

NEPCon Evaluation of Gustaf Kähr AB Compliance with the SBP Framework: Public Summary Report

Main (Initial) Audit

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Completed in accordance with the CB Public Summary Report Template Version 1.4

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

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1 Overview

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Current report completion date:	24/Jan/2020
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Certified Supply Base:	Pre-consumer tertiary feedstock with origin from: Australia, Austria, Bosnia-Herzegovina, Bulgaria, Brazil, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Indonesia, Moldova, Norway, Poland, Romania, Russia, Serbia, Sweden, Ukraine, United States of America.
SBP Certificate Code:	SBP-07-47
Date of certificate issue:	30/Jan/2020
Date of certificate expiry:	29/Jan/2025

This report relates to the Main (Initial) Audit

2 Scope of the evaluation and SBP certificate

Scope description: Production of wood pellets at AB Gustaf Kähr's wood pellet plant in Nybro, Sweden and transportation of pellets to the port of Kalmar. The scope of the certificate does not include a Supply Base Evaluation. The BP has opted not to include DBSD during this evaluation.

3 Specific objective

The specific objective of this evaluation was to confirm that the Biomass Producer's management system is capable of ensuring that all requirements of specified SBP Standards are implemented across the entire scope of certification.

The scope of the evaluation covered:

- Review of the BP's management procedures;
- Review of the production processes, production site visit;
- Review of PEFC system control points, analysis of the existing PEFC CoC system;
- Interviews with responsible staff;
- Review of the records, calculations and conversion coefficients;
- GHG data collection analysis.

4 SBP Standards utilised

4.1 SBP Standards utilised

Please select all SBP Standards used during this evaluation. All Standards can be accessed and downloaded from <https://sbp-cert.org/documents/standards-documents/standards>

- SBP Framework Standard 1: Feedstock Compliance Standard (Version 1.0, 26 March 2015)
- SBP Framework Standard 2: Verification of SBP-compliant Feedstock (Version 1.0, 26 March 2015)
- SBP Framework Standard 4: Chain of Custody (Version 1.0, 26 March 2015)
- SBP Framework Standard 5: Collection and Communication of Data (Version 1.0, 26 March 2015)

4.2 SBP-endorsed Regional Risk Assessment

Not applicable – Supply Base Evaluation is not part of the certification scope.

5 Description of Company, Supply Base and Forest Management

5.1 Description of Company

AB Gustaf Kähr (Gustaf Kähr) is a global parquet and wood floor producer located in southern Sweden. Gustaf Kähr have production in several locations and sales their floors in more than 70 countries. For the scope of the SBP certification, the only the Nybro site is included.

For the production of parquet and wood flooring, Gustaf Kähr use stem-wood of oak and other hardwood species for the top layer and stem-wood of softwood species for the middle layer and backside. Gustaf Kähr implements its SBP system on dry sawdust originating from its secondary production of parquet and wood flooring in Nybro in southern Sweden. The sawdust is transported on a conveyor belt to the pellet plant where the material is transformed into wood pellets. The wood pellets are sold as either SBP-compliant, SBP-controlled biomass or with a certification claim (other biomass). Under a transition period when Gustaf Kähr still have non-certified and non-controlled material in its procession, Gustaf Kähr will implement a separation system in time. Pellets produced under this separation system will be sold without any SBP claim.

Gustaf Kähr have a total of about 480 suppliers, whereof approximately 60 are either FSC or PEFC certified. About 40 % of the volume is FSC/PEFC certified and about 60 % is FSC Controlled Wood or PEFC Controlled Sources.

The BP's supply base includes, can potentially contain wood from, the following countries: Australia, Austria, Bosnia-Herzegovina, Bulgaria, Brazil, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Indonesia, Moldova, Norway, Poland, Romania, Russia, Serbia, Sweden, Ukraine, United States of America.

The BP has implemented a volume credit system and at the same time a physical separation system (time) for non-certified material that is not included in the BP's own PEFC Due Diligence System (DDS) for Controlled Sources. The BP holds both a valid PEFC (2013-SKM-PEFC-67) and FSC (DNV-COC/CW-000027) certificate, but the PEFC system is the underlying CoC system for the SBP implementations.

The BP started up the production of wood pellets during the first quarter of 2019. After production, the pellets are transported by truck to the storage facility located in the nearby harbour in the port of Kalmar, where the material can be stored until a vessel will be loaded. Pellets can alternatively be sold Ex Works at the factory gate in Nybro.

The SBP-compliant biomass is expected to be sold at Kalmar harbour under the FOB incoterms alternatively be sold Ex Works at the factory gate in Nybro.

5.2 Description of Company’s Supply Base

The BP sources feedstock from its supply base either through purchase of sawn wood or saw logs that are sawn in the BPs’ own sawmills. All included feedstock are processed to floors in the Nybro flooring industry where the feedstock becomes pre-consumed tertiary feedstock that are transported on convey belt to the pellet plant.

The countries of origin for AB Gustaf Kähr (in this section called ABGK) pellet factory’s Supply Base are: Australia, Austria, Bosnia-Herzegovina, Bulgaria, Brazil, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Indonesia, Latvia, Lithuania, Moldova, Norway, Poland, Romania, Russia, Serbia, Sweden, Ukraine, United States of America.

The following species are used as feedstock:

Alder, <i>Alnus glutinosa</i>	European Maple, <i>Acer platanoides</i>	Oak, <i>quercus robur</i>
Ash, <i>Fraxinus excelsior</i>	Hard Maple, <i>Acer saccharum</i>	Pine, <i>Pinus sylvestris</i>
Beech, <i>Fagus sylvatica</i>	Jarrah, <i>Eucalyptus marginata</i>	Spruce, <i>Picea abies</i>
Birch, <i>Betula pendula</i>	Jatoba, <i>Hymenaea courbaril</i>	Walnut, <i>Juglans nigra</i>
Birch, <i>Betula pubescens</i>	Merbau, <i>Intsia bijuga</i>	
Black Cherry, <i>Prunus serotina</i>	Oak, <i>quercus petrea</i>	

Supply base Australia

ABGK considers Western Australia as its supply base. ABGK sources Jarrah (*Eucalyptus marginata*) from Western Australia and material is certified under the AFS (Australian Forestry Standard). ABGK have 1-5 suppliers in Australia and 80-100 % of the material is PEFC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK has one supplier from Australia, the wood is sourced from Southwester Australia certified to the AFS.

Forest cover

- Australia has 125 mill ha’s of forest, equivalent to 16% of Australia's land area or about 3% of the world's forest area (the seventh largest reported forest area of any country).
- Australia's forests comprise 123 mill ha’s of native forests (98% of the total forest area), 2.02 mill ha’s of industrial plantation forests, and 0.15 mill ha’s of other forests.
- Australia's native forests are dominated by eucalypt forests (92 mill ha’s; 75% of the native forest area) and acacia forests (9.8 mill ha’s; 8%); the area of rainforest is 3.6 mill ha’s (3%).
- About two-thirds of Australia's native forest (81.7 mill ha’s; 66.6%) is woodland forest with 20–50% crown cover.
- Australia's industrial plantation forests consist of similar areas of softwood species (1.03 mill ha’s, mostly pines) and hardwood species (0.98 mill ha’s, mostly eucalypts).

Ownership

Ownership	(mill. ha)
Public	34.3
Private	86.7
Community owned	3.7
	124.7

Management practices

Eucalyptus marginata

The Eucalypt forest type is found in all states and territories and across all but the continent's driest regions. A total of 35 mill ha's (38 %) of the Eucalypt forest type is in Queensland and 16 mill ha's (18 %) are in New South Wales. Thirty-three mill ha's (36 %) are on leasehold land and 26 mill ha's (27 %) are on private land. Seventeen mill ha's (18 %) are on nature conservation reserves. Eucalypt forest in south-western Australia are dominated by jarrah (*E. marginata*) and karri (*E. diversicolor*). Typical eucalypts of northern Australia include Darwin woollybutt (*E. miniata*) and Darwin stringybark (*E. tetradonta*).

The Eucalypt forest type is divided into 11 forest classes based on the form of individual trees, crown cover and tree height. Eucalypts grow in two forms: single-stemmed trees and multi-stemmed mallee.

Eucalypt native forest comprises 80 mill ha's of non-mallee trees and 12 mill ha's of multi-stemmed mallee. Sixty-six % (53 mill ha's) of non-mallee Eucalypt forest is woodland forest and 85 % (68 mill ha's) is medium-height forest.

General Management

Australia's forests are classified nationally into three categories—native forest, commercial plantations and other forest. Australia's native forest category is dominated by the forest types eucalypt (75 % of the total native forest area), acacia (8 %) and melaleuca (5 %), and a small area is rainforest (3 %). Australia's commercial plantation comprises exotic softwood species (predominantly radiata pine) and mostly native hardwood species (predominantly eucalypts). The other forest category comprises a small area of mostly non-commercial plantations and forests of various types.

Native production forests

The main source of Australia's native production forest wood is multiple-use public forest in New South Wales, Queensland, Tasmania, Victoria and Western Australia. Currently, much of the native forest on leasehold and private land contributes minimally to wood supply. Under relevant state and territory legislation, substantial areas of multiple-use public forest are reserved or excluded from wood production. When additional operational restrictions to maintain and manage non-wood values are taken into account, the net area available for harvesting of Australia's multiple-use public native forests is 5.5 mill ha's (14 % of public native forests) as reported in Australia's State of the Forests Report 2013. Wood is harvested from a small portion of the net harvestable area—1.4 % nationally each year.

Commercial plantations

Commercial plantations are intensively managed stands of native (mainly hardwood) or exotic (mainly softwood) tree species. The primary purpose of commercial plantation forestry is wood production. Australia's total commercial plantation area was 1,955,100 ha's in 2016–17, a decrease of 19,700 ha's (1 %) from 1,974,800 ha's in 2015–16. The total area of new plantations established in 2016–17 was 200 ha's, comprising softwood species mainly planted in Victoria and hardwood species mainly planted in Western Australia.

In 2016–17 the total area of softwood plantations was 1,036,900 ha's, an increase of 100 ha's from 2015–16, and the total area of hardwood plantations was 908,500 ha's, a decrease of 19,800 ha's since 2015–16. Softwood plantations accounted for 53 % of total commercial plantation area, hardwood plantations constituted 46 % and mixed plantations and unknown species made up the remaining 1 %.

In 2016–17 Victoria continued to have the largest total area of commercial plantations of Australia's states and territories (421,700 ha's), followed by New South Wales (394,400 ha's) and Western Australia (367,900 ha's). Western Australia accounted for the largest proportion of Australia's hardwood plantations (29 %) and New South Wales had the largest share of softwood plantations (30 %).

In 2016–17 the ownership structure of plantations remained relatively unchanged from the previous year. Institutional investors owned 49 % of the total plantation area, governments owned 21 %, farm foresters and other private growers owned 21 %, managed investment schemes owned 5 %, and timber industry companies owned 4 % (Downham & Gavran 2018).

Industry performance

Log harvest volume and gross value of production, 2016–17

Australia's total log harvest (from native production forests and commercial plantations) in 2016–17 reached a record high of 33.1 mill cubic metres, a 10 % increase from the 2015–16 log harvest and 45 % higher compared with 2012–13. The gross value of log production also reached a record high of \$2.6 billion (mill door prices), a 13 % increase from the previous year.

The majority of Australia's annual total log harvest originates from commercial plantations and the remainder is sourced from native production forests. In 2016–17 commercial plantations accounted for 87 % of Australia's total log harvest and native production forests contributed 13 %.

Socio economic setting

Employment in Australian forest industries

(as reported in *Australia's State of the Forests Report 2013*)

- Total direct employment in the forest and wood products sector fell between 2006 and 2011, from about 85,000 to about 73,000 employees, including in regions most dependent on the sector.
- The decline in total direct employment was largely the result of a 14.3% fall in full-time direct employment in the forest sector between 2006 and 2011, from about 70,000 to about 60,000 employees.

Supply base Austria

ABGK consider all of Austria as its supply base. ABGK source common ash from Austria (*Fraxinus excelsior*) and oak (*Quercus petraea/robur*). ABGK have 1-5 suppliers in Austria. Supplies are normally non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled. ABGK has two suppliers, PEFC CoC.

Forest cover

Austria has a total land area of 8.4 mill ha. Approximately 3.8 mill ha is forested land (47.6 %). This means that almost half of the country is covered with forests. According to the Austrian Forest Act wooded land is counted as forest if it has a minimum area of 1000 m², and a width of at least 10 metres. Furthermore, woody species must provide a canopy cover of at least 30 %. About 3,0 mill ha is commercial, 0,3 mill ha is protective forest in yield and 0,5 mill ha is protective without yield (meaning that commercial cutting is not allowed).

Ownership

82 % of Austrian Forests are privately owned by about 145,000 forest owners. This area covers a total of three mill ha's of woodland. Forests in Austria are public domain. Everyone is allowed to access and enter forests for recreational purposes, as stated in the Forest Act of 1975.

Private ownership in Austrian forests can be broken down as such: 50 % own less than 200 ha's (small scale forests), and 22 % own more than 200 ha's (big forest holders). 10 % of Austrian forests are owned by communities, for example agricultural co-ops. 18 % are state owned. The Austrian federal forests (ÖBf) manage 15 % of the national forest area. Demographic changes have led to a decrease in the number of full-time farmers, and to an increase in the %age of non-farmers as forest owners. This leads to a shift in perception on forest management and forestry.

Management

Damage caused by storm and bark beetles are among the most significant problems of the past decades. A connection of this development with climate change is rather likely. Furthermore, there are harmful factors that endanger the stocks of individual tree species all over Austria, for example the ash dieback caused by the *Chalara fraxinea* fungus. Damage by game has been on a high level for many years and often prevents the necessary regeneration.

Since the first surveys of the nineteen sixties the quantity of wood consumed has always been below the increment. Presently the annual increment amounts to approximately 30.4 mill cubic metres, of which 25.9 mill cubic metres are utilised.

For decades the trend in Austria's forest management has been towards greater closeness to nature. As a result, the share of broadleaved trees and shrubs has increased, pure spruce stands have decreased and a trend towards mixed stands has been observed.

Supply base Bosnia-Herzegovina (FBiH)

ABGK consider all of Federation of Bosnia Herzegovina FBiH as its supply base. From FBiH ABGK source Oak (*Quercus Robur/ Quercus Petraea*) and common ash (*Fraxinus Excelsior*).

ABGK have 1-5 suppliers which deliver wood sourced in FBiH. Supplies are normally non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Forest cover

Forest types

Subtropical (% forest area) 19 %

Temperate (% forest area) 81 %

Breakdown of forest types

Primary forest (ha | %): 2,000 ha, 0.1 %

Modified natural (ha | %) :1,184,000 ha, 54.2 %

Semi-natural (ha | %): 857,000 ha, 39.2 %

Production plantation (ha | %): 142,000 ha, 6.5%

Total Land Area (1000 ha) 5,120

Total Forest Area (1000 ha) 2,185

% Forest Cover 43 %

Primary Forest Cover (1000 ha) 2.0

Primary Forest, % total forest n.s.

Other wooded land (1000 ha) 549

% other wooded land 11 %

GROWING STOCK IN FOREST				
Total (mill m³)	Per ha (m³)	Coniferous (mill m³)	Broadleaved (mill m³)	Commercial Species (%)
358	164	135	223	100

Ownership (private, government, etc.)

- 1) Area of forest owned privately (ha) 1,748,000
- 2) Area of forest owned publicly (ha) 437,000
- 3) Area of forest owned by community concession (ha) 0

Management practices (government rules, any FSC, PEFC)

In FBiH the ownership of the public forest resource rests with FBiH which transfers management rights to ten Cantons. The Cantons transfer these rights to Cantonal Forest Management Companies (only one in each canton), which are established in compliance with the Law on Forests from 2002.

At the level of the Federation there is a Forestry Department within the Ministry of Agriculture, Water Management and Forestry with a unit responsible for legal matters (all aspects relating to forest law and related legislation) and an FBiH Forest Office (FFO) which deals with forestry development and support and has an

overall monitoring role. At the Cantonal level, responsibility for forestry rests with the relevant Ministry within which there is a Cantonal Forest Office (CFO) whose main function is to control the activities of the cantonal forest management company and provide advice and support to private forest owners.

The management planning process and management regimes applied in major forest types in FBiH are directed toward multi-aged silvicultural systems. The application of close to nature forest management represents a basic principle in forest management practice. Depending on the forest structure and condition the following management regimes are usually applied:

i. Single-tree selection

This forest management regime is mainly applied in mixed forest of beech and silver fir that are located on inferior habitats and extreme orographically conditions. In these kinds of conditions, the coverage by tree crowns must not be significantly reduced for protective reasons, while the natural tree regeneration should be preferred. This management regime is suitable especially for those areas that have a protective purpose, and, in the forests, which are dominantly constructed by “shadow” tree species (e.g. beech, fir, spruce).

ii. Group selection

With the application of this management regime the uneven-aged mixed forests are formed. In most of the cases natural regeneration of stands dominates and it is not time limited (indefinite regeneration period). Artificial regeneration is implemented in part of the stands where natural regeneration is difficult or if the introduction of selected tree species is prescribed by management plan. This management regime is most suitable for application in mixed forests of beech, silver fir and spruce, as well as in the forests that are currently in the phase of natural succession toward the mixed forests of beech and silver fir (with spruce), mixed forests of silver fir and spruce, mixed forests of silver fir and beech, and in the forests of silver fir and spruce with no admixture. Generally speaking, this management regime is applied in those forest types where the management goal is to construct uneven-aged forests with natural regeneration.

iii. The management regime of group felling

Under this management regime the stands that are in transition between uneven-aged and even-aged forests are formed in terms of their diameter and height structure. The regeneration is time limited and can be described as combination of natural (in those areas of stands which have better conditions) and artificial (for unfavourable parts of the stand). The overall regeneration period is quite long and lasts between 30 and 60 years. This management regime can be applied in high forests of oak, all pine forests, mixed forests of oak and pines as well as beech forests with no admixture where the single-tree selection was applied in recent time.

All certified forests in FBiH are publicly owned and certified by the Forest Stewardship Council (FSC). There are no certified private forests.

Supply base Brazil

ABGK consider Brazil as its supply base and source Jatoba (*Hymenaea courbaril*). ABGK have 1-5 suppliers of Jatoba, all supplies are FSC certified.

Most of ABGK supplies are, in addition to being FSC certified, double checked with the official system described below:

IBAMA or Brazilian Institute of Environment and Renewable Natural Resources is a public body responsible for monitoring compliance with Brazilian Environmental legislation and for issuing environmental licenses for activities that occur on federal land. They introduced in 2006 a computer-based program to control trade and

transportation of timber. The system is obligatory at the federal or state level, for any forest exploitation, forest management or legal deforestation.

1. AUTEF (in Portuguese Autarizacao para Exploracao Florestal)- Timber Harvesting Authorization, carrying slightly different names depending on issuing state. It contains the General Management Plan which is renewed every year, and includes the geographical coordinates of the harvest area, the quantity allowed to harvest in total and per specie.
2. DVPF (in Portuguese Documento de Venda de Produtos Florestais) Sales Contract, where it is specified the total volume of logs, and the species sold. It is issued by the buyer and cannot be checked in the official system.
3. GF1 (in Portugues Guia Florestal 1) Transport Document for logs, it authorizes transport from forest to sawmill. It can be checked in the official system.
4. GF3 (in Portugues Guia Florestal 3) Transport Document for final products, it can be checked in the official system. It is an indicator that (a) the tree comes from an authorized concession, (b) the tree has been processed in an authorized sawmill, (c) the supplier respects the local laws and that (d) the transport, including export is approved by the Brazilian competent authorities.

Forest cover

Brazil holds about one-third of the world's remaining rainforests, including a majority of the Amazon rainforest. Terrestrially speaking, it is also the most biodiverse country on Earth.

The bulk of Brazil's forest cover is found in the Amazon Basin, a mosaic of ecosystems and vegetation types including rainforests (the clear majority), seasonal forests, deciduous forests, flooded forests, and savannas, including the woody *cerrado*.

In the 1970's and 1980's the Brazilian forests suffered from massive deforestation mainly driven by government re-settlement politics and large-scale cattle and soy production in rural and forested areas. In the period 2004-2012 the deforestation was declining due to international and national restrictions, but in recent years deforestation is again rising rapidly.

Forest Cover statistics

- Total land area: 835 mill ha
- Total forest area: 478 mill ha (57.2% of total land area)
- Primary forest cover (not planted and not modified): 416 mill ha (87.1% of total forest area)
- Modified natural (not planted, but modified): 56 mill ha (11.7% of total forest area)
- Production plantation: 5 mill ha (1% of total forest area)

Ownership and management practices

Forest in Brazil is publicly or privately owned. Public forests can be managed by Brazilian-based community associations, cooperatives and companies. These stakeholders do not own the public land but can obtain a license for managing and harvest the forest from the Brazil environment agency (IBAMA). These concession rights can be issued for maximum 40 years and concessionaires must hold a concession contract and documentation related to management operations. According to FAO (2015) 61.8 % are publicly owned, 20.6 % are privately owned and 17.6 % have unknown ownership.

When harvesting native forest on private lands the companies must hold land title documents and documentation related to management operations.

Certified forest area:

FSC certified forest area: Approx. 6.48 mill has (=1.3 % of total forest area)

PEFC recognized certified forest area: Approx. 3,8 mill has (= 0.8 % of total forest area)

Supply base Bulgaria

ABGK consider all of Bulgaria as it's supply base and source Oak (*Quercus robur* and *Quercus petraea*) from 1-5 suppliers. Supplies are normally non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Forest cover

The country is the third richest in biodiversity in Europe and forests have increasingly important environmental and recreational role. Total forestland in Bulgaria is 4.22 mill ha and it covers 37 % of the country's territory. The latest inventory shows that forests cover 3.84 mill ha or 91 % of total forest land (source: Agrarian Report, Ministry of Agriculture, 2016). Forests account for 31 % of the national territory which ranks Bulgaria 19th in Europe.

The forestland has grown and in 2015 it was 8 % more than in 2000 (3.91 mill ha) and 18 % more than 1985. In 2016, the forestland increased by 21,000 ha compared to 2015 due to self-afforested agricultural areas that were qualified as forests. At the end of 2015, the European ecological network Natura 2000 covered 4.1 mill ha or 34 % of the country's territory, third in Europe after Slovenia (35.5%) and Croatia (34.8 %). Natura 2000 includes 1,012 protected territories of which 90 reservations, 3 national parks, and 11 natural parks. About 48 % of the forest territories (2.0 mill ha) are in Natura 2000, which are subject to special timber harvesting rules. Forests are divided in two major categories -first, timber-producing forests with 1.59 mill ha (38 %); and second, the protective, recreational and in protected territories forests with 2.63 mill ha (62 %). The lower share of timber producing forests on the expense of expanding recreational/protected forests has reduced the potential for more intensive timber production and made sourcing of local timber more challenging and expensive.

Ownership

Forests are traditionally owned mainly by the state. Privatization was completed several years ago. As of 2016, about 73 % of forests are state forests, 13 % are municipal forests, and 11 % are in private hands. The new Forest Act guarantees the public interests, the right of ownership and protection of forests through equality of the different types of ownership; reducing of the administration and decentralization of the responsibilities; separation of the control-and-administrative functions from the economic functions in the forest sector; participation of the society in the planning; obligatory implementation of long-term planning.

Management practices

Timber harvesting is carried out through three major types of cuttings: thinning, regeneration, and selective cutting. Clear cutting is not practiced in the country. Bulgaria, unlike some other countries in the region, does not have a history of overcutting forests. The public is highly sensitive on this issue and foresters usually adopt stringent silviculture norms. Illegal cutting has been a challenge and several control mechanisms have been introduced to address the problem in the last five years. Currently illegal cutting is estimated to account for 10 % to 20 % of timber production in various forest regions, which generates grey trade and undermines timber prices. The forest roads network is not very well developed or maintained. Per World Bank information, there are 28,000 km forest roads with an average density of 7.9 m/ha. This is comparable to Romania but considerably lower than in other EU countries (Austria 36 m/ha, France 26 m/ha, Germany 45 m/ha). Due to underdeveloped infrastructure, some forests remain non-harvested/ less harvested while other forests that are easier to access tend to be overharvested and/or subject to illegal cutting.

Forest should satisfy local population demands. The regulation of this process is based on tradition rather than market principles. Forest certification is carried out under FSC (Forest Stewardship Council). Currently, there are 109 certified forest enterprises and organizations with a total area of 810,000 ha or 19 % of the total forest land. Certified state forestland is 28 % of all state forests. This is a sharp increase compared to 230,000 ha certified at the end of 2012. Due to stronger export orientation of the wood processing and furniture sector; this trend will likely be preserved or accelerated. There are 112 wood processors certified under PEFC Chain of Custody for timber traceability.

Supply base Canada

ABGK consider all of Canada as its supply base. ABGK source hard maple (*Acer saccharum*) from Canada. ABGK have 1-5 suppliers in Canada and about 80 % of the material is FSC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources

Forest cover

Canada's forest area of 347 mill ha's (ha) has been quite stable over the past 25 years. From 1990 to 2015, Canada's forest area has decreased by 1.2 mill ha (0.34%). The net reduction in forest area over this period is attributed to the clearing of forestland for new, non-forest land uses (for example, agriculture, roads and hydroelectric developments). While forest area is relatively constant, forest cover within is much more dynamic. Forest fires, insect infestations, timber harvesting, growth and regeneration contribute to the ever-changing mosaic of forest cover within Canada's forest area. In previous State of Canada's Forests reports, forest area was based on the National Forest Inventory (NFI) baseline survey (period of measurement from 2000 to 2006). Now, to provide trend data and to align with other reporting organizations, forest area is adjusted for known deforestation and afforestation to provide values for other reporting years. The next survey of the NFI is expected to be completed in time for 2020. The overall forest area is expected to remain stable over the next 10 to 20 years. Over the longer term, the effects of climate change on growing environments could redraw the boundaries within which forests grow. Federal, provincial and territorial governments are collaborating to track changes in forest area using a network of permanent photo plots across Canada. This information, paired with additional data from survey efforts focused on monitoring deforestation, is used to report on forest area and how it is changing over time. The State of Canada's Forests Annual Report 2017 Source: National Forest Inventory. See Sources and information for more detail.

Ownership

- Forest Ownership
- Provincial 76.6 %
- Territorial 12.9 %
- Private 6.2 %
- Aboriginal 2.0 %
- Federal 1.6 %
- Municipal 0.3 %
- Other 0.4 %

Management practices

48 % of Canada's forests are certified. 37 % of the world's certified forests are in Canada. Canada has 24 mill ha's of protected forest. In 2015, over 574 mill seedlings were planted in Canada's forests. In 2014, Canada endorses the United Nations New York Declaration on Forests to cut global natural forest loss in half by 2020 and strive to end it by 2030. And in 2016, Canada added its signature to the United Nations Declaration on the Rights of Indigenous Peoples, a framework for broader legal recognition and protection of the rights of Indigenous Peoples with regard to land and resources, including ownership, use, development

and control. These significant developments suggest that this country's forests will continue playing a crucial role in the lives of all Canadians for the next 150 years and beyond.

Forest management planning is a key sustainability tool. Forest management planning is one of the primary tools used to ensure that Canada's publicly owned forests remain socially, economically and environmentally sustainable. Forestry companies operating on Crown lands must, by law, draw up a forest management plan in consultation with the public and have it approved by a provincial or territorial government before any harvesting can begin on Crown land.

Forest management plans outline access plans, harvesting, regeneration and other standards that must be followed. Forestry practices are subject to ongoing monitoring to ensure the plans are followed. Provinces and territories regulate harvest levels in forest management plans. To ensure forest sustainability over the long term, provincial and territorial governments regulate harvest levels through forest management plans. Canada have about 270 mill ha of boreal forest, the rest being temperate. Management by natural management is about 226 mill ha, the rest is considered natural.

Supply base Croatia

ABGK consider all of Croatia as its supply base. From Croatia, ABGK source common ash (*Fraxinus excelsior*) and oak (*Quercus petraea/robur*). ABGK have about 5-10 suppliers from Croatia no supplies are certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has one supplier from Croatia, FSC CoC.

Forest cover

The land surface of Croatia is 56,594 km², out of which 26,887 km² (42 %) is under forestland. Vast majority of forest land is in state ownership (21,069 km²) and is almost entirely (20,190 km²) managed by the state forest management company – Croatian Forests (Hrvatske šume) Ltd. A small portion (879 km²) of state-owned forests is being managed by other legal bodies. Private forest span onto 5,818 km² (or 22 % of forests and forestland). Almost all state-owned forests have forest management plans. Only 7 % of private forests have management plans and are characterized by a large number of forest owners whose' average parcel size is less than a half of ha. The growing stock is 398 mill of m³, with annual increment of 10.5 mil m³ and annual fellings of 5.0 mil m³. Both the Mediterranean and Euro-Siberian-North American region are present in Croatia, spanning onto four biogeographical regions and covering 51 forest phytocenoses. Silver fir has the highest %age of crown-damaged trees (76.7 %) due to synergic effect of multiple abiotic and biotic factors. Its sustainability and natural regeneration cannot be assured as both managed and unmanaged forests have too big share of over mature fir trees and too high tree crown coverage of soil. Nationally protected areas are divided into nine categories and span onto 742,111 ha, which amounts to 13 % of total surface of Croatia. The growing stock is 398 mill of m³, out of which 302 mil m³ is within state forests managed by Croatian Forests Ltd., 78 mil m³ is within private forests and 17 mil m³ is in state forests managed by other state legal bodies. The biggest portion of the growing stock is beech (143 mil m³ or 36 %), which is followed by sessile oak (*Quercus petraea*) (48 mil m³ or 12.2 %), pedunculate oak (*Quercus robur*) (38 mil m³ 9.7 %), hornbeam (36 mil m³ or 9.1 %), silver fir (31 mil m³ or 7.9 %). Majority of forests which are not degraded (83 % or 1,570,764 ha) are even-age managed, while 17 % (or 318,875 ha) are managed by an uneven aged system. According to the general forest management plan the growing stock of private forests has doubled in the 1996 – 2006 period (from 38 mil m³ to 78 mil m³), which is an increase that cannot be explained by increment or abandoned agricultural land.

Ownership

According to the First National Forest Inventory in the Republic of Croatia, 77 % of forest lands are state owned and 23 % are privately owned. The annual cut in state forests is 7,325,000 m³, and 1,087,000 in private forests. Most of the private forests are situated in the Mediterranean part of Croatia and around the city of Zagreb, and they are least represented in the eastern part of Croatia. There are around 600,000 private forest owners and around 1,500,000 forest parcels, where average parcel size is 0.42 ha, and the parcels are often not properly registered in the cadaster. Majority of private forests do not have forest management plan, and felling is the framework of necessary tree marking and felling (MRDFWM, 2006). Only 29 % of felled timber is round wood. The average private forest owner is "...older than sixty years, employed in agriculture or is in retirement, has elementary level education, low income, does not want or is not able to sell his/her forest which he/she values greatly for non-material reasons. They are not interested in managing it, is not interested in forestry related topics or sustainability, think in short-term, does not want to invest in forest, does not use the potential of his/her forest and is sceptical toward private forest owners' associations. They mostly live in villages and in the vicinity (1-5 km) of their forests.

Management practices

According to the general forest management plan the natural regeneration in the 2005-2015 period is expanding (1.57 mil ha to 1.83 mil ha), while the area of natural regeneration enhanced by planting (33,492

ha to 13,730 ha) and the area of regeneration by seeding (28,350 ha to 16,894 ha) is contracting. The area designated for coppice sprouting (504,901 ha to 533,828 ha) is relatively constant. Almost all state-owned forests have valid forest management plans (95 %), while the situation is opposite with private forests – only 7% have valid forest management plan (Croatian Forests, 2006), and 32.6% has an expired forest management plan. Forests under nature parks span onto 296,963 ha and are mostly classified as productive forests (231,183 ha). According to the Law on Forest all forests within protected areas should be classified as special purpose forests – which so far has not been done. If this principle would be implemented, the share of special purpose forests is 13 % (or 316,247 ha). Special purpose forests cover 85,064 ha (or about 3 %) of total forestland, are predominantly (87 %) high forests.

Supply base Czech Republic

ABGK consider all of Czech Republic as its supply base. ABGK source common ash (*Fraxinus excelsior*), oak (*Quercus petraea/robur*) and birch (*Betula pendula*). ABGK have 3-5 suppliers from Czech Republic, three suppliers are FSC or PEFC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Forest cover

The forest area of the Czech Republic covers 2,637 mill ha, i.e. 33.3 % of the land area of the country and 1.8 % of the total European forest area (excluding the former Soviet Union). Total standing stock of all forests in the Czech Republic is 564 mill m³. The forests are almost explicitly forest stands with an average age of 60 years. The dominant species are spruce (*Picea excelsa*) - 54 % of forested land; pine (*Pinus silvestris*) - 18 %; oak (*Quercus sp.*) - 6 %; and beech (*Fagus sylvatica*) - 5 %. Conifers comprise 77.5 % and broad-leaved species 20.9 %.

Ownership

Ownership is 76 % public and 24 % private. Private ownership is divided into 86 % individual ownership and 14 % business entities and institutions. The proposed new Forest Law is a relatively successful compromise between principal requirements of forest owners and society. Present forest legislation is based on Law No. 61/1977 and Law No. 96/1977. These laws are not adequate for the property interests of private forest owners, but at the same time for the protection against owners' abuse of forests. The protection of environmental functions of forests is based on Law No. 114/1992.

The partial privatization of state forests seems a serious political, economic and forest management problem. The claims on privatization through agroforestry farms aim to transfer supplementary financial and material sources from forestry to agriculture. It is obvious that this kind of privatization can take place only to the detriment of forestry.

Concerning the privatization of state forestland, it should be noted that the socialization of forests, about 40 years ago, was well accepted by the public because of the important role forests play in society and the guarantee that forests - the green gold of the republic - would be managed with full respect and professionalism.

State ownership ensured the systematic professional management of all forests but did not ensure economical rationality of productive and working processes; and forest stability was upset by timber production and other forest benefits.

Management practices

Forest management began approximately 260 years ago and since that time offices of individual forest owners developed various management methods. The Forest Management Institute (FMI) was established in 1935. This institute refined forest management plans, executed real estate's evaluation and land

measuring and cartographic activities. Forest sites mapping started in 1941. Forest communities characterized Forest sites, background for forest typology was established, and target species composition was defined for them. Forest management plans have been prepared and the systematic usage of computers was initiated in 1971. Thus, began the establishment of the information database. The institute was entrusted with creating a summary of forest management plans in five-year cycles. At the end of 1980s, employees of the institute developed a Czech GIS – TOPO Land programme.

Nowadays the institute is responsible for executing forest inventory in the country, and elaboration and administration of Regional Plans of Forest Development (RPF). Based on principles of sustainable forest management RPF tries to minimize potential conflicts between the public and private owners' interests. These include the administration of information and data centres of forest management, execution of forest typological system, providing information services for forest certification. The National Certification Centre also provides support to organizations dealing with forest certification, e.g. the national governing body: PEFC (Pan European Forest Certification) Czech Republic). The FMI elaborates analyses, methodologies, layouts and prognosis and is involved in domestic and international research projects as well as working in consultation activities.

Supply base Denmark

ABGK consider all of Denmark as its supply base and source common ash (*Fraxinus excelsior*) and oak (*Quercus petraea/robur*). Forest estates are major suppliers but also a few traders are being used. ABGK use 1-5 suppliers and all wood is sourced as FSC Controlled Wood.

Forest cover

According to Nord-Larsen et. al (2016) the forest cover in Denmark is 624,782 ha which is equal to app. 14,5 % of the total land area and the forest area is increasing. A total of app. 75% of the forest area is under private ownership while 25 % is managed by public organizations (figure 1).

The land use development from 1851 to 2015 and distribution to forest type can be seen in figure 2 and table 1 below: The forest area is increasing, and the percentage of conifers has been increasing until 2000 and after 2000 the area of broadleaf forest has been increasing.

In table 1 the land use distribution of the forests in Denmark is presented. As it can be seen approximately 241,000 ha's have coniferous (softwood) plantings with a gross annual increment of on average 12,9 m³ and net annual increment of 2,8 m³ / ha (Nord-Larsen et. al (2016)).

Management practices

Oak and ash normally originate from even aged stands and plantings. This management practice has however been challenged during the last 20 years and today more and more plantings are mixed. About 15 % of forest area is managed by uneven aged operations.

It has, by SBP, been found that there is risk of threat on High Conservation Values in private forests without a green management plan, however this risk is mitigated in FSC controlled wood sources¹

The distribution of the different management practices is presented in table 2.

¹ <https://sbp-cert.org/documents/risk-assessments/denmark>

Ownership

A total of app. 75 % of the forest area is under private ownership while 25 % is managed by public organizations. There are many small forest owners (less than 20 ha), but the main part (more than 50 %) of the forest area is owned by larger forest owner >250 ha (table 3).

Supply base Estonia

ABGK consider all of Estonia as its supply base and source birch (*Betula pubescens*). 1-5 suppliers are used, supplies are neither FSC or PEFC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has one supplier that is FSC and FSC CW certified.

Forest cover

Currently more than 2,366,000 ha, equal to 52 % of the Estonian land territory, is covered by forest and the share of forest land is growing. About 0.3 mill ha's are planted, 1.1 mill ha is managed natural and 1,0 mill ha is primary forest. The area of protected forests accounts for 25.3 % of the total forest area. The majority of protected forests are located on state property. The main regulation governing the preservation of biodiversity and the sustainable use of natural resources is the Nature Conservation Act.

According to FAO data, during 2000 - 2005, the forested land grew by 29.000 ha. Yearbook Forest 2016, that gives annual reports and facts about the forest in Estonia, state that during last decade the cutting rate in Estonian forests is from 4 to 11 mill m³ per year². The amount is in line with sustainable development principle when the cutting rate doesn't exceed the annual increment and gives the potential to meet the long-term economic, social and environmental needs. According to the Yearbook Forest 2016 increment is around 15 mill m³ per year.

Distribution of growing stock by tree species (Yearbook Forest 2016)

For logging in any type of forest, it is required that a valid forest inventory or forest management plan, along with a felling permit issued by the Environmental Board, is available. All issued felling permits and forest inventory data is available in the public forest registry online database³.

Management practices

Estonia is a member of the European Union since 2004. The Estonian legislation is in compliance with the EU's legislative framework and directives. National legislative acts make references to the international framework. All legislation is drawn up within a democratic system, subject to free comment by all stakeholders⁴. The Estonian legislation provides strict outlines in respect to the usage of forestry land and the Estonian Forestry Development Plan 2020⁵ has clear objectives and strategies in place to ensure the forestland is protected up to the standards of sustainable forest management techniques. The Ministry of the

² <https://keskkonnaagentuur.ee/et/aastaraamat-mets-2016?sid=5391>

³ <https://register.metsad.ee/#/>

⁴ https://europa.eu/european-union/about-eu/countries/member-countries/estonia_en#estonia-in-the-eu

⁵ Original title: „Eesti metsanduse arengukava aastani 2020“; approved by Estonians parliament decision nr 909 OE 15. February 2011.a

http://www.envir.ee/sites/default/files/elfinder/article_files/mak2020vastuvoetud.pdf

Environment coordinates the fulfilment of state duties in forestry. The implementation of environmental policies and its supervision are carried out by two separate entities operating under its governance. The Estonian Environmental Board monitors all of the work carried out in Estonia's forests whereas the Environmental Inspectorate exercises supervision in all areas of environmental protection. The forest is defined in the Forest Act. There are three main forest categories described in this legislation: commercial forests, protection forests and protected forests.

Ownership

According to ownership, forests are divided into private forests, municipality forests and state-owned forests. The state-owned forest represents approximately 40% of the total forest area, 43% is privately owned and 17 % has other ownership⁶ For the forests with private ownership 80 % are owned by individual and 20 % by business entities and institutions. State forests are certified according to FSC and PEFC forest management and chain of custody standards in which the indicators related to forest management planning, maps and availability of forest inventory records are being constantly evaluated and addressed⁷. The state forest is managed by State Forest Management Centre (RMK) which is a profitmaking state agency founded on the basis of the Forest Act and its main duty lies in a sustainable and efficient management of state forest.

Supply base Finland

ABGK consider all of Finland as its supply base and source common ash (*Fraxinus excelsior*), oak (*Quercus petraea/robur*), scots pine (*Pinus sylvestris*) and spruce (*Picea abies*). ABGK have 5-10 suppliers in Finland and normally all supplies are PEFC certified All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. Satulung has three suppliers, one is FSC, one is PEFC, one is FSC and PEFC certified.

Forest cover

Forests cover about 75 % of Finland's land area corresponding to about 22 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.

When Finns talk about forests, they mean the area of forest land and poorly productive forest land combined. Most of Finnish forests grow on productive forest land, which covers an area of 20.3 mill ha's. 34 % of forestry land consists of peatlands. The area of forest land increased from the 1950's up to the 1980's, because peatlands were drained for forestry use. This resulted in higher productivity per ha. 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

⁶ <https://rmk.ee/organisation/operating-areas>

⁷ <https://www.rmk.ee/organisation/environmental-policy-of-rmk/certificates>

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 %.

Management practices

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. This policy has brought results, too. The survey on threatened species in Finland in 2010 found out that the status of forest species has developed in more favourable manner as with species living in other ecosystems. According to the researchers the largest individual reason for this are the retention trees that are left in the forest in connection with regeneration fellings. Next survey on threatened species in Finland will be published latest in 2020. Strict forest protection is implemented by means of designated protection programmes. These are based on decisions taken by the Government, setting the boundaries of areas to be protected. In practice, all such areas have immediately been excluded from commercial use, but they can only be regarded as protected after they have been bought by the Government or they have been formed into a private protection area. According to a schedule adopted by the Government, the acquisition of these areas was to be finalized by the end of 2009, but that turned out to be impossible. The next target was in the end of 2014. However, according to estimates there were some 6,000 ha of these land areas not to be acquired in the end of 2015. In the beginning of 2013 there was still some 10,000 ha unfinalized. In Finland, the areas under strict protection are often situated in peripheral areas and forests of low productivity in northern and eastern parts of the country. The greatest deficiencies in protection are found in Southern Finland. Nevertheless, the share of strict protection in southern Finland is above the average of most other European countries.

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.

Supply Base France

ABGK consider all of France as its supply base and source oak (*Quercus petraea/robur*). Oak is sourced from 1-5 of suppliers and all volumes are FSC Controlled Wood.

Forest cover

The French forest area amounts to 16.9 mill ha. This corresponds to 31 % of the total landscape. The forest area has increased sharply in the past century with an estimated 7 mill ha.

The volume of standing timber in French forests was estimated 2.7 billion m³ in 2018. The average volume per ha is 170 m³. The French forests are mostly composed of hardwoods. 72 % of the stands are broadleaved and nearly two-thirds (64 %) of growing stock is hardwood.

The most common wood species are:

Hardwood:

- oak, 27 %
- beech, 11 %
- chestnut, 5 %
- common ash, 4 %
- others, 18 %

Softwood:

- spruce, 8 %
- fir, 8 %
- pine, 11 %
- douglas, 4 %
- others, 5 %

Ownership

Three quarters of the French forests are in private ownership (74 %). 15% are owned by cities and local authority districts and roughly 10% are state forests.

Since 1965 French forests have been managed by the „Office National des Forêts“ (ONF). The ONF has developed several guidelines to ensure the preservation and restoration of endangered plant species. Under the patronage of the French ministry for agriculture and ecology three main fields of activities have been developed:

- Development of knowledge about threatened species,
- Preservation of habitats and species,

- Sensitization for and communication of the respective programmes.

Management

France has been strongly involved in the Helsinki process and developed a ten-year guideline for the French national forest program based on the European program on criteria and indicators for sustainable forest management. The French concepts includes the sustainability of the number of species, the coppice and standard mix, the quantity of dead wood, carbon emission or storage, and other. Non-timber products also play an important role in the French forests and have been recently assessed within the IGN (Institut National de l'Information Géographique et Forestière).

In 2018 The Natura 2000 network covers 6.4 mill ha's in France, 12 % of the territory. Half of the Natura territories 2000 are from the forest. As a result, the Natura 2000 network cover 19 % of forests, that is 3.2 mill ha's.

Supply base Germany

ABGK consider all of Germany as its supply base and source European oak (*Quercus robur/petraea*), Red oak (*Quercus rubra*), Beech (*Fagus sylvatica*), Ash (*Fraxinus excelsior*), European maple (*Acer pseudoplatanus*). In Germany ABGK have 5-10 suppliers and supplies are either FSC Controlled Wood or PEFC certified. Satulung has one German supplier that is FSC/FSC CW certified.

Forest cover

11.4 mill ha's (32 % of the national territory).

The forest distribution in Germany is quite diverse. The percentage of land covered with forest are low on North German plains due to agricultural activity, and the Southern low mountain ranges are particularly rich in forests.

The percentage of deciduous trees is steadily increasing (Period 2002-2012). Four species dominate in the forests of Germany:

- Spruce, covering approx. 2.8 mill ha's (25 % of the forest area). Decreased with 8%.
- Pine covers approx. 2.4 mill ha's (22 % of the forest area). Decreased with 3 %.
- Beech covers approx. 1.7 mill ha's (15 % of the forest area). Increased with 6 %.
- Oak covers approx. 1.1 mill ha's (10 % of the forest area). Increased with 7 %.

Almost all forests in Germany are managed forests.

- Mixed stands cover 78 % of the forest area
- Multiple storied forest stands cover 68 % of the forest area
- Natural rejuvenation is used on 85 % of the forest area and young stands cover 25% of the forest area.
- Introduced tree species cover 5 % of the forest area. The most common introduced species are Douglas fir (2 %), Japanese larch (0.8 %) and red oak (0.5 %)
- Annual harvest represents 62.5 % of annual increment in German forests
- Both total standing timber volume and the total forest cover is increasing in Germany
- Annual increment in German forests: An average of 11.2 m³ per ha and year. In total 121.6 mill m³ per year
- Annual harvest from German forests: An average of 7 m³ per ha and year. In total 76 mill m³ raw timber per year

Ownership⁸

The Federal Republic of Germany is a federal state. Responsibility for the forests thus mainly lies with the Länder. While the Federal Government merely sets the forest policy framework, the Länder are responsible for the formulation and implementation of forest policy targets. Private persons, corporate entities (mostly municipalities) and the state, i.e. mainly the Länder, own woodlands. Private forest entities own an average forest area size of 5 ha's, that are frequently spread over several smaller areas.

The forest entities with less than 20 ha's of forests represent half of the privately-owned forest area. The largest entities in terms of woodland cover are owned by the state. A state forest entity manages typically between 8,000 and 15,000 ha's and often also performs forest management tasks for private and communal forests. The Federal Government (State forest – National Property) currently owns around 400,000 ha's, which counts for approx. 3.5 % of the forest area. These are predominantly forests used for military purposes. State forests of the Länder own approx. 29 % of the German forests.

Many forest owners in Germany own small and fragmented forests that are hard to manage. Approx. 430,000 forest owners are organized in 3,600 forestry associations to better deal with the specific disadvantages of the fragmented property structures.

Management practices

National forest policy

Germany's Forest policies defines the framework and rules related to management of forests and timber utilisation. The main forestry regulations at Federal level can be found in the Federal Forest Act. One of the Federal Government's political guidelines is the Forest Strategy 2020. Its aim is to develop an adapted, lasting balance between increasing timber demands on one hand and sustainability on the other hand.

The implementation of the Forest Strategy 2020 focus on the following thematic areas:

- Climate change mitigation and climate adaption
- Promotional programmes for small and micro private forest owners to ensure operational objectives within the framework of existing legal forest regulations.
- Promotion of timber as technically and ecologically excellent renewable resource

Another focus area in the German National Forest Policy is to improve forest biological diversity through the following approaches:

- Integrated forest management
- Intensifying the dialogue between forest owners, forestry and nature conservation
- Taking the dynamics of forest ecosystems and unique local features into account
- Balancing the interests of the general public and forest owners
- Creating incentives for nature conservation
- Linking biotope to allow animal and plant species to move from one region to another
- Strengthening environmental protection to counter global and large-area environmental changes
- Implementing biodiversity objectives in federal forest areas

The core disciplines of German silviculture are

- Maintaining forest area

⁸ German Federal Ministry of Food and Agriculture "Forest and Forest Policy in Germany":
https://www.bmel.de/SharedDocs/Downloads/EN/Publications/WaldberichtkurzEN.pdf?__blob=publicationFile

- Increasing the stability, productivity and diversity of the forests
- Adaption to climate change
- Preserving forest genetic resources
- Strictly limited use of chemical plant protection.

Protection of soil and water resources is another important focus area of the German National Forest Policy. Research and education are also emphasised, and the Federal government promotes research through a wide range of funding programmes targeted at national and international level.

Supply base Hungary

ABGK consider all of Hungary as it's supply base and source Oak (*Quercus robur* and *Quercus petraea*) and common ash (*Fraxinus excelsior*) from 1-5 suppliers, about 100 % is PEFC or FSC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources

Forest cover

According to the U.N. FAO, 22.6 % or about 2.1 mill ha Hungary is forested. Hungary had 1,612,000 ha of planted forest. Change in Forest Cover: Between 1990 and 2010, Hungary lost an average of 11,400 ha or 0.63 % per year. In total, between 1990 and 2010, Hungary gained 12.7% of its forest cover or around 228,000 ha.

Ownership

In Hungary the share of state-owned forests is 57 %, community-owned is 1 % and 42 % of forests are private. A long-term purpose, primarily based on afforestation, is the large-scale increase of private and community owned areas.

The area and percentage of the forest ownership including private and state owned and public forest; In 2016 the total area in Hungary with forest management plan was 2.060.818 has, of which 1.940.720 ha's were covered by forest.

1.156.771 ha's of 2.060.818 ha's are owned by the state (1.066.731 ha's covered by forest), 882.420 ha's are privately owned, mostly by individuals (853.678 ha's covered by forest) and 21.627 ha's are owned by communities like churches and local governments (20.309 ha's covered by forest).

Management practices

The main objectives of the current forest management are as follows:

- ensure long-term environmental, economic and social services of forests by sustainable multi-purpose silviculture;
- harmonize the interest of the society in sustainable forest management with the interests of forest managers and owners;
- increase the forest area by afforestation up to a forest ratio of 26-27 %;
- maintain natural or close-to-nature forest stands composed by indigenous tree species and extend their area in accordance with prevailing site conditions.

The forestland area of Hungary has been gradually increasing in the last 80 years. This is due to the accomplished large-scale afforestation and tree planting carried out under the direction of professional foresters. As a result, the forestland area that in 1921 was hardly larger than 1 mill ha has exceeded 1.9 mill ha by today.

The highlighted objective of forestry policy is the structural improvement of the over-divided estate system that hinders private forest management, and the establishment of viable management organisations and

partnerships. 22 state forest management corporations primarily perform the management of state-owned forests. However, other national institutions – like water resource directorates, national parks – are also managing state-owned forestland areas. The share of community ownership is relatively small, mostly managed by municipalities of villages and cities. The majority of private forests are undivided joint properties. Regarding management the most common form is natural persons – having assignment contract –, but the share of corporations and co-operatives is also considerable. A special forest management type is the institution of the integrator that handles forestland areas in one's own right and performs professional directing activities in areas belonging to other forest managers or contracts with them to perform forest management tasks. To ensure the interests of society and nature in the management forest can be managed only in accordance with the so-called district forest management plans. The district forest management plans are prepared, and their compliances are verified by the forestry authority in both the public and private forests.

Supply base Indonesia

ABGK consider all of Indonesia as its supply base. ABGK source merbau (*Intsia bijuga*). ABGK have 1-5 suppliers in Indonesia. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Sourcing takes place through Skanditrä under the SVLK/VPA/FLEGT.

Forest Cover

Forests are the defining feature of Indonesia's terrestrial landscape. Indonesia reports 94,3 mill ha's forest cover, or around half its land area, making it the country with the third-largest area of tropical forest, after Brazil and the Democratic Republic of Congo (FAO 2015). Indonesia is the world's largest archipelagic nation, with 120.6 mill ha's of land, or 63 % of its total land area, designated as the national Forest Area, with most of the remaining public land being designated for other purposes (Areal Penggunaan Lain, or APL2). In addition, 5.3 mill ha's of its territorial waters have been designated as marine conservation areas (kawasan konservasi perairan) within the mandate of the Ministry of Environment and Forestry. These public forests and marine protected areas are designated on the basis of a Decree of the Minister of Environment and Forestry on the Extent of Indonesia's Forest Area and Marine Conservation Areas. As of December 2017, the total of these areas stood at 125.9 mill ha's. Indonesia's Forest Area is categorized into three different functions: production forest (Hutan Produksi, HP, 68.8 mill ha's), protection forest (Hutan Lindung, HL, 29.7 mill ha's), and conservation forest (Hutan Konservasi, HK, 22.1 mill ha's). In 2017 using image interpretations derived from the Landsat Data Continuity Mission (LDCM)/Landsat 8 OLI for 2017 coverage, 78.5 % of Indonesia's conservation forest area; 80.6 % of its protection forest area; and 79.4 % of its limited production forest area are covered by natural forest.

Ownership

In Indonesia, the question of forest and land ownership is legally complex. Indonesia's post-independence land legislation, based on colonial practices, has continued to assign rights, allocate forest, and land resources in ways that exclude or marginalize local people, especially historically disadvantaged groups such as indigenous peoples and isolated communities. Approximately 70 % of Indonesia's land is classified as forest zone and thus claimed by the state. Although only about 11 % of this total land area has been legally verified and gazetted as state forestland, in practice, it remains under state control, despite contested and competing claims from communities, indigenous peoples, forest concession holders, and even local governments. Insecure land tenure has long been known as a factor that impedes proper natural resource management. Conflicts over land, for example, have contributed to the incidence of fire, and are recognized as a barrier to Indonesia's ability to attract investment for continued growth.

Management Practices

The periodic monitoring of forest resources was conducted at three-year intervals in the period from 2000 to 2009. With advances in remote sensing technologies, since 2011, the monitoring of forest resources has been conducted on a yearly basis, with the process involving the preparation of land cover maps derived from the interpretation of medium resolution satellite images (Landsat 4 TM, Landsat 5 TM, Landsat 7 ETM+, Landsat 8 OLI) and high-resolution satellite images (SPOT-6, SPOT-7). The land cover map derived from this process occurred in 2017. The results derived from the interpretation of land cover data are used to recalculate land cover and calculate deforestation rates. To improve legal certainty in the management of the Forest Area (Kawasan Hutan), measures are being conducted to clarify and mark the boundaries of the Forest Area, and to raise public recognition of and legitimation for the rights of communities to use of land in certain areas both surrounding and inside the Forest Area. According to targets established by the Ministry of Environment and Forestry for the period of 2015 to 2019, around 101 mill ha's of Forest Area will have its boundaries mapped and physically marked by the end of this period, representing 80 % of the Forest Area, whose terrestrial and marine areas together total around 126 mill ha's. As of June 2017, around 86 mill ha's of the Forest Area had their boundaries marked, representing about 85 percent of the 101 mill ha's target. For more than three decades, Indonesia was notorious for being one of the countries in the world with the highest rates of illegal logging. The prevalence of illegal logging in Indonesia and elsewhere led to deforestation and forest degradation and caused considerable losses. Some environmental activists, especially those from developed countries, began to call for a boycott of wood products from tropical forests, including from Indonesia. This influenced the global trade in timber and wood products and provided motivation to tropical timber producing countries to step up action against illegal logging. Indonesia began to implement law enforcement and more effective policies to combat illegal logging. Logging may degrade forests and open them up to further exploitation, but wholesale conversion to plantation crops (including oil palm and fast-growing trees for pulp and paper production) destroys them. The carbon sequestered by oil palm and tree plantations is only a fraction of that stored in original forests. Of the 9.2 mill ha's of oil palm and pulp and paper plantations in Kalimantan in 2015, 7.0 mill ha's had been old-growth forest in 1973.

In 2009, the Indonesian Timber Legality Verification System (Sistem Verifikasi Legalitas Kayu, SVLK)¹³⁹ was established to ensure the legality of timber sourced from within Indonesia. The use of this system is mandatory for all enterprises utilizing timber forest products at all stages of production, from upstream to downstream. With the implementation of the SVLK, 140 Indonesian timber and timber products that are destined for export, which are derived from forests of all different statuses, both private and state forests, are legally guaranteed and certified as sustainably managed products. The SVLK has been recognized as an effective instrument to verify the legality of timber by a number of consumer countries that require guarantees regarding the legality of timber, including those from the EU. The credibility of the SVLK has been recognized through the FLEGT VPA Indonesia-EU Agreement, signed on 30 September 2013, ratified by Indonesia in 2014¹⁴¹ and coming into force on 15 November 2016. 142 FLEGT licenses represent a significant achievement by Indonesia in terms of combating illegal logging and ensuring the sustainability of forestry sources. Indonesia is the first of 15 producer countries to be entitled by the EU to unilaterally issue FLEGT Licenses. Because they are accompanied by FLEGT licenses, wood products from Indonesia are said by the EU to no longer require being subjected to additional due diligence procedures. The FLEGT licence automatically meets the requirements of the European Union (EU) Timber Regulation (EU Reg.# 995/2010), which prohibits operators in the EU from placing illegally harvested timber and products derived from illegal timber on the EU market. Importers of FLEGT-licensed timber products can place their imports on the EU market without the need to conduct any risk management exercise (due diligence). Indonesia's FLEGT-licensing scheme is based on a mandatory certification system called the 'Sistem Verifikasi Legalitas Kayu (SVLK)' or timber legality assurance system, which was developed by representatives of Indonesian forestry stakeholders. The FLEGT licensing scheme is the first of its kind in the world, and is the result of a Voluntary Partnership Agreement (VPA) between Indonesia and the EU. Indonesia and the EU negotiated and implemented the VPA to address illegal logging and its associated trade at the supply and demand

sides, improve forest governance and promote the trade in legal timber products. All timber product types listed in the VPA and directly exported to the EU must be now accompanied by a FLEGT licence issued by any of the 22 Indonesian Licensing Authorities. Competent Authorities in EU Member States will deny entry to any such products exported from Indonesia to the EU without a valid FLEGT licence. Indonesia's SVLK assures that all timber products harvested or imported, transported, traded, processed and exported comply with national laws on environmental, social and economic aspects as identified by stakeholders from government, the private sector and civil society

Supply base Latvia

ABGK consider all of Latvia as its supply base. ABGK sources oak (*Quercus petraea/robur*). ABGK have 1-5 suppliers in Latvia. One supplier is FSC and FSC CW certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled.

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, 41 % 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. 54 % 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 34.3 %, Birch 30.8 %, Spruce 18 %, Grey Alder 7.4 %, Aspen 5.4 %, Black Alder 3 %, Ash 0.5 %, Oak 0.3 %, Other Species 0.3 %.

Ownership

The Latvian state owns around one-half of the country's forests, while most of the rest of the forest belongs to approximately 144,000 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. 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. 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 old-growth forests and features are protected and allowed to develop. www.lvm.lv

Supply Base Lithuania

ABGK consider all of Lithuania as its supply base, sourcing oak (*Quercus petraea/robur*) from 1-5 suppliers. Supplies are normally non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Forest Cover

The forested 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 (mainly due to the mouth of ash woods), 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 % (stands diminished by 64.6 % due to disease)

Other - 7 %

Ownership

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

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. m³ of living trees felled. After 1995 felling were decreasing to 7.71 mill. m³ 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. m³ 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>)

Supply base Moldova

ABGK consider all of Moldova as its supply base and source oak (*Quercus robur/petraea*) from 1-5 suppliers. Supplies are normally non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has two suppliers from Moldova.

Forest cover

In 2016, the area of forestry lands accounted for about 465,252 ha or 12.7% of the total land. According to the U.N. FAO, 11.7 % or about 386,000 ha of Moldova is forested. Moldova had 2,000 ha of planted forest. Change in Forest Cover: Between 1990 and 2010, Moldova lost an average of 3,350 ha or 1.05 % per year. In total, between 1990 and 2010, Moldova gained 21.0 % of its forest cover or around 67,000 ha. The land that lies currently in Moldova has seen about 75-80 % of its forests destroyed since the advent of human activity, compared to an average for the earth of about 50 % of forests destroyed. Moldova's territory in the 19th century was about 30 % forested, but now is about 12 % forested, making it one of the most deforested countries in Europe⁹.

Moldova's forest composition is dominated by broadleaf trees (97.8 %), including oak - 39.6 %, ash trees - 4.6 %, hornbeam - 2.6 %, acacia - 36.1 %, poplar - 1.6 % and others, the coniferous being represented only in a proportion of 2.2 %

Ownership

Currently, the national forest fund accounts for 12.7 % of the country's territory. Most of land covered by forests (87.2 %) is the state property, the rest being held by Local Public Authorities (LPAs)/mayoralties (12.2 %), and only 0.6 % by private owners. Although, it has a relatively insignificant participation in the forest fund, the private property is steadily increasing.

Management practices

The Forestry Agency "Moldsilva" is the central public administration responsible for forestry policy development and the management of state forestry resources. ICAS (Forestry Research and Development Institute) is under the jurisdiction of Moldsilva. ICAS's mission is to scientifically base the management and development of the forest sector. At present it has elaborated the "Strategy of Sustainable Development of Forest Sector in the Republic of Moldova". It considers the field of forestry biodiversity conservation as one of the most important aim of activity.

A long-term, one-hundred-year trend of deforestation has been reversed in the past 50 years, and Moldova's current forest policy calls for a further increase in forest cover through forestation and improved community management of forests for direct uses and catchment protection. Despite afforestation activities conducted from 2002 to 2008, the country still has a very low level of forest cover, which explains in part the frequency and severity of soil erosion, flood and landslide events. Moldova's forests are characterized as highly vulnerable to pests and diseases.

To ensure constant ecological balance and more pronounced impact on the local climate and hydrology, to establish ecological corridors connecting forest areas and to improve the productivity of agricultural land, it is expected to plant forests on about 128,000 ha by 2020, with about 5,000 ha of plantations with quick-growing species and about 5,000 ha of green zones in urban and rural settlements.

⁹ "The State of the Forests of Moldova, 2006-2010," (funded in part by the EU,)

Supply base Norway

ABGK consider all of Norway to be in its supply base and source scots pine (*Pinus sylvestris*) and rarely spruce (*Picea abies*). In Norway ABGK have 1-5 suppliers and wood is sourced with FSC Controlled Wood certification. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Forest cover

The total forested area amounts to 13 mill ha's, including 8,3 mill ha's of productive forest. The annual increment is about 26 mill cubic metres and the most important species are Norway spruce (44 %), Scots pine (31 %) and birch and other broadleaves (25 %) (Rognstad et. al, 2015).

Ownership

Most of forests in Norway are owned by private individuals/families (72 %) and the state only owns 11 % (figure 5). From figure 6 it can be seen that there are many owners of smaller forests 25-249 Dekar (10 dekar = 1 ha).

Management

Norwegian forest resource policies are based on principles of maintaining the long-term stability and resilience of the resource base. The goal of Norwegian forest management policies is to meet social, economic, ecological and cultural needs for present and future generations (Rognstad et. al, 2015).

Supply base Poland

ABGK consider all of Poland as it's supply base and source oak (*Quercus petraea/robur*). ABGK have 1-5 suppliers in Poland. About 10 % of supplies are FSC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has two suppliers from Poland, one is FSC/PEFC/FSC CW and the other is PEFC certified.

Forest cover

In Poland, forest land covers 9.3 mill ha, stocked forest land covers 9.1 mill ha, and the volume of growing stock is 2.3 billion m³ including 0.8 billion m³ in mature and over mature forests. The average growing stock of forests is 257 m³ per ha. The mean annual increment is about 70 mill m³. Since 1945, the growing stock has increased by 1.4 billion m³, and the growing stock of mature forests has increased by 0.6 billion m³. Average forest cover ratio across the country's 16 regions is 29 %.

Forest land in Poland is distributed by forest habitat among three groups: 7.8 mill ha belong to forests of lowland, 0.5 mill ha to forests of upland, and 0.8 mill ha to mountain forests.

Management Practices

The State Forests National Forest Holding is responsible for managing the state forests with its 430 forest districts. General Directorate for Environmental Protection is in charge of the nature conservation management. 29% of the land area (49% of the forest area) in Poland is defined with a Natura 2000 status. National Parks cover 1% of the country.

Forest management practices are based on the forest act, nature conservation act, forestry guidelines, and forest management planning practice by the state forestry organization. National Forest Programme and National Forest Inventory set the framework for forest resources use.

The dominant forest regeneration method in Poland is artificial regeneration (90 % of the total forest regeneration area) Most of the artificially regenerated area has been planted. In 2010 40,539 ha were artificially regenerated and 4,631 ha naturally regenerated. Pine dominates the artificial regeneration with 17 %, spruce 13 %, larch 11 %, fir 11 %, black alder 12 %, ash 10 %, birch 10 %, oak 8 % and beech 8 %

The thinning of middle-aged and maturing stands is quite common, see figure below. The proportion of the thinning of the felled volume has been 51-60 %. The reason why the thinning has been even more common is mainly demand for pulpwood in many regions. The importance and benefits of thinnings are largely recognised, and it is expected that their amount will grow when the use of forest energy is intensified.

Ownership

Forests in Poland are mostly publicly owned. The state owns 80 % of forests and 77 % are under the management of the National Forest Holding “State Forests”. The share of the privately-owned forests is 19 %.

Supply base Romania

ABGK consider all of Romania as it’s supply base and source Oak (*Quercus robur* and *Quercus petraea*) from 40-50 suppliers, about 30 % is PEFC or FSC certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has fifteen suppliers that are FSC certified one supplier that is FSC/PEFC, one supplier PEFC and one FSC CW out of forty suppliers.

Forest cover

Forests cover in Romania is 6.519.000 ha, 27 % of the total area of Romania. Previously, 70 % of the present-day territory was forest covered. 66 % of the forests are found in the mountains (30 % of the country), 24 % in the hilly regions (37 % of the country) and 10 % on the plains (33 % of the country). Forest composition is varied. Conifers make up about 30 %, beech (pure and mixed stands) 30%, oak species 19 %, various hard broad-leaves 14 % and soft broad-leaves 6 %. A 'natural forest' composition model is the main goal of present-day management plans. From 1960-1985 inappropriate native and introduced coniferous species were planted, resulting in ecological problems in artificial forest stands and low wood quality. The natural increment of forests in Romania is about 5.4 m³/ha/year (according to data from the National Statistics Institute) or about 7.8 m³/ha/year (according to the National Forest Inventory).

Ownership

Ownership	Area (ha)	%	
	State	3.254.000	50
	Administrative-territorial units	1.029.000	15
Private property	2.236.000	35	
TOTAL	6.519.000	100	

Management practices

For the State Forest area (66.0% of the total forest area), forest management or services are provided by the Romsilva National Forest Administration, while for the others forestry area (34.0 %), forest management or services are provided by forest regimes districts.

By the end of 2015 there were 468 forest districts, of which 322 were under the structures of the Romsilva National Forest Administration, 146 forest regime districts, 3 forest districts under the structure of "Marin Drăcea" National Forest Research and Development Institute and 1 forest district under the Autonomous Administration – State Protocol Patrimony Administration.

In Romania, the main governmental institutions associated with forestry are Ministry of Waters and Forests, National Forest Administration – Romsilva, National Institute for Research and Development in Forestry "Marin Drăcea", Regional Forest Guards, National Environment Guard, National Environmental Agency. The National Forest Administration – Romsilva operates under the authority of the Ministry of Waters and Forests. The main purpose is to ensure sustainable and unitary management, in accordance with the provisions of the forestry and forestry rules, of the public property fund of the state in order to increase the contribution of the forests to the improvement of the environment conditions and to ensure the national economy with wood, forest products and specific forest services. At the same time, through the 22 parish administrations, units with legal personality, RNP-Romsilva administers 23 national and natural parks in which the state-owned forestry fund has a significant share, ensuring biodiversity conservation in these protected areas.

The non-governmental organizations are Romanian Forest Association (ASFOR), Association of the Private Forest Administration (AAPP), Owners Association of the Private Forests, The Silvicultural Society, Proforest Association, Professional Association of Forest Service Providers in Romania, Federation for the Protection of Forests. Romania, which has the largest area of virgin forests in the EU, is also the country most affected by illegal logging in Europe, a major environmental advocacy group said Monday.

The country has the most important forests in Europe "in terms of biodiversity, in terms of size, in terms of forest intact landscapes," said Alexander von Bismarck, director of the US branch of the Environmental Investigation Agency (EIA). However, the country also "has the most acute problem of illegal logging today in Europe", he warned. Romania's woodlands are home to more large mammals than all other European states combined, excluding Russia, according to the EIA. The animals that roam its forests include brown bear, lynx and wolves. According to Romanian authorities, some 80 mill cubic metres (2.8 billion cubic feet) of wood was illegally logged in the country over the past 20 years, resulting in a loss of five billion euros (\$5.4 billion). EIA accuses the Austrian wood products company Holzindustrie Schweighofer that dominates the forestry sector in Romania of "willingly and knowingly accepting illegally harvested timber".

Supply base Russia

ABGK consider all of Russia as its supply base and sources Birch (*Betula pendula*) from the North Western part of Russia and Oak (*Quercus petraea/robur*) from Krasnodar Region - Adygea Republic.

ABGK source from 1-5 suppliers, about 25 % of supplies are FSC certified and about 60% are FSC Controlled. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has two suppliers from Russia.

Forest cover

Russia is home to more than one-fifth of the world's forest areas. According to the FAO Global Forest Resources Assessment 2015 Russia, also officially known as the Russian Federation, has around 815 mill ha's of forest and other wooded land, which constitutes to 49.8 % of the total land area. Around 795 mill ha's are primary (33.5 %) or otherwise naturally regenerated forest (64.1%), and the remaining part of 20 mill ha's is planted forest.

The Russian landscape is highly diverse, including polar deserts, arctic and sub-arctic tundra, boreal and semi-tundra larch forests, boreal and temperate coniferous forests, temperate broadleaf and mixed forests, forest-steppe and steppe (temperate grasslands, savannahs, and shrub-lands), semi-deserts and deserts. Russian boreal forests (known in Russia as the taiga) represent the largest forested region on Earth (approximately 12 mill km²), larger than the Amazon. These forests have relatively few tree species, and are

composed mainly of birch, pine, spruce, fir, with some deciduous species. Mixed in among the forests are bogs, fens, marshes, shallow lakes, rivers and wetlands, which hold vast amounts of water. They contain more than 55 % of the world’s conifers, and 11 % of the world’s biomass. (WWF). Boreal forests play a vital role in the global carbon cycle and in regulating climate change, acting as giant storehouses of carbon emissions. In fact, the world’s circumpolar boreal forests and peat-lands are reported to contain as much as five times the carbon of the world’s temperate forests, and almost double the carbon in tropical forests. Studies suggest that Russia holds almost 50 % of the Northern Hemisphere’s terrestrial carbon. Russian forests contain approximately 56.3 Pg (petagrams, or billion tonnes) of carbon in vegetation, and approximately 135.7 Pg C in soil organic matter. About 60 % of this carbon is locked in peat that is currently frozen within permafrost.

Russian forests annual change range around 0,0 %

Boreal forest represents about 30 % of global forest area, it is roughly estimated that 75 % of Russian forests are boreal and 25 % are temperate.

Most common production species in Russia are:

Coniferous:

- Pine (*Pinus* spp.)
- Spruce (*Picea* spp.)
- Fir (*Abies nephrolippis*)
- Larch (*Larix* spp.)
- Siberian pine (*Pinus siberica* – often not translated correctly as Siberian cedar)

Deciduous:

- Oak (*Quercus* spp.)
- Beech (*Fagus sylvatica*)
- Birch (*Betula* spp.)
- Aspen (*Populus tremula*)
- Ash (*Fraxinus* spp.)
- Elm (*Ulmus* spp.)
- Linden (*Tilia* spp.)

Ownership

Land surface	1 637.7 million hectares
Forest Cover	814.9 million hectares (49.8%); mostly primary and other naturally regenerated forest 2.4% (19.8 million hectares) is planted forest
Production forest	415.1 million hectares designated for production
Forest ownership	99.2 % publicly owned 0.8 % unknown ownership
Annual change rate	0 % per year; over the past 25 years (1990-2015)

Source: FAO, 2015

Management practices

Russia has more than 12,000 national, regional, and local protected areas, covering 200 mill ha’s or 11.9 % of the country. Federally managed protected areas, including 101 strict nature reserves (zapovedniks), 40

national parks, and 69 federal sanctuaries or wildlife refuges (zakazniks), cover 54 mill ha's or about 3 % of the country's territory. (WWF, 2009). In addition to these protected areas, Russia has more than 276 mill ha's of protected forest (such as water protection zones, cedar nuts using zones etc), 271.5 mill ha's of reserve forest located in economically inaccessible territories and many protected forest sites within exploitable forest. The share of protected forests is fluctuating from 3 % to 60 %, depending on the region and/or forest management unit. All these categories of forests have different protection regimes and clear cutting is not allowed in most of them.

Supply base Serbia

ABGK consider all of Serbia as its supply base. Sourcing oak (*Quercus petraealrobur*) from Serbia is expected within the next 3 years from 1-5 suppliers. Certified wood is preferred. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has one supplier from Serbia that harvests in Bosnia-Herzegovina.

Forest cover

Serbia is a medium-forested country. About 29 % of Serbia's territory, or 27,200 km², are covered with forests. The total growing stock of forests amounts to 362,487.000 m³ of wood and the annual increment of timber is 9,079,000 m³.

Broadleaves account for 90.7 % of the growing stock (beech forests account for 27.6% of the total forest area, oak forests – 24.6 %, other hard broadleaves 6.0 %, poplar 1.9 %, other soft broadleaves 0.6% and mixed broadleaf stands 30 %) conifers – 6.0%, mixed forests of broadleaves and conifers – 3.3%. As the data on private forests are less available, only the state-owned forests will be presented in more detail. Forests of seed origin account for 39.6 %, coppice 34.6 %, forest plantations 14.7 %, scrub 5.6 % and brushwood 5.5 %, meaning that coppice and degraded forests occupy 45.7 % of the area. The average volume is 101.7 m³/ha, in forests of seed origin 153 m³/ha, in coppice forests 70 m³/ha.

Ownership

About 53 % of the forests are state-owned, the remaining 47 % are privately owned. The structure of private forests in this Balkan country is characterized by a big number of forest owners with small to average area of forest property and many small forest lots. In order to control illegal logging, all activities conducted in privately and state-owned forests are done under the supervision of two Public Enterprises: Srbijašume and Vojvodinašume. Privately owned forests are fragmented and small. Bigger holdings with more substantial potential for development are rare but produce high quality hardwood timber used in solid wood furniture manufacturing.

Management practices

Public enterprises and other public institutions, such as state universities or the Serbian army, manage the state forests. Long-term contracts were made with two public enterprises (Serbia Sume and Vojvodina Sume). Currently, these two enterprises are the only ones that are FSC certified. Small private forest lots are in hand of individual owners, but their management is under the influence of the public enterprises located on their territory. The management of small forest lots (planning, silvicultural decision etc.) is under the strong influence of the state forest service while freedom is given to owners during the implementation phase of forest management. The Government of Serbia will, to accomplish the ownership function in the management of the state forests, find the optimal institutional and organization solution. The management of state forests to generate revenues should be carried out by the business-oriented entities (enterprises), in conformity with the provisions of the law on state forest management and other corresponding regulations, - enterprises for state forest management pay the compensation for the use of the resources. The Government is committed to assist the restructuring of the actual State Enterprises for Forest Management, in the aim of the realization of the ownership function and the goals of the Strategy.

Supply base Sweden

ABGK consider all of Sweden as its supply base and source Oak (*Quercus robur* and *Quercus petraea*), Red oak (*Quercus rubra*), Beech (*Fagus sylvatica*), Ash (*Fraxinus excelsior*), Alder (*Alnus glutinosa*), Pine (*Pinus sylvestris*), Spruce (*Picea Abies*) and Birch (*Betula pendula/pubescens*). In Sweden ABGK have 300-350 suppliers, about 50 % of volumes are FSC certified, 35 % are FSC Controlled Wood, 2 % are PEFC certified and 13 % are non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has two suppliers from Sweden, one is FSC, FSC CW certified and one is FSC, FSC CW and PEFC certified.

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.

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.

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)

Forest management

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.

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.

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.

Supply base Ukraine

ABGK include the following areas in Ukraine in its supply base: Poltava Region; Kirovograd; Lviv; Zhytomyr; Ternopil; Khmelnytsky; Vinnitsia; Chernivtsi; Ivano-Frankivsk; Rivne. ABGK source oak (*Quercus petraealrobur*) from 1-5 suppliers, a small proportion (0-5 %) is FSC certified the remainder non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources. ABGK Satulung has two suppliers from the Ukraine, one has FSC certification.

Forest cover

According to the FAO (2015) the Ukraine has around 9.7 mill ha's of forested land, which constitutes to 16.7 % of the total land area. Only 60,000 ha's (0.6 %) are primary forests, 4.7 (49 %) mill ha's of otherwise naturally regenerated forest, and over 50 %, 4.9 mill ha's are planted forest. According the law on forest categories and conservation value areas (2007), forests are divided into the following categories, depending on their main functions:

- forests with conservation, scientific, historical and cultural functions
- forests for recreation and health
- protection forests
- operational forests

Ownership

Almost all forests in Ukraine (99 %) are state owned but are managed by different institutions. Private forests amount for less than 1 % of the forest area. About 70 % of forests are managed by the Ukrainian State Committee of Forestry (USCF) that is a part of the Ukrainian Ministry of Ecology and Natural Resources. Since 2004, regional forest directorates, one for each province, serve as the Committee's regional bodies. The Ministry of Agricultural Policy and 2.2 % manage another 24 % of the forest area by the Ministry of Defence. The largest part of wood products (80-90 %) is produced by State Forest Enterprises, which carry out forest management activities under coordination with the Regional Forest Enterprises. Forest administration institutions in Ukraine are subject to frequent restructuring in the context of an unstable political situation.

Management practices

Most of the forests in Ukraine (7,175 mill ha's or about 70%) are managed by the Ukrainian State Committee of Forestry (USCF) that is part of the Ukrainian Ministry of Ecology and Natural Resources.

1. Forest land area in the first group is 3.412 mill ha's including 2.850 mill ha's of forest covered land. The first group of forests includes green belts around cities and industrial centres (37.6 %), riparian areas (11.4 %), soil erosion control forests and windbreaks (30.4 %), forest belts along roads and railroads (6.9 %), resort forests, nature preserves and other forests.
2. Limited timber harvest is allowed in the forests of the second forest group. They cover the area of 3.692 mill ha's including 3.301 mill ha's with forest cover.

Supply base United States of America

ABGK consider United States of America as its supply base, centralized around the northern regions where Black Cherry (*Prunus serotina*) and Black Walnut (*Juglans nigra*) originate. ABGK use 1-5 suppliers in United

States of America. Supplies of Black Cherry are FSC certified, Walnut is non-certified. All non-certified material is handled via ABGK own PEFC DDS system and treated as PEFC Controlled Sources.

Species considered

Black Cherry (*Prunus serotina*) - Pennsylvania (mainly) and supplier is based close to the Allegheny National forest where there is a big population of Black Cherry, Maple (and other hard wood species).

Black Walnut (*Juglans nigra*) - Most of the suppliers today are in Iowa but the wood is coming from Midwest in general. The proportion from each state will vary over time. Material is not certified due to the problems to get Walnut logs as certified in US. These suppliers are small, so they are normally not certified themselves. All purchases are through Skanditrä. They are the operator under the EUTR.

Forest cover

Today about one-third of the nation is forested. While total forest area has been relatively stable for the last 100 years (currently about 768 mill acres (3,020,000 km²)), there have been significant regional shifts in the area and composition of the nation's forests. Reversion of marginal farmland in the east, large-scale planting in the South, and fire suppression have contributed to increases in a forest area. Urbanization, conversion to agriculture, reservoir construction, and natural disasters have been major factors contributing to the loss of forests. As of 2005, the United States ranked seventh in the rate of loss of its old growth forests.

Eastern forests cover about 384 mill acres (1,550,000 km²) and are predominantly broadleaf (74 %), with the exception of extensive coniferous forests and plantations in the southern coastal region. These are largely in private ownership (83 %). By contrast, about 363 mill acres (1,470,000 km²) of western forests are predominantly coniferous (78 %) and in public ownership (57 %). Nearly ten mill private individuals own about 422 mill acres (1,710,000 km²) of forest and another wooded land. Most public forestland is held by four Federal agencies (United States Forest Service, Bureau of Land Management, National Park Service, Fish, and Wildlife Service) as well as numerous state, county, and municipal government organizations. U.S. urban land increased from 2.6 % (57.9 mill acres) in 2000 to 3.0 % (68.0 mill acres) in 2010. States with the greatest amount of urban growth were in the South/Southeast (TX, FL, NC, GA and SC). Between 2010 and 2060, urban land is projected to increase another 95.5 mill acres to 163.1 mill acres (8.6 %) with 18 states projected to have an increase of over 2 mill acres. Overall, there are an estimated 5.5 billion trees (39.4 % tree cover) in urban areas nationally that contain 127 mill acres of leaf area and 44 mill tons of dry-weight leaf biomass. Annually, these trees produce a total of \$18.3 billion in value related to air pollution removal (\$5.4 billion), reduced building energy use (\$5.4 billion), carbon sequestration (\$4.8 billion) and avoided pollutant emissions (\$2.7 billion).

Ownership

Fifty-six % of the 768 mill acres of forest land in the United States is privately owned. Of this private forest land, 62 % is owned by families and individuals in what we call "family forests." The remaining private forest land is owned by corporations, conservation organizations, clubs, Native American tribes, and others. Forty-four % of forest land is publicly owned. The Federal government administers 76 % of the public forest land. State forestry, park, and wildlife agencies account for most of the 21 % of public forest land that is state-owned. The remaining 3 % of the public forest land is owned by local governments, such as counties and towns.

Management practices

Sustainable forest management, as defined at the 1992 United Nations Conference on Environment and Development, requires a balance between meeting the forest resource needs of the present without compromising the ability of future generations to do the same. Sustainable forest management involves practicing a land stewardship ethic that integrates silviculture (reforesting, managing, growing, nurturing and

harvesting of trees for useful products) with the conservation of soil, air and water quality, wildlife and fish habitats, recreation and aesthetics. Sustainable forest management practices on U.S. forests ensure healthy and abundant forests for present and future generations, while providing renewable natural raw materials for the production of pulp and environmentally beneficial, recyclable paper and packaging products and energy-efficient building materials.

Approximately 768 million acres in the U.S. are forestland - the same acreage that existed 100 years ago. This is due, in part, to reforestation efforts, improvements in agricultural practices and environmentally and economically sustainable markets for forest products. While deforestation is occurring in other countries, there is more standing wood on U.S. forestlands today than there was a half century ago. The strong framework of voluntary BMPs in the U.S. is reinforced by a thorough system of federal and state forest management laws that apply to public and private land. At the federal level, a number of laws govern management of federal and private forestland, including laws that protect threatened and endangered species; provide for certain BMPs and regulation of activities in forested wetlands; protect air quality and visibility; regulate chemical use in forest stands; and provide for safe harvest activities and equipment, and fair labour practices. Most of these laws contain significant penalties for violations, which are enforced by state or federal governments. Many also contain citizen suit provisions, allowing interested citizens to challenge their implementation and enforcement, and the U.S. Congress exercises oversight responsibilities.

Below is a description of the types of certification, forest certification systems within the U.S. and their requirements, and a limited comparison of the U.S. certification programs:

1. Forest (land) Management – certifies the management of forestland and ensures the management is based upon sustainable practices as defined by the forest certification system. Approximately 10 % of all forests worldwide are certified. The majority of certified forests are located in industrialized countries such as Canada, the U.S. and a number of European countries.¹⁰ About 500 million acres (two-thirds) of U.S. forestlands are classified as timberland.¹¹ Current certified acres by certification program show higher participation by private landowners in the U.S. in the Sustainable Forestry Initiative® (SFI®) and the American Tree Farm System (ATFS) certification programs. Twenty % of U.S. timberland is certified, with approximately 5 % certified to the ATFS, 7 % to Forest Stewardship Council (FSC)-U.S., and 12 % to the SFI. (Note: These percentages exceed 20 %, as some acreage is dual certified.) Currently, there are no federal certified lands where harvest activities generally occur (U.S. Forest Service Lands, BLM); some state and municipal lands are certified to FSC and/or SFI.¹² While there is a strong legacy of voluntary sustainable forestry practices in the U.S., the fragmented pattern of land ownership, with so many small landowners, has hindered overall certification of forest lands to one of the Timberland tracts is land capable of growing twenty cubic feet per acre of wood. Chain of Custody – standards, which apply to suppliers and/manufacturers, require the tracking of certified, recycled, and non-certified fibre as it moves through the supply chain and permits the application of certified content claims and labels to products. The standards also allow mixed products when fibre from certified and non-certified lands is combined during the manufacturing process. Third party certified Chain of Custody participants must track the amount of fibre moving through these systems to prevent double counting.

Within the U.S., there are four primary forest certification systems:

1. The Programme for the Endorsement of Forest Certification (PEFC) PEFC is an independent non-profit global umbrella organization and the world's largest forest certification system. Of the 662 million acres endorsed under PEFC globally, 60% comes from PEFC standards in North America. In the United States, both SFI's and ATFS's forest management standards are endorsed by PEFC and in Canada. PEFC has endorsed the Canadian Standards Association's (CSA) forest management standard as well as SFI's forest management standard. The national certification programs are assessed by a PEFC-approved assessor based on a 4-Part PEFC Minimum Requirements Checklist. The checklist covers everything from how the

national certification program was developed to the stakeholders involved, forestry requirements, chain of custody requirements, and third-party certification and accreditation requirements

2. Sustainable Forestry Initiative (SFI) AF&PA members have a goal of increasing the amount of fibre procured from certified forestlands or through certified sourcing systems in the U.S. In 2010, 24 % of the fibre procured by AF&PA members was procured from third-party certified forestlands and more than 96 % of fibre sourced from the forest by AF&PA members was sourced through certified sourcing programs. The SFI program was launched in 1995. The SFI standard is a North American standard overseen by SFI Inc., an independent, non-profit organization with offices in Washington, D.C. and Ottawa, ON Canada, dedicated to promoting sustainable forest management. It encompasses forestland management, wood fibre sourcing and chain of custody. SFI Inc. is governed by a three-chamber board of directors representing environmental, social and economic sectors, equally. The SFI Standards are revised every five years following an inclusive, public review process, which includes recommendations from multi-stakeholder committees and an external review panel. SFI is the world’s largest single forest land management certification standard, with approximately 61 mill certified acres in the U.S. and over 266 mill certified acres in the U.S. and Canada. Twenty-five % of SFI certified land is in the U.S. SFI generally is used by large landowners, rather than small or family-type landowners

3. American Tree Farm System (ATFS) ATFS, established in 1941, is the oldest U.S. forest land management certification program with 82 thousand woodland owners and 22 mill certified acres. Currently ATFS is operated under the American Forest Foundation who promotes stewardship and protects the values provided by our nation’s forest heritage. ATFS does not include procurement or a chain of custody certification programs. fibre harvested from ATFS lands can be recognized under the PEFC and SFI chain of custody certificates.

4. Forest Stewardship Council (FSC) (International and U.S.) Developed in 1992 and 1993, and headquartered in Bonn, Germany. FSC is a global forestry certification organization that sets out international standards with which national and regional FSC standards must conform. FSC-International has approximately 450 mill acres certified world-wide. Eight % (or just over 35 mill acres) of FSC’s 450 mill acres are located within the domestic United States. FSC-U.S. formerly maintained nine standards for different regions of the U.S.; in July 2010, it incorporated the different regional standards as “variations” into a single FSC-U.S. standard. In 2010, FSC also finalized a family forest ownership program that allows group certification, with the goal of providing small family forest owners access to FSC certification.

5.3 Detailed description of Supply Base

Below is the summarized statistics from Gustaf Kähr’s Supply Base presented. A quantitative description of the Supply Base can be found in the Company’s Supply Base Report. The SBR is available for download in English and Swedish from the BP’s group website:

<http://www.kahrsgroup.com/en/responsibility/environmentalresponsibility/>

Country	Privately owned (PR), Public (PU), Community concession (CO)	Boreal (BO), Temperate (TE), Tropical (TR)	Plantation (PL), Managed natural (MA), Natural (NA)	FSC ¹⁰	PEFC ¹¹	TOTAL
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¹⁰<https://ic.fsc.org/en/facts-and-figures>

¹¹<https://www.pefc.org/about-pefc/who-we-are/facts-a-figures>

	(mill. ha)	(mill. ha)	(mill. ha)	(mill. ha)	(mill. ha)	(mill. ha)
Australia	PR 86,7 PU 34,3 CO 3,7	TE 39,3 TR 85,4	PL 2,0 MA 92,1 NA 30,6	1,2	8,8	124,7
Austria	PR 3,1 PU 0,7	TE 3,8	PL 3,0 MA 0,3 NA 0,5	0,0	3,1	3,8
Bosnia-Herzegovina	PR 1,8 PU 0,4	TE 2,2	PL 0,2 MA 2,0 NA 0,0	1,6	0,0	2,2
Brazil	PR 98,5 PU 295,4 CO 84,1	TR 478	PL 5,3 MA 56,3 NA 416,4	6,8	3,8	478,0
Bulgaria	PR 0,4 PU 3,4 CO 0,1	TE 3,9	PL 0,8 MA 2,8 NA 0,3	1,5	0,0	3,9
Canada	PR 21,5 PU 318,6 CO 6,9	BO 270,0 TE 77,0	MA 226,0 NA 121,0	54,1	40,7	347,0
Croatia	PR 0,4 PU 1,7	TE 2,1	PL 0,1 MA 2,0	2,0	0,0	2,1
Czech Republic	PR 0,6 PU 2,0	TE 2,6	PL 2,6	0,1	1,8	2,6
Denmark	PR 0,4 PU 0,2	TE 0,6	PL 0,6	0,2	0,3	0,6
Estonia	PR 1,0 PU 1,0 CO 0,4	BO 2,4	PL 0,3 MA 1,1 NA 1,0	1,5	1,2	2,4
Finland	PR 15,1 PU 7,1	BO 22,2	PL 5,9 MA 16,3	1,6	18,1	22,2
France	PR 12,7 PU 4,2	TE 16,9	PL 2,1 MA 14,8	0,1	8,0	16,9
Germany	PR 5,5 PU 5,9	TE 11,4	PL 5,4 MA 6,0	1,4	7,6	11,4
Hungary	PR 0,8 PU 1,1 CO 0,1	TE 2,0	PL 1,6 MA 0,4	0,3	0,0	2,0
Indonesia	PR 8,5 PU 85,8	TR 94,3	PL 3,5 MA 43,6 NA 47,2	3,0	3,9	94,3
Latvia	PR 1,9 PU 1,9	BO 3,8	PL 0,7 MA 3,1	1,0	1,7	3,8
Lithuania	PR 1,1 PU 1,1	BO 2,2	PL 0,5 MA 1,7	1,1		2,2
Moldovia	PU 0,4	TE 0,4	MA 0,4	0,0	0,0	0,4
Norway	PR 11,2 PU 1,8	BO 13,0	PL 1,5 MA 11,3 NA 0,2	0,4	7,4	13,0
Poland	PR 1,7 PU 7,4	TE 9,1	PL 9,0 MA 0,1	6,9	7,2	9,1
Romania	PR 2,2	TE 6,5	PL 1,4	2,8	0,0	6,5

	PU 4,3		MA 4,8 NA 0,3			
Russia	PR 6,5 PU 808,5	BO 600,0 TE 215,0	PL 20,0 MA 522,0 NA 273,0	46,7	14,1	815,0
Serbia	PR 1,3 PU 1,4	TE 2,7	MA 2,7	1,0	0,0	2,7
Sweden	PR 19,0 PU 4,5 CO 4,6	BO 22,5 TE 5,6	PL 3,5 MA 17,5 NA 7,1	12,3	15,8	28,1
Ukraine	PR 0,1 PU 9,6	TE 9,7	PL 4,9 MA 4,7 NA 0,1	4,3	0,0	9,7
USA	PR 172,0 PU 135,0	TE 307	PL 25,0 MA 207,0 NA 75,0	14,2	*33,1	307,0
TOTAL	PR 474,0 PU 1737,7 CO 99,9	BO 936,1 TE 717,8 TR 657,7	PL 99,9 MA 1239,0 NA 972,7	166,1	176,6	2311,6

5.4 Chain of Custody system

The BP has chosen to implement a volume credit system and at the same time physical separation system (segregation in time) for its SBP biomass. The separation system is planned to be implemented for non-certified material that is not included in the BP's own PEFC Due Diligence System (DDS) for PEFC Controlled Sources that the BP has in stock in its flooring industry. The BP holds both a valid PEFC (2013-SKM-PEFC-67) and FSC (DNV-COC/CW-000027) certificate, but the PEFC system is the underlying system for SBP implementations.

The BP has implemented a system for conversion factors for different layers of the floor in order to calculate the input of SBP-compliant/controlled feedstock that will enter the pellet plant and the credit system. The feedstock will already be dry when entering the pellet plant and therefore no conversion factors for moisture is needed.

The storage facility at the harbour will implement the volume credit system, and when non-SBP biomass is produced, also a physical separation system as needed.

6 Evaluation process

6.1 Timing of evaluation activities

The evaluation of Gustaf Kähr started with a desk-based pre-assessment. This was a continuous process when documents were ready for evaluation and started on the 7th of September 2018 and finished just before the main evaluation (5th of December 2018). The reason for the long pre-assessment was the extent of the supply base report (26 countries). The pre-assessment only included document review of the Supply Base Report, SAR, Due Diligence System and SBP Management System.

The main evaluation with on-site assessment was conducted on the 11th and 12th of December 2018 (14 h). Assessment activities included documents review at office, inspection of production facilities and staff interviews. See detailed agenda for the main assessment below:

The SBP assessment of AB Gustaf Kähr continued on December 16 and 17, 2019. Since the organization had not been able to address the preconditions from the December 2018 Main assessment, the BP did not yet have a SBP certificate at the time of the next assessment audit.

The second assessment audit was conducted onsite at the BP facilities in Nybro, Sweden, and started with an opening meeting at December 16, 2019 at 10:00 and concluded with a closing meeting on Tuesday December 17 at app 14:00. Audit activities included documents review at office, inspection of production facilities and staff interviews. A visit to the BP's storage facilities at the port of Kalmar was conducted late in the afternoon of Monday 16th, 2019.

See detailed agenda for the second assessment below:

Activity	Location	Auditor(s)	Date/time
Monday 16th of December 2019			
Opening meeting* including presentation of the agenda and the company	Office	CAR	10.00-10.30
Documents and procedures review, : 1. Documented Control System (Management system) for PEFC and SBP 2. Management review 3. Supply Base Report 4. Health and safety procedures 5. Training	Office	CAR	09:30-12.00
Lunch break			12:00-12:30
Site tour; interview with feedstock reception department, inspection of production facilities and equipment and shipping.	Production facilities, Offices	CAR	12:30-13:30

<p>Interview with Purchasing department representative</p> <ol style="list-style-type: none"> 1. Evaluation of incoming delivery notes and invoices 2. Control points of the CoC systems including PEFC DDS for PEFC CS 	Purchasing department	CAR	13:30 – 15:00
<p>Review of the system for the collection and reporting of energy and emissions data</p> <ol style="list-style-type: none"> 1. Reporting period 2. Transport data 3. Records of energy and fuel use in production and storage 4. SAR (ID5B) 5. SBP Static Biomass Profiling Data (ID5C) 	Office	CAR	15:00 – 16:30
<p>Presentation of the results of the first day of audit</p>	Office	CAR	16:30 - 17:00
Tuesday 17th of December 2019			
<p>Opening meeting</p>	Desk audit	CAR	09:00-09:15
<p>Interview with Sales department representative</p> <ol style="list-style-type: none"> 1. Understanding of SBP sales process 2. Critical control points for CoC 3. Data entry in DTS 	Desk audit	CAR	9:15-10:00
<p>Additional documents and procedures review; staff interview.</p>	Desk audit	CAR	10:00 – 12:30
<p>Lunch break</p>			12:30 - 13:30
<p>Internal team meeting / Auditor’s own time</p>	Desk audit	CAR	13:00 – 13:30
<p>Closing meeting*</p>	Desk audit	CAR	13:30 – 14:00
<p>Estimated end of the evaluation</p>			14:00

6.2 Description of evaluation activities

Composition of the audit team:

Name	Qualification	Role/focus in evaluation
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Christian Rahbek	M.Sc. (Forestry) from University of Copenhagen. Has passed NEPCon Lead Auditor Training for FSC and PEFC FM and CoC certification and has completed SBP Lead auditor training. Experience from more than 9 years as an FSC, PEFC and SBP auditor in Denmark and abroad.	Lead auditor and responsible for all audit processes.
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Description of the audit activities:

All SBP related documents connected to the SBP, as well as PEFC/FSC CoC system, was provided by the company prior to the audit. This including SBP and PEFC procedures, GHG data presentation and Supply Base Report. The audit started with an opening meeting attended by the SBP responsible person, pellet plant operative manager, purchasing manager, quality and safety manager and environmental and production manager. The pellet plant project leader joined after the opening meeting.

The lead auditor introduced herself and provided information about audit plan, methodology, auditor qualification, confidentiality, and clarified certification scope.

After this, the auditor went through all applicable requirements of the SBP standards no. 2, 4, 5 and related instruction documents covering input clarification, existing chain of custody system, management system, SBP CoC system, recordkeeping/mass balances, emission and energy data, etc. During the process, the overall responsible person for the SBP system and other relevant staff were involved and interviewed.

The auditor visited the flooring industry and the pellet production facility, which were still under construction. Input and output of feedstock in the flooring industry’s production lines were evaluated since this is the entry point for SBP feedstock. The separation system and other critical control points of the CoC system was also evaluated at the flooring industry.

At the end of the audit, findings were summarised, and conclusions based on use of 3 angle evaluation method were provided to SBP responsible person during the closing meeting.

6.3 Process for consultation with stakeholders

The CBs stakeholder consultation was carried by sending direct e-mail to different stakeholder categories 30 days before the main assessment (11th of December 2018). No comments from the stakeholders were received during this consultation.

No stakeholder consultation was conducted as part of this second assessment.

7 Results

7.1 Main strengths and weaknesses

Strengths: The pellet plant will not involve many people since it is automatically driven. Therefore, only two employees are involved on a daily basis. The input is all pre-consumed tertiary feedstock transported on a conveyor belt directly from the flooring factory to the pellet plant.

Weaknesses: The BP has a very high number of countries in the supply base and many people that have to be involved for correct classification of SBP-feedstock that cannot be mixed during production of SBP pellets. Since the BP has inputs in stock for the flooring production that does not meet the SBP requirements for controlled feedstock, the BP has had to develop and implement a system for segregation in time for when the flooring factory uses these inputs, so that the feedstock for the SBP production will not be contaminated with uncontrolled feedstock.

7.2 Rigour of Supply Base Evaluation

Not applicable – Supply Base Evaluation is not part of the certification scope.

7.3 Collection and Communication of Data

The company supplied the auditor with recoded data for energy use in the pellet plant. For the first two months of production, no separate metering of electricity consumption at the pellet plant was possible, and hence the energy consumption for this period was estimated based on the following months.

7.4 Competency of involved personnel

All personnel that is involved with SBP have received appropriate training from the two external consultants that have been involved in the developing the management system. All relevant procedures and requirements have been covered in this training. The SBP responsible staffs have shown good understanding of the requirements in relation to SBP certification and of the PEFC/FSC CoC system that will be used for SBP material.

7.5 Stakeholder feedback

No stakeholder consultation was conducted as part of this audit, and neither the BP nor NEPCon had received any comments from stakeholders in the reporting period.

7.6 Preconditions

Non preconditions remain after this this assessment.

8 Review of Company's Risk Assessments

Describe how the Certification Body assessed risk for the Indicators. Summarise the CB's final risk ratings in Table 1, together with the Company's final risk ratings. Default for each indicator is 'Low', click on the rating to change. Note: this summary should show the risk ratings before AND after the SVP has been performed and after any mitigation measures have been implemented.

Not applicable. Supply Base Evaluation is not included in the scope of the certification.

9 Review of Company's mitigation measures

Not applicable. Supply Base Evaluation is not included in the scope of the certification.

10 Non-conformities and observations

Identify all non-conformities and observations raised/closed during the evaluation (a tabular format below may be used here). Please use as many copies of the table as needed. For each, give details to include at least the following:

- applicable requirement(s)
- grading of the non-conformity (major or minor) or observation with supporting rationale
- timeframe for resolution of the non-conformity
- a statement as to whether the non-conformity is likely to impact upon the integrity of the affected SBP-certified products and the credibility of the SBP trademarks.

NC number 01/18	NC Grading: Major
Standard & Requirement:	SBP Standard 4, Requirement 5.1.2
Description of Non-conformance and Related Evidence:	
<p>The BP holds valid PEFC and FSC certificates and has based its SBP CoC system on that all biomass is either certified or controlled under one of these systems when the feedstock enters the pellet plant (thus no SBE is needed). The BP has however not yet fully implemented its Due Diligence System for PEFC Controlled Sources (Exh 3), which is supposed to include all non-certified or controlled material under the BP's own verification program before it enters the flooring industry where the tertiary feedstock is coming from. This system needs to be implemented and verified by the BP's PEFC CB before the SBP system will work as described by the procedures (Exh 1). Additionally, none of the CoC systems (PEFC/FSC) include wood pellets as a product group in the scope of the certificate(s).</p>	
Timeline for Conformance:	Prior to (re)certification
Evidence Provided by Company to close NC:	<p>The BP has now fully implemented its Due Diligence System for PEFC Controlled Sources (Exh 3), which includes all sourcing of non-certified or controlled material under the BP's own verification program before it enters the flooring industry where the tertiary feedstock is coming from. This system has been implemented and verified by the BP's PEFC CB and was also demonstrated during the SBP audit. See also Exh 1. Additionally, The PEFC CoC system now includes wood pellets as a product group in the scope of the certificate (exhibit 15). The BP still has some inputs for the flooring factory in stock which are uncontrolled and has established procedures for segregation in time for production any batches where the feedstock cannot be reliably demonstrated as SBP controlled feedstock. See exhibit 1c.</p>
Findings for Evaluation of Evidence:	<p>Auditor finds that the corrective actions taking in form of a fully implemented PEFC DDS, procedure for segregation in time for uncontrolled material, and the updated product group schedule for PEFC certificate address the non-conformity, and the NCR is closed on this background.</p>

NC Status:	Closed
NC number 03/18	NC Grading: Observation
Standard & Requirement:	SBP Standard 5, Instruction Document 5A, Requirement 2.1.3
Description of Non-conformance and Related Evidence:	
Since the pellet plant has not yet started up, the BP has no real data for GHG emissions related to the pellet production. The estimates provided during this first assessment seems reasonable, but the BP should be aware of that real data (where relevant and required) is needed for the first surveillance audit.	
Timeline for Conformance:	Other
Evidence Provided by Company to close NC:	The BP now collects the relevant data from the pellet production plant.
Findings for Evaluation of Evidence:	OBS is no longer relevant.
NC Status:	Closed

NC number 01/19	NC Grading: Observation
Standard & Requirement:	<i>SBP Standard #2: Requirement 15.3</i>
Description of Non-conformance and Related Evidence:	
All necessary procedures are covered by the implemented management system. The BP has documented Supply Base Report (Exh 2), Biomass Profiling Data Information and Batch Specific Data (Exh 1, 4 and 5), Chain-of-Custody system (Exh 1 and 3), Due Diligence System and complains procedure (Exh 1 and 3), etc. However, the documented procedures had not been updated to reference Instruction Document 5E, although the use of I.D.5E had already been implement in the organisation for collecting ad reporting GHG and transport data. OBS 01/19: The BP should ensure that all normative documents are referenced in their correct versions.	
Timeline for Conformance:	Other
Evidence Provided by Company to close NC:	Pending
Findings for Evaluation of Evidence:	Pending
NC Status:	Open

11 Certification decision

Based on the auditor's recommendation and the Certification Body's quality review, the following certification decision is taken:

Certification decision:	Certification approved
Certification decision by (name of the person):	Ondrej Tarabus
Date of decision:	24/Jan/2020
Other comments:	<i>Click or tap here to enter text.</i>