b>26,3</b> | <b>3 107</b>        | <b>25,5</b> | <b>3 202</b>        | <b>26,3</b> |
| Pramonėje <i>Industry</i>                                  | 533                 | 4,4         | 530                 | 4,3         | 603                 | 4,9         |
| Statyboje <i>Construction</i>                              | 9                   | 0,1         | 9                   | 0,1         | 11                  | 0,1         |
| Žemės ūkyje <i>Agriculture</i>                             | 72                  | 0,6         | 69                  | 0,6         | 82                  | 0,7         |
| Paslaugų sektoriuje <i>Commercial and public services</i>  | 150                 | 1,2         | 144                 | 1,2         | 155                 | 1,3         |
| Namų ūkiuose <i>Households</i>                             | 2 449               | 20,1        | 2 356               | 19,3        | 2 350               | 19,3        |
| <b>Bendrasis sunaudojimas</b><br><b>Gross consumption</b>  | <b>6 468</b>        | <b>53,0</b> | <b>6 345</b>        | <b>52,0</b> | <b>6 431</b>        | <b>52,7</b> |

Šaltinis: Statistikos departamentas  
Source: Statistics Lithuania

(Source:

[https://amvmt.lrv.lt/uploads/amvmt/documents/files/Statistika/MiskuStatistika/2021/13%20Misku%20ukio%20statistika%202021\\_m.pdf](https://amvmt.lrv.lt/uploads/amvmt/documents/files/Statistika/MiskuStatistika/2021/13%20Misku%20ukio%20statistika%202021_m.pdf) )

### Certification

In Lithuania is operating FSC® certification system.

1 214 403 ha are FSC® certified (Q2 June 2020).

(Source:<https://fscint.maps.arcgis.com/apps/webappviewer/index.html?id=06188ad39e5344db96a4a181e135c393&mobileBreakPoint=300>)

### Conservation CITES or IUCN species

There are no species from CITES lists fauna in Lithuania that SIA “Scandbio Latvia” receives from Lithuania.

Status of IUCN defined in table.

| Species | CITES status* | IUCN classification** |
|---------|---------------|-----------------------|
|---------|---------------|-----------------------|

|                                      |                 |               |
|--------------------------------------|-----------------|---------------|
| 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>

**Country:** Finland

**Area/Region:** Finland all Regions

**Sub-Scope:** N/A

**Exclusions:** No

SIA “Scandbio Latvia” consider all of Finland as its supply base.

SIA “Scandbio Latvia” sources:

ü Scots pine - *Pinus sylvestris*

ü Norway spruce - *Picea abies*.

SIA "Scandbio Latvia" have 0-5 suppliers who indirectly sources from Finland.

Proportions of SBP feedstock product groups is as follows:

SBP-compliant Tertiary Feedstock 100% (0-5 suppliers).

Physical form of the Feedstock is shavings.

### **Forest cover**

Forests cover about 75 % of Finland's land area corresponding to about 22,2 mill ha. For every Finn, there is around 4,2 ha's of forest.

In Finland, land area is classified according to its use. Forestry land is further divided into different types according to the productivity of the land: productive forest land, where the annual wood growth is over one cubic meter per ha, poorly productive forest land, where growth is between 0.1 and 1 cubic metres, and unproductive forest land, where the annual growth is below 0.1 cubic metres.

In terms of phytogeography, the vast majority of Finland is situated in the boreal coniferous zone. In the boreal coniferous zone, the soil is poor and acid and there are only few forest trees species. Almost half of the volume of the timber stock consists of pine (*Pinus sylvestris*). The other most common species are spruce (*Picea abies*) downy birch (*Betula pubescens*) and silver birch (*Betula pendula*). These species make for 97 % of total timber volume in Finland. The majority of Finnish forests are mixed, which means that they are made of more than one species. In all, Finland has about thirty indigenous tree species.

### **Ownership**

Private individuals and families own around 60 % of forests in Finland. There are some 632,000 individual family forest owners in Finland, if all those who own forest holdings jointly and forest holdings larger than two ha's are included. This means that nearly 14 % of Finns are forest owners. The forests owned by families and individuals pass from one generation to the next through inheritance; therefore, Finns generally use the term 'family forestry'. The state owns about 26 % of the Finnish forests, private industries, such as forest industry companies 9 % and other bodies 5 % of the productive forest land. The state forests are mainly situated in the north of Finland, and 45 % of them are under strict protection. State lands are managed by Metsähallitus. A couple of decades ago, the typical Finnish family forest owner was a male farmer living in the country and with little formal education. Today it is no longer possible to define a typical forest owner. The factor with the greatest impact on the structure of the forest owner group is the ageing of the population, which means that the largest group among forest owners consists of pensioners. The rapid urbanization of forest ownership is a subject of intensive speculation in Finland. Although the phenomenon is real, some 55 % of forest owners still live in sparsely populated areas and only one fourth of them live in cities with more than 20,000 inhabitants. Roughly 40 % of the forest owners still live on their holdings.

About one quarter of the persons responsible for taking care of the forest holdings is a woman. The share of women among forest owners increases slowly. The development can be totally explained by the fact that women live longer than men. Typically, Finnish forest holdings are small. The number of holdings above two ha's is about 347,000. The average size of these holdings is 30.1 ha's. Only 5 % of forest holdings have more than one hundred ha's of forest. The share of the largest, as well as the smallest forest holdings is increasing. A forest holding often has several owners, which is why the number of forest owners is twice that of forest holdings. 12 % of forest holdings are owned by the heirs to undistributed estates. Other types of collectives own 14 %. About half of the forest holdings have been acquired through inheritance. A private forest holding changes owners every 23 years, on an average. The share of privately-owned productive forestry land is larger than other owners', since the forests owned by the state and partly also by the industry are mainly situated on lands of low productivity in east and north Finland. Therefore, the share of felling on private lands is clearly higher than their share of forest area, 80 %.

### **Socio-Economic setting**

The forest sector is one of the important cornerstones of Finnish economy. Natural Resources Institute Finland estimates that in 2017 it employed directly almost 64,000 people. Of the revenue from Finland's commodities exports in 2017, 20 percent consisted of forest industry products.

Natural Resources Institute Finland further estimates that the value added of the forest sector was 4.4 percent of the total value added of the national economy in 2017. Of the value added of the forest sector, 45 percent was derived from forestry, 16 percent from wood products industry and 39 percent from pulp and paper industry.

In terms of regional economy, the significance of the forest sector is the greatest in South-east Finland, South Savo and Central Finland.

(Source: <https://forest.fi/article/forest-sector-in-finland/>)

### **Management practices**

Finnish Forest Act regulates felling of timber. Regional Forestry centres control the implementation of the forestry legislation at the regional level. Forestry centres accept forest use declarations. All forest owners (non industrial private owners, company and state forests) do have to send in a forest use declaration to the regional forest centre before felling can take place. In the forest use declaration forest owners shall inform about the stand characteristics, intended measures, regeneration in case of final felling and ecological concerns on the site. Regional environment centres control the implementation of Nature Conservation Act. Regional environment centres must inform the forest centres about areas where logging is prohibited. Forest development centre Tapio collects the delicts of forest legislation from regional forestry centres (the number and type of delicts) and forwards them for the Ministry of agriculture and forestry.

(Source: [http://www.unece.org/fileadmin/DAM/timber/docs/sem/2004-1/full\\_reports/Finland.pdf](http://www.unece.org/fileadmin/DAM/timber/docs/sem/2004-1/full_reports/Finland.pdf))

Natural values of Finnish forests have been conserved by the exclusion of large areas of forest from commercial use. In fact, compared with the total forest area, Finland is at the top of European countries as to the area of such conservation areas. During the 1990s the conservation principles were revised and augmented, and currently more and more attention is paid to the ecological management of commercial forests. The rationale is that the more considerately the commercial forests are treated, the smaller the area which will later have to be placed under strict protection.

Voluntary protection with the Metso Programme - The natural values of commercial forests in Finland are protected in several ways. As an example, the Forest Act defines a range of habitats of special importance. These are often small in size, the deterioration of their characteristics through forestry measures is prohibited by the Act. In practice this means that they must be excluded from forestry measures. The vicinity of springs and other small-scale waterways in forests, for example, are spared from felling. The recommendations for good forest management, drawn up by Tapio, direct an even stricter protection of natural values than that required by law. In 2014, continuation of the Forest Biodiversity Action Programme Metso until 2025 was adopted. Its aim is to improve the biodiversity in southwestern Lapland, in north-eastern Kainuu region and in

the areas south of them. The programme is based on voluntary conservation methods. Almost all Finnish forests are certified.

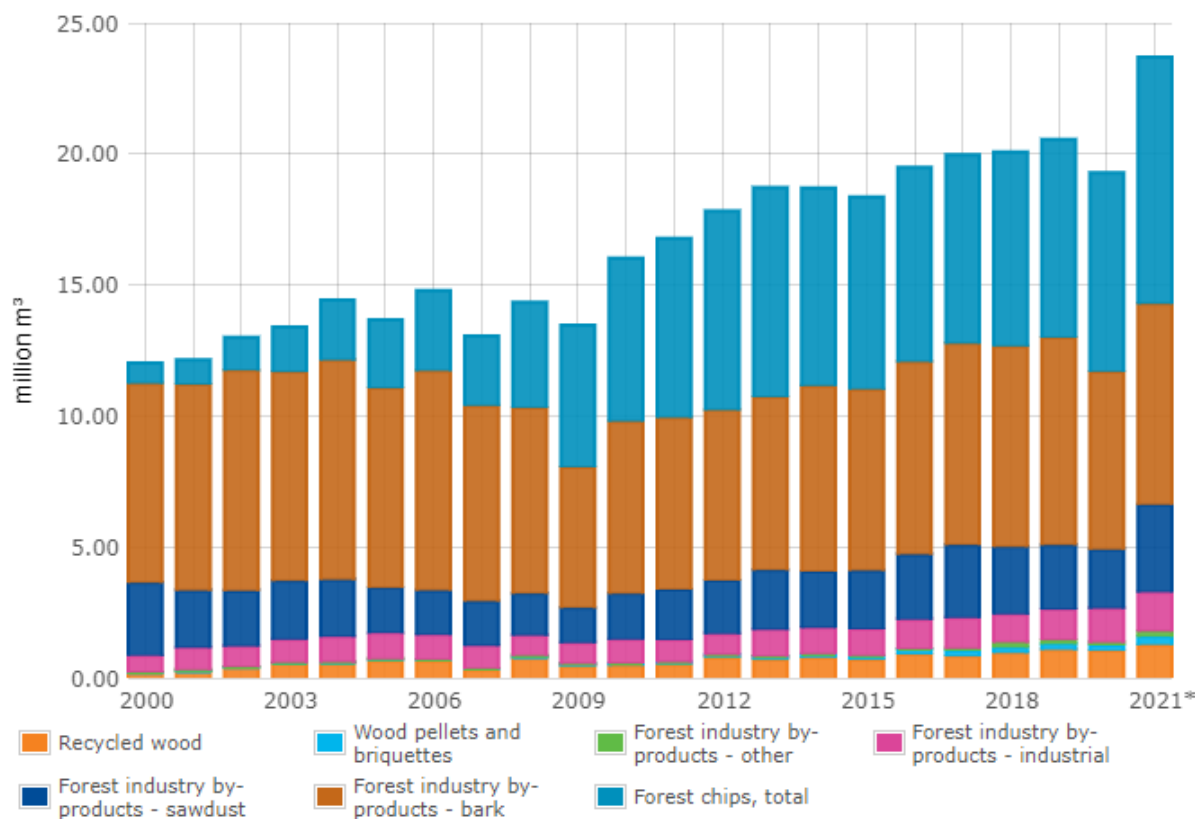
| SHARE OF                     | 1980 | 1990 | 2010 | 2015 |
|------------------------------|------|------|------|------|
| <b>EMPLOYMENT</b>            | %    | %    | %    | %    |
| Forest industry              | 5.2  | 3.7  | 1.9  | 1.6  |
| Forestry                     | 2.7  | 1.6  | 0.9  | 1.0  |
| <b>GNP</b>                   |      |      |      |      |
| Forest industry              | 6.8  | 4.5  | 2.6  | 2.4  |
| Forestry                     | 4.6  | 2.9  | 1.7  | 1.8  |
| <b>VALUE OF EXPORTS</b>      |      |      |      |      |
| Forest industry              | 42.4 | 37.6 | 20.3 | 21.5 |
| Forestry (roundwood exports) | 1.0  | 0.2  | 0.2  | 0.2  |
| <b>INDUSTRIAL PRODUCTION</b> |      |      |      |      |
| Forest industry              | 23.4 | 19.0 | 18.2 | 18.9 |

- In 2015, the Finnish forest sector employed a total of 65,000 persons, or about 2.7% of the total employment.
- Sources: Statistics Finland; Natural Resources Institute Finland. Updated 21.04.2017.

A group considered as an indigenous people in Finland is the Sámi. Their rights have been secured in many laws e.g. the Constitution, the Sámi Parliament Act, the Act on the Finnish Forest and Park Service and the Act on Reindeer Husbandry. The Sámi Parliament is the supreme political body of the Sámi in Finland. The Sámi Parliament represents the Sámi in national and international connections, and it attends to the issues concerning Sámi language, culture, and their position as an indigenous people. The Sámi Parliament can make initiatives, proposals and statements to the authorities. The Sámi Parliament Act also states that the authorities have an obligation to negotiate with the Sámi Parliament for all important measures that concern the Sámi people. These include for example the use of state land and conservation areas.

### Use of biomass in energy sector

In Finland bioenergy has a key role in the production of renewable energy. Bioenergy production is largely integrated into forestry and forest industry. In recent years energy derived from wood fuels has accounted for around one fourth of Finland's total energy consumption. Major share of wood fuels are derived from the by-products of the forest industry, including black liquor derived from the pulp-making process and bark, sawdust and other industrial wood residues. Also logging residues or other low value biomass from silvicultural and harvesting operations are used for energy generation. According to data of Statistics Finland, in 2020 the total consumption of wood fuels was 99 terawatt-hours (TWh). Wood fuels represented the most important energy source in Finland, covering 28 per cent of the total energy consumption. Solid wood fuels are an important source for heat and power generation in Finland. According to the preliminary data of the Natural Resources Institute Finland (Luke), heating and power plants consumed a total of 23.5 million solid cubic metres (45.7 terawatt hours) of solid wood fuels in 2021. The main industrial by-product was bark, accounting nearly for two thirds (7.7 million cubic meters) and the rest were sawdusts (3.3 million cubic meters) and industrial chips (1.5 million cubic meters). Amount of bark, sawdust and industrial chips is related to consumption of roundwood in the forest industry. Forest chips are also a remarkable source of energy in Finland. According to the preliminary data of the Natural Resources Institute Finland (Luke), in 2021 consumption of forest chips in heat and power plants totalled 9.4 million cubic metres. The consumption of forest chips in the combined production of heat and power was 5.8 million cubic metres and in heat production 3.6 million cubic metres. Combined with forest chips burnt in small-scale housing (0.6 million cubic metres), the total consumption of forest chips reached 10 million cubic metres.



Source: OSF: Natural Resources Institute Finland, Wood in energy generation.

(Source: <https://mmm.fi/en/en/forests/use-of-wood/wood-based-energy> )

### Certification

In Finland are operating both FSC® and PEFC certification systems.

1 917 429 ha are FSC® certified (Q2 June 2020).

(Source: <https://fscint.maps.arcgis.com/apps/webappviewer/index.html?id=06188ad39e5344db96a4a181e135c393&mobileBreakPoint=300>)

18 271 894 ha are PEFC certified (PEFC Global Statistics, March 2020).

(Source: <https://cdn.pefc.org/pefc.org/media/2020-05/1a524ab5-1ba2-4185-8f8a-9cb16e29150e/22b08b97-31c05a60-8ac2-a3d2fb0e9868.pdf>)

### Conservation CITES or IUCN species

Finland joined CITES in 1976. Nowadays the national legislation for the implementation of CITES and relating EU regulations is the Nature Conservation Act (1096/1996), which came into force in the 1st of January 1997. IUCN National Committee of Finland was approved by IUCN Council in 1999.

There are no species from CITES lists fauna in Finland that SIA “Scandbio Latvia” receives from Finland. Status of IUCN defined in table.

| Species                              | CITES status*   | IUCN classification** |
|--------------------------------------|-----------------|-----------------------|
| 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>

**Country:** Sweden

**Area/Region:** Sweden all Regions

**Sub-Scope:** N/A

**Exclusions:** No

SIA "Scandbio Latvia" consider all of Sweden as its supply base.

SIA "Scandbio Latvia" sources:

- ü Scots pine - *Pinus sylvestris*
- ü Norway spruce - *Picea abies*.

SIA "Scandbio Latvia" have 0-5 suppliers who indirectly sources from Sweden.

Proportions of SBP feedstock product groups is as follows:

SBP-compliant Secondary Feedstock 9,3% (0-5 suppliers);

SBP-compliant Tertiary Feedstock 90,7 % (0-5 suppliers).

Physical form of the Feedstock is sawdusts and shavings.

### 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 "Riksskogstakseringen" from 2018 the total area of Sweden is 40.7 mill ha's (100%). Of these 28.1 mill ha's (69 %) are forest area and 23.5 mill ha's (58 %) 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.

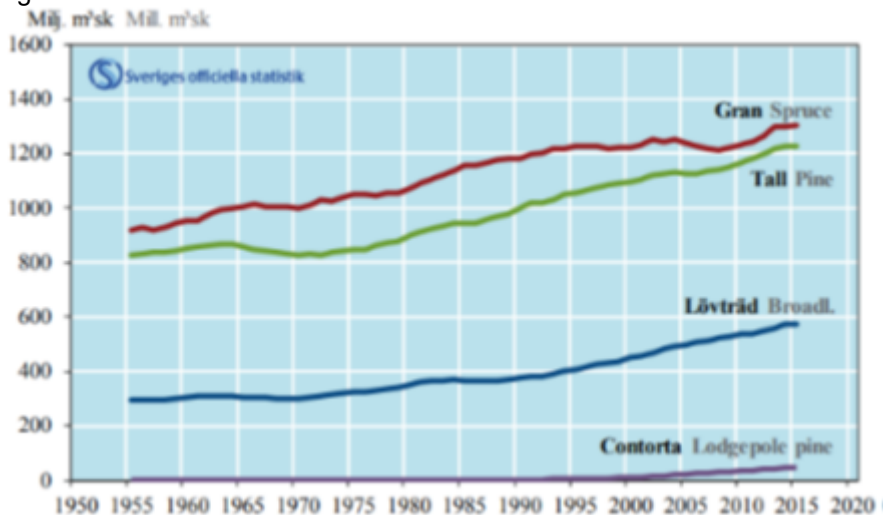




Figure 1. Standing volume by species. 1956-2015. Productive forest land. Excluding national parks, nature reserves and nature protection areas that are protected from forestry as of 2017.  
 (Source: [https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata\\_2018\\_webb.pdf](https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata_2018_webb.pdf))



Figure 2. Total standing volume. 1926-2015. All land use classes excluding high mountains and urban land.  
 (Source: [https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata\\_2018\\_webb.pdf](https://www.slu.se/globalassets/ew/org/centrb/rt/dokument/skogsdata/skogsdata_2018_webb.pdf))

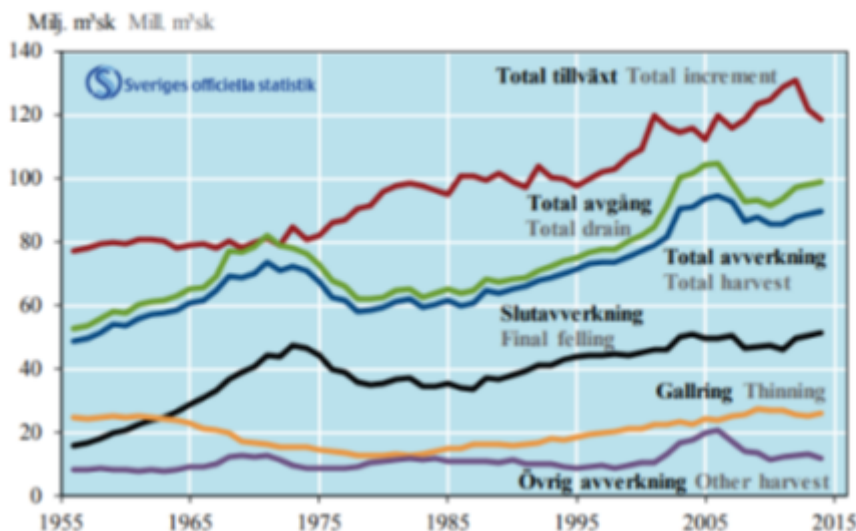


Figure 3. Annual average volume increase, total harvest and distribution by types of fellings. 1956-2014

### 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.

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 50 production 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.

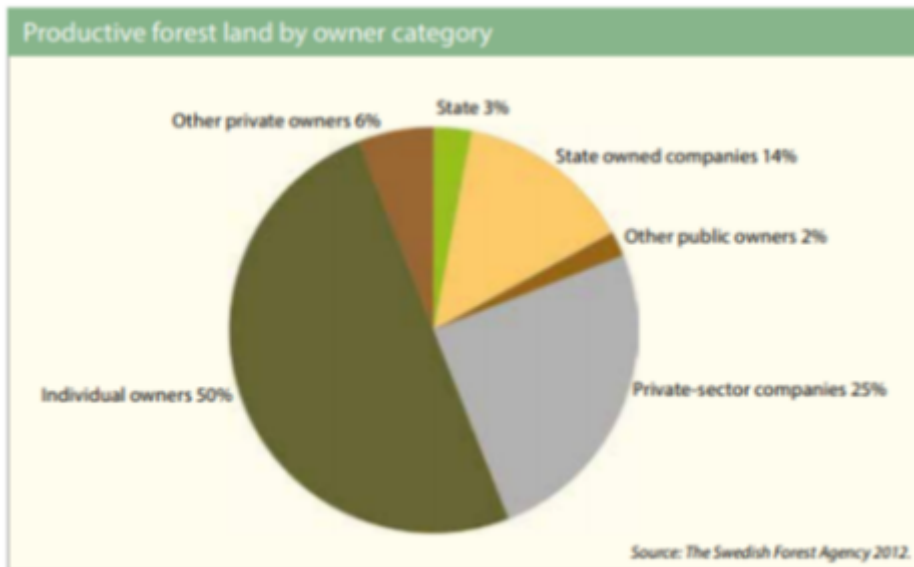


Figure 4. Productive forest land by owner category  
(Source: [https://www.skogsstyrelsen.se/globalassets/in-english/forests-and-forestry-in-sweden\\_2015.pdf](https://www.skogsstyrelsen.se/globalassets/in-english/forests-and-forestry-in-sweden_2015.pdf))

### 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
- 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.

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 10.2 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.

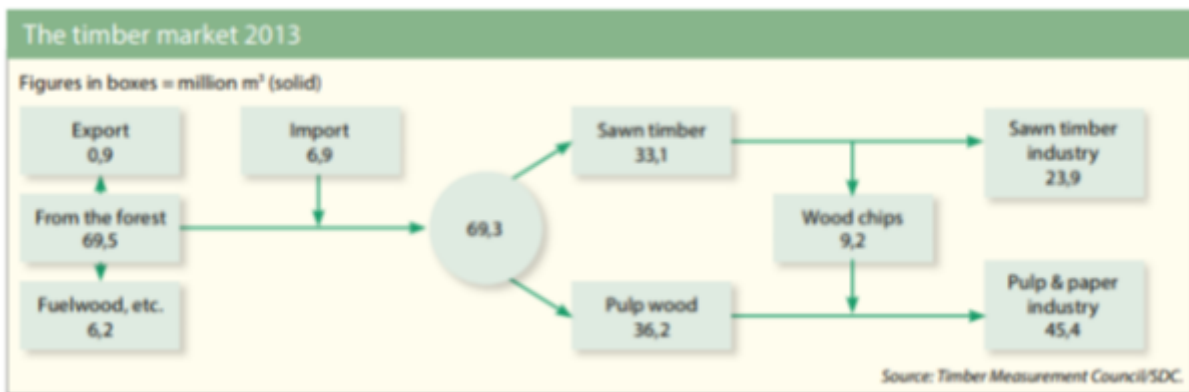


Figure 5. Timber supply chain

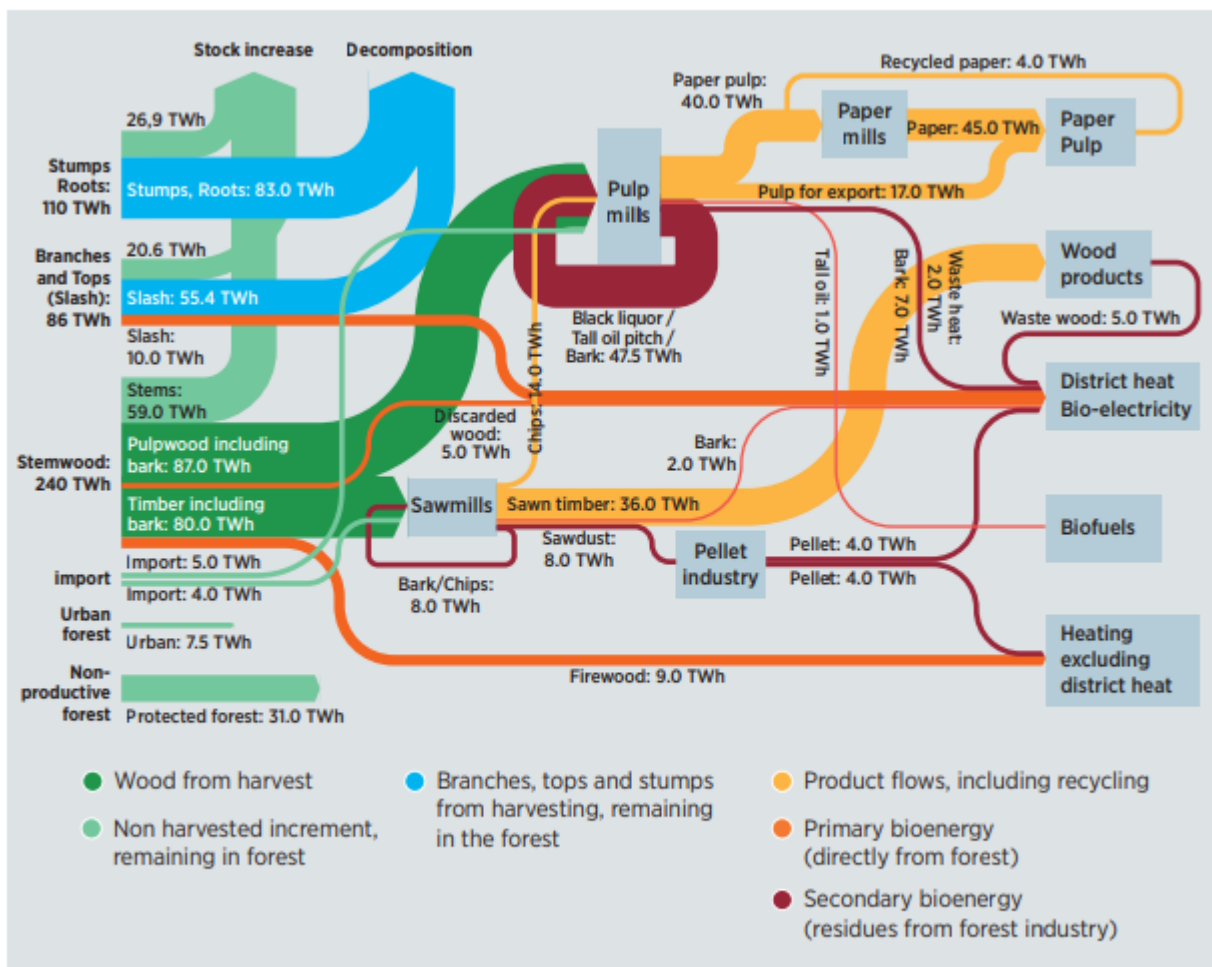
The Swedish forest products industry provides direct employment for almost 60,000 people. Together with subcontractors and the forest operations, including transportation the sector source about 200,000 jobs. In several counties, the forest products industry accounts for 20 % or more of industrial employment.

### Use of biomass in energy sector

The current use of biomass from Swedish forests in 2015 is shown in Figure 2.3, which indicates flows of wood, wood products and bioenergy uses in energy terms. Only around 70% of the wood growth each year is cut down. And of the wood cut, nearly half – consisting of forest residues such as branches, tops and stumps – is left to decompose in the forest (blue arrows). Only a small portion of such residues is currently used for energy (orange “slash” arrow). The lower, wider part of the tree stems (trunks) is used as saw wood and delivered to sawmills (lower dark green arrow). The upper parts of the stems, up to a diameter of 10 or 15 cm, are used as pulpwood and delivered to pulp mills (upper dark green arrow). Roughly half of the stemwood ends up as residue from lumber production. Such processing residue is then used for

energy, either directly at sawmills or upon delivery to pulp mills and heat and power plants. Figure 2.3 shows the production of wood in the forests (yearly growth) and flow of wood and wood products, as well as bioenergy, all expressed in energy terms. The numbers are from 2015, when numbers are available, and otherwise are based on average numbers obtained through different sources. The total annual growth in productive managed forest is around 436 TWh. Of this growth, about 329 TWh or 75% is felled, while 25% is left intact, adding to forest stock. From the fellings, 191 TWh of wood is supplied to the Swedish economy. This is mostly composed of pulpwood (87 TWh) and saw logs (80 TWh), shown by dark green arrows. Some 24 TWh of other wood is also supplied as primary forest fuels (including 10 TWh of slash from tree tops and branches, 5 TWh of discarded wood, and 9 TWh of firewood), shown by orange arrows. The rest of the fellings, with an energy content of 138 TWh, are left in the forest after harvest. They will eventually decompose and release CO<sub>2</sub> into the atmosphere. This includes 83 TWh of stumps and 55 TWh of slash, shown in blue. A larger share of the fellings could be collected, improving carbon balances, as explained in later chapters. Out of the total fellings of stemwood, with an energy value of 181 TWh, just under half (90 TWh) is used as energy. Energy use in the forest industry amounts to 56 TWh (including 48 TWh in pulp mills and 8 TWh in sawmills, shown in red loops). Energy use in the rest of the economy amounts to 34 TWh including 20 TWh for district heating, 13 TWh for other heating and 1 TWh tall oil for biodiesel fuel, shown in red and orange arrows. (Apart from stemwood, some 10 TWh of slash is also used for district heating.)

**Figure 2.3** Biomass and energy flows from Swedish forest



Source: Svebio analysis of data from Statistics Sweden (SCB), Swedish Energy Agency (SEA), Swedish Forest Industries (Skogsindustrierna), Swedish Forest Inventory, SLU, Swedish Pellets Council (Pelletsförbundet) and others (2018)

(Source: [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Mar/IRENA\\_Swedish\\_forest\\_bioenergy\\_2019.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Mar/IRENA_Swedish_forest_bioenergy_2019.pdf))

## Certification

In Sweden are operating both FSC® and PEFC certification systems.

12 987 616 ha are FSC® certified (Q2 June 2020).

(Source:<https://fscint.maps.arcgis.com/apps/webappviewer/index.html?id=06188ad39e5344db96a4a181e135c393&mobileBreakPoint=300>)

15 847 125 ha are PEFC certified (PEFC Global Statistics, March 2020).

(Source:<https://cdn.pefc.org/pefc.org/media/2020-05/1a524ab5-1ba2-4185-8f8a-9cb16e29150e/22b08b97-31c05a60-8ac2-a3d2fb0e9868.pdf>)

## Conservation CITES or IUCN species

There are no species from CITES lists fauna in Sweden that SIA “Scandbio Latvia” receives from Sweden. Status of IUCN defined in table.

| Species                              | CITES status*   | IUCN classification** |
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| 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>

**Country:** Norway

**Area/Region:** Norway all Regions

**Sub-Scope:** N/A

**Exclusions:** No

SIA “Scandbio Latvia” consider all of Norway as its supply base.

SIA “Scandbio Latvia” sources:

- ü Scots pine - *Pinus sylvestris*
- ü Norway spruce - *Picea abies*.

SIA “Scandbio Latvia” have 0-5 suppliers who indirectly sources from Norway.

Proportions of SBP feedstock product groups is as follows:

SBP-compliant Secondary Feedstock 100% (0-5 suppliers).

Physical form of the Feedstock is sawdusts.

## Forest cover

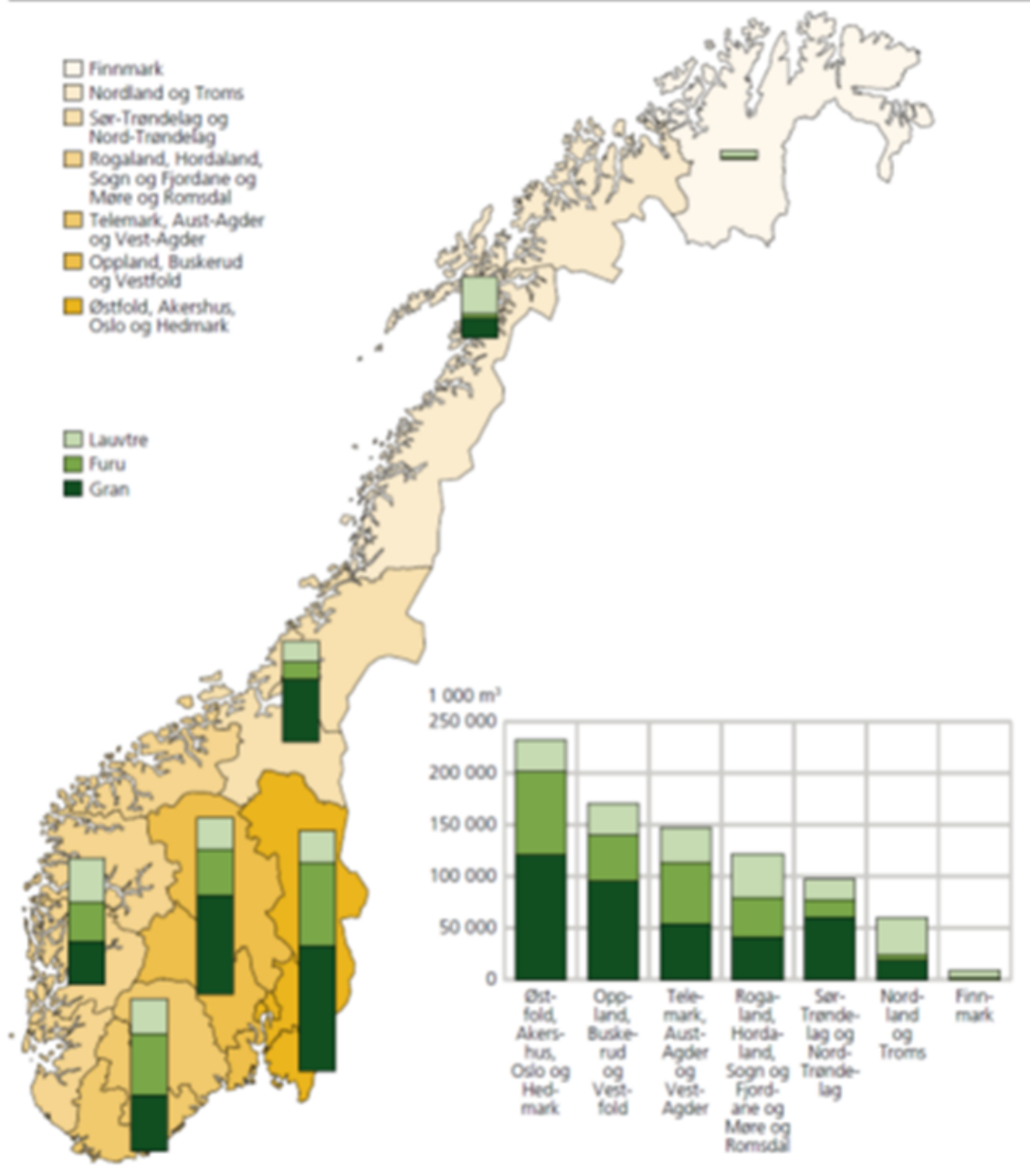
Forests cover about 38 percent of Norway's land area, or about 122.000 square kilometers. Of this, around 86.600 square kilometers are productive forests - that is, they produce enough timber to be important for forestry. In total, Norway today has almost 11 billion trees of 5 cm or more in diameter.

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>



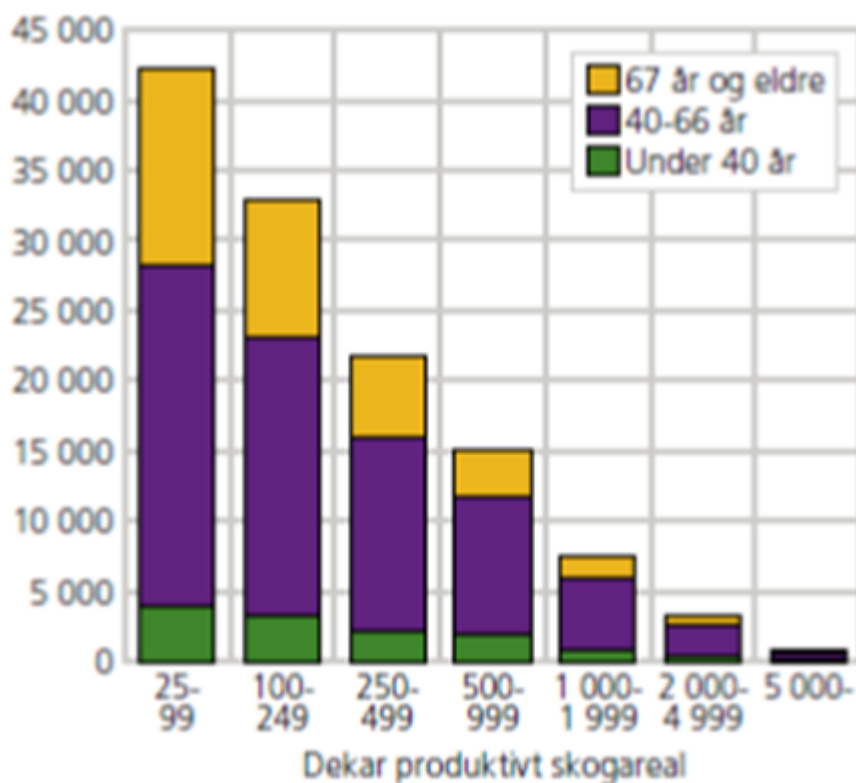
Kjelde: Norsk institutt for bioøkonomi, Landskogtakseringa.

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).



Kjelde: Strukturstatistikk for skogbruket, Statistisk sentralbyrå.

Figure 7: Ownership by size of forests in Norway (Ebook Rognstad et al (2015))

From ancient times much of the forests in Norway has been jointly owned by groups of farmers. Many communally owned forests are run nowadays for commercial purposes but members are entitled to a discount on timber. The majority of the joint ownerships were divided up between individual owners from the 18th century onwards. Norwegian Allodial Law (Odelsoven) the right of the first child or another relative to inherit the family's land and forest undivided helps to maintain the steady number of landholdings. However, in more than a half of private forest estates harvesting has not been carried out for over 20 years; statistically the only 6 percent of owners' income acquires from forestry.

Forest owners are obliged to ensure that all activities taking place in forests are in compliance with regulations and statutes. They must also take into account environmental values and pay proper attention to these when carrying out any activities within the forest. However, when felling trees land owners are required to promote the regrowth of new forest – either by planting, or by leaving seed trees to provide natural regeneration.

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

### Management

Forestry is administrated by The Royal Ministry of Agriculture. The Ministry may decide that forest – or certain types of forest – shall be considered as protection forest.

The state forest service Stateskog manages National Forest Estate. Production and marketing of timber in the state forests are regulated, managed and controlled with the same rules as in private estates. Along wildlife protection and timber production Statskog also manages recreation and hunting on the state forests.

Planting of commercial forest begins in 1935 and reached maximum of approximately 37 K ha in 1964. 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.

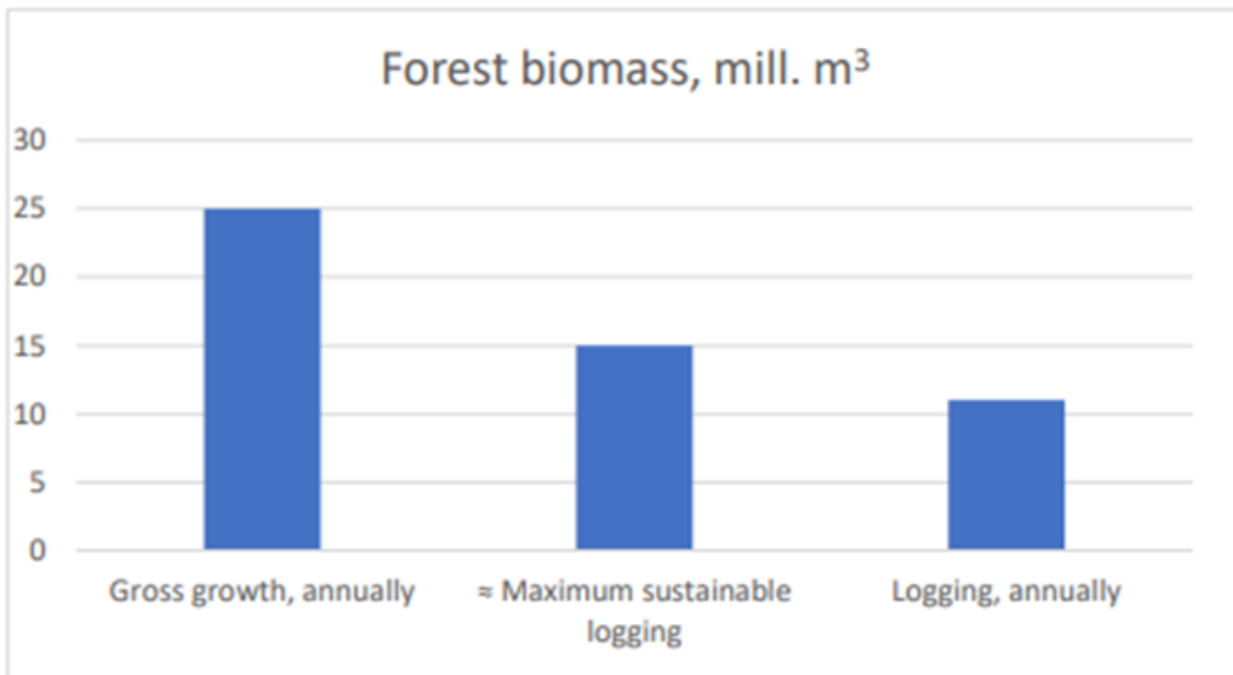
Wood and forest products cover about 11 percent of the Norwegian mainland product export. Despite the crisis in the industry 2005 – 2014, paper products have the highest export values of all the forest-based products This is slightly less than the export from the Norwegian fishing industry, somewhat 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/>)

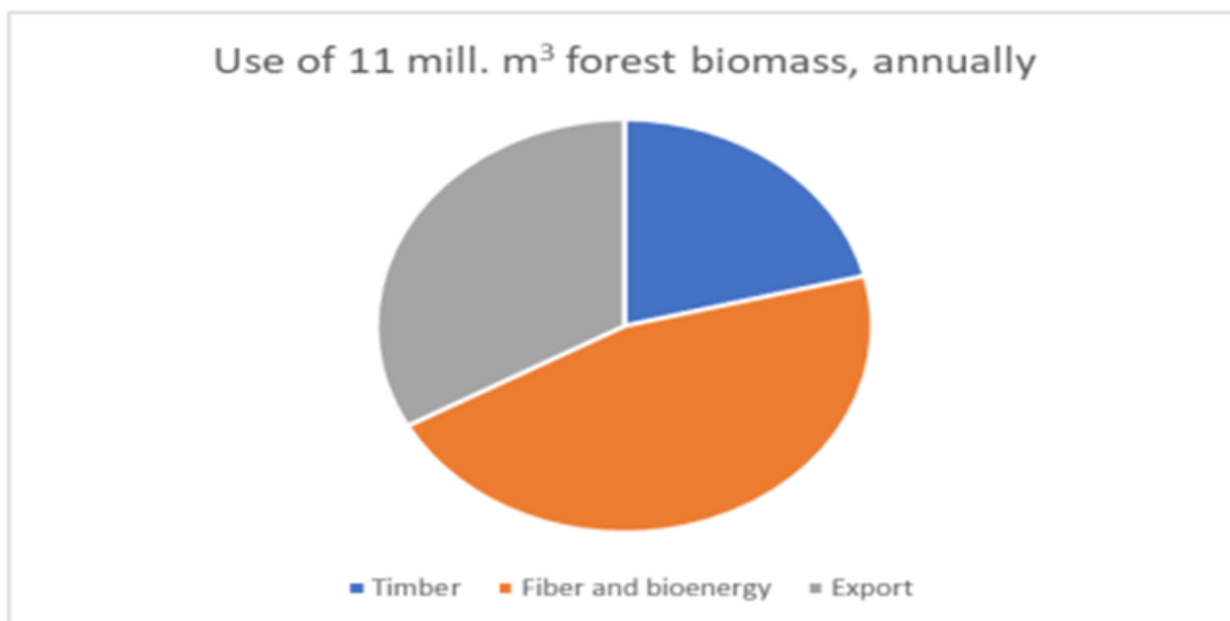
### **Use of biomass in energy sector**

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).



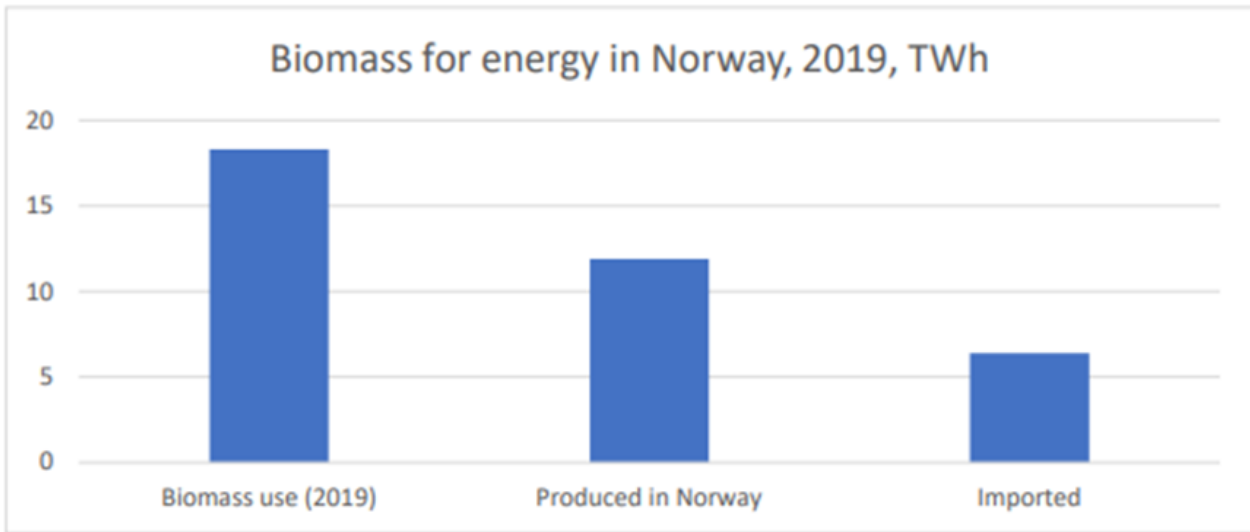


**Figure 2.** Forest biomass and annual logging in Norway, million m<sup>3</sup>.  
Source: Treindustrien (2016).

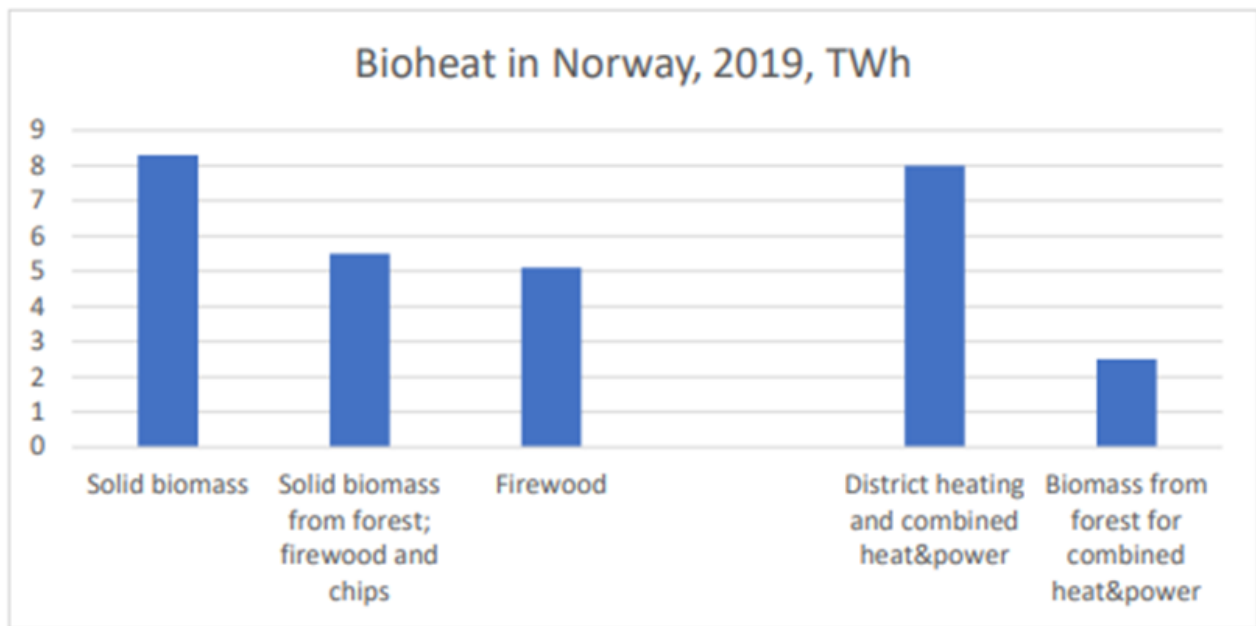


**Figure 3.** Use of forest biomass in Norway, million m<sup>3</sup> annually.  
Source: Prosess21 (2020).

In 2019, 18.3 TWh bioenergy was used in Norway, of which 11.9 TWh was produced in Norway and 6.4 TWh imported, confer Figure 4 (Nibio 2021). Two thirds of 8.3 TWh solid biomass came from tree-based biomass, whereas firewood amounted to 5.1 TWh of this, representing 1.8 mill. m<sup>3</sup> tree biomass, confer left-hand side of Figure 5. Forest-based bioenergy is supplying about 20% of heating in buildings and industry, representing 72 TWh energy (Treindustrien 2016). In 2016 28% of the bioenergy was used by industry and almost 70% by private households (SSB 2017). 8 TWh was used by district heating and combined heat & power plants, of which 2.5 TWh came from bark, wood chips and trees, representing 1.3 mill. m<sup>3</sup> tree biomass, see right-hand side of Figure 5 (Nibio 2021).



**Figure 4.** Biomass used for energy in Norway, 2019, TWh.  
Source: Nibio (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.

643 465 ha are FSC® certified (Q2 June 2020).

(Source: <https://fscint.maps.arcgis.com/apps/webappviewer/index.html?id=06188ad39e5344db96a4a181e135c393&mobileBreakPoint=300>)

7 380 750 ha are PEFC certified (PEFC Global Statistics, March 2020).

(Source: <https://cdn.pefc.org/pefc.org/media/2020-05/1a524ab5-1ba2-4185-8f8a-9cb16e29150e/22b08b97-31c05a60-8ac2-a3d2fb0e9868.pdf>)

### Conservation CITES or IUCN species

There are no species from CITES lists fauna in Norway that SIA "Scandbio Latvia" receives from Norway. Status of IUCN defined in table.

| Species                              | CITES status*   | IUCN classification** |
|--------------------------------------|-----------------|-----------------------|
| 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

The company concludes long-term procurement contracts with enterprises that have attested their participation in wood chain of custody certification. The objective of the chain of custody system is to provide information on the origin of forest raw materials down from the point of delivery. During SBP certification, the company has increased the procurement of FSC®-certified and PEFC-certified raw materials. Thus, all involved companies from the forest management and logging enterprises to woodworking sphere are interested that sustainable forestry methods are attested.

Scandbio Latvia requests its suppliers to provide information about wood origin and legal procurement documents. As a priority, receiving raw material from suppliers, companies that purchase roundwood or sawn timber for processing from Lithuania, Finland, Norway and Sweden, requires wood residues to be FSC®-certified or PEFC-certified.

Woodworking residues are procured from woodworking enterprises that mainly produce sawn materials and other products. Motivation for getting certified for those enterprises is the fact that support to sustainable forest management by certified chain of custody increases sales opportunities for both main and side products

## 2.4 Quantification of the Supply Base

### Supply Base

- Total Supply Base area (million ha):** 68.10
- Tenure by type (million ha):** 46.50 (Privately owned), 17.00 (Public), 4.60 (Community concession)
- Forest by type (million ha):** 62.50 (Boreal), 5.60 (Temperate)
- Forest by management type (million ha):** 11.50 (Plantation), 49.30 (Managed natural), 7.30 (Natural)
- Certified forest by scheme (million ha):** 17.70 (FSC®), 43.10 (PEFC)

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

**Explanation:** Since 90% of raw material supply is coming from Latvia, the description of Latvian forest sector would be most relevant when describing our material sourcing. The main harvesting method is general felling which amounts to 45% (2018th), this felling is also called restoration felling, because after its completion the forest must be restored. The second is care felling which reach 30% (2018th). The purpose of care felling during the forest growing cycle is to create the composition of the forest stand trees and to improve the growing conditions of the remaining forest stand trees. (Source: Nation Wood Service "Forest

Sector in Figures and Facts 2020"). Timber is harvested by private companies. Several thousand companies declared forest operations as one of their business activities; however, most of the felling operations are carried out by less than 50 companies. There is no accurate statistics about harvesting methods, but it is estimated that about 70% of wood is cut by using the fully mechanized CTL method; 30% (mostly for thinning and low valued deciduous stands) is cut by chainsaws. The distribution and number of forest machines (estimated) is: 312 harvesters, 1024 forwarders (some of them are agriculture tractors with trailers, which cannot be distinguished in the statistics), and 281 skidders. (Source: <http://www.crojfe.com/site/assets/files/4083/moskalik.pdf>)

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

**Explanation:** Scandbio Latvia uses only secondary and tertiary feedstock for production. In Latvia the timber industry is made up of 16 high value - added sectors, which account for 4.9% of GDP. The sector covers activities in forestry and logging, timber, in the wood and cork products and furniture sectors. According to the Central Statistical Bureau, in the wood industry sector in 2016 a total of 7645 economic operators existed, of which in forestry and logging - 4819 enterprises (detailed data by type of activity are not available). In 2016, 2826 companies performed economic activities in the wood processing sector. The largest number of companies is observed in sawing, planing and impregnation in the direction in which the economic activity was carried out by 885 enterprises, while carpentry and joinery production of products performs - 572, the third largest performer is manufacture of unspecified furniture - 491 companies. Meanwhile, Manufacture of other products of wood; cork, manufacture of articles of straw and plaiting materials (under which is energy products from biomass) - 373 companies. Meanwhile, Parquet is the least represented panel production with 5 economic operators. (Source: [http://arodbiedribas.lv/wpcontent/uploads/2019/11/Kokrupnieciba\\_NozaresZinojums\\_2018.pdf](http://arodbiedribas.lv/wpcontent/uploads/2019/11/Kokrupnieciba_NozaresZinojums_2018.pdf))

**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:** As main felling is the most popular in Supply Base after which completion the forest must be restored within a 5 years of felling, it is clear that it is a major way of forest regeneration. Forest must be restored within a 5 years of felling in accordance with the Cabinet of Ministers of the Republic of Latvia Regulation No. 308 of 2 May 2012 "Forest Regulations for Forest Restoration, Reforestation and Plantations" 4.1. point. These regulations have been issued on the basis of Article 25 of the Forest Law of the Republic of Latvia.

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

**Explanation:** N/A

**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 Apr 2023

**Reporting period to:** 31 Mar 2024

- a. **Total volume of Feedstock:** 400,000-600,000 m<sup>3</sup>
- 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: 400,000-600,000 m3**
- Physical form of the feedstock: Chips, Sawdust
- n. Volume of tertiary feedstock: 1-200,000 m3**
- 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  | 71.27  | 28.73  | 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:**

### 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

| <b>Approval of Supply Base Report by senior management</b>  |                       |                        |                    |
|---|-----------------------|------------------------|--------------------|
| <b>Report Prepared by:</b>  | <b>Ilze Ļutjanska</b> | <b>Quality Manager</b> | <b>16 May 2024</b> |
|   | <b>Name</b>           | <b>Title</b>           | <b>Date</b>        |
|   |                       |                        |                    |
| <b>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.</b> |                       |                        |                    |
| <b>Report approved by:</b>  | <b>Māris Ziediņš</b>  | <b>Board Member</b>    | <b>21 May 2024</b> |
|   | <b>Name</b>           | <b>Title</b>           | <b>Date</b>        |

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

N/A

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

N/A

## 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



## Section 3. RED II detailed findings for TOF feedstock

NOTE: For “Trees outside forests (TOF) – Urban and landscape feedstock<sup>1</sup>” no REDII sustainability requirements apply, only the GHG savings criteria apply (SBP REDII Bridging ID Section 4.2). The land use category in this case is neither forest land nor agricultural land. For “Trees outside forests (TOF) – Agricultural land feedstock” the applicable criteria are Article 29 paragraphs (2)-(5).