

## Introduction

Sveaskog, 100% owned by the Swedish state, is Sweden's largest forest owner. We sell sawlogs, pulpwood and biofuel to customers primarily in sawmilling and pulp & paper industries. We also work with land transactions and develop the forest as a venue for nature-based experiences. Sveaskog is the Swedish market leader within forest regeneration and seedlings through the trademark Svenska Skogsplantor.

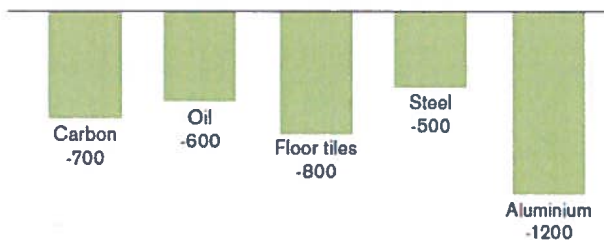
Forests capture large amounts of carbon dioxide and forest management is a key factor for counteracting climate change and creating a fossil-free society. The climate benefit from forests and forestry in Sweden equals Sweden's total carbon dioxide emissions. Since trees capture the most carbon dioxide when growth is greatest, sustainable forest management is essential. Sustainable forestry also provides renewable forest raw materials to replace fossil and energy-intensive materials. Our assignment is to manage and develop the forest with a good rate of return and climate benefits, while preserving important ecological values.

Sveaskog's environmental policy includes assigning 20 percent of productive forest land to promote environmental consideration and nature conservation. Nature protection and habitat management that leads to a varied vegetation and species-rich forest are also crucial parts of sustainable forest management.

Each forest region has its own environmental objectives and targets, since natural values vary in the different forest landscapes. These objectives and targets are achieved by developing ecoparks, by setting aside nature conservation forests and by continued compliance with the Swedish Forest Stewardship Council (FSC) standards in all the company's forests.

Development of ecoparks is a special way of assuming responsibility for unique forest landscapes on Sveaskog's land. Ecoparks will comprise at least 5 percent of productive forest land, where the extent and design of forestry is determined by the special natural and cultural values of the area.

The Swedish forests also make a large contribution to replace fossil-based products and materials. By using biomass from the forest and allowing fossil fuels to remain in the earth's crust, we can reduce the volume of new carbon dioxide added to the atmosphere. Managing forests and replacing fossil material with renewable biomass leads to a lasting reduction in emissions. On average, every harvested cubic metre of timber used in a wooden product eliminates 470 kg of CO<sub>2</sub> emissions.



Reduction of kg carbon dioxide emissions if 1m<sup>3</sup> of renewable wood raw material is used in relation to non-renewable material.

Source: Norsk Treteknisk Institutt and Norsk Byggforskningsinstitut

Sveaskog works continuously to increase energy efficiency in its operations, mainly by improved logistic efficiency and reduced use of fossil fuels. In 2017, Sveaskog conducts an energy survey of buildings, operations and transportations in accordance to Swedish law. The survey will result in a description of the company's total energy use. Parts of the company, with a considerable energy use, will be mapped in detail and the survey will result in suggested actions in order to decrease energy use or increase energy efficiency. Investments will lead to less environmental impact and future reductions in costs.

*"The overall objective of the forest management is to: (i) maintain, and where necessary restore, the eco-system's production capacity, fundamental ecological processes and biodiversity, (ii) secure people's livelihoods, promote a safe environment for workers, respect the cultures of local populations and Sami people, respectively, and their time-honored rights, and acknowledge the importance of values such as wildlife, fungi, berries, fish and recreation, and (iii) promote long-term valuable wood production and economic profitability."*<sup>1</sup>



UN Sustainable development Goal nr.15 – Life on Land,

*"Forests cover 30 per cent of the Earth's surface and in addition to providing food security and shelter, forests are key to combating climate change, protecting biodiversity and the homes of the indigenous population. Thirteen million hectares of forests are being lost every year while the persistent degradation of drylands has led to the desertification of 3.6 billion hectares.*



*Deforestation and desertification – caused by human activities and climate change – pose major challenges to sustainable development and have affected the lives and livelihoods of millions of people in the fight against poverty. Efforts are being made to manage forests and combat desertification.*

- *Around 1.6 billion people depend on forests for their livelihood. This includes some 70 million indigenous people*
- *Forests are home to more than 80 per cent of all terrestrial species of animals, plants and insects"*<sup>2</sup>

### **Sveaskog Green Bonds**

By setting up this green bond framework, aligned with the Green Bond Principles published in June 2017 by the International Capital Market Association, Sveaskog aim to facilitate transparency, disclosure and quality in Sveaskog green bonds for interested stakeholders and at offering further insight to Sveaskog's sustainability strategy in line with our commitments.

Sveaskog has worked with Danske Bank to develop the Green Bond Framework. DNV GL provided a second opinion to the Green Bond Framework, which is publicly available at Sveaskog's website [www.sveaskog.se](http://www.sveaskog.se).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Per-Olof Wedin'.

Per-Olof Wedin  
CEO

A handwritten signature in blue ink, appearing to read 'Per Matses'.

Per Matses  
Deputy CEO and CFO

A handwritten signature in blue ink, appearing to read 'Olof Johansson'.

Olof Johansson  
Forest Policy Director

<sup>1</sup> <https://ic.fsc.org/en/certification/national-standards/europe-russia/sweden>

<sup>2</sup> Goal 15- Life on Land, UN Sustainability Development Goals, <http://www.un.org/sustainabledevelopment/biodiversity/>

## **Sveaskog Green Bond Framework, 7<sup>th</sup> of September 2017**

The legal documentation for each individual Sveaskog green bond (Green Bond) shall provide a reference to this framework.

### **Use of Proceeds**

The net proceeds from the issuance of Green Bonds will, in whole or in part, finance a selected pool of forest and forestry related investments, projects and assets to promote a low-carbon and climate resilient growth through sustainable forestry and its related operations (Green Projects). Meaning; performing an environmental responsible, economically viable and socially beneficial forest management certified in accordance with the Swedish Forest Stewardship Council (FSC) standards.

Sveaskog Green Bonds will finance new Green Projects (includes Green Projects not yet known at the time of issuance, planned, ongoing and those finalized within 12 months before the time of issuance) and to refinance Sveaskog FSC-certified forest land holdings. The proportion of Green Bond net proceeds used to finance new Green Projects and to refinance Sveaskog FSC-certified forest holdings will vary between the Green Bond issuances, the annual Green Bond reporting will disclose the proportions.

In accordance with the Swedish FSC standards, Sveaskog do not sell raw material from controversial sources. Information about the origin of the wood is secured by using traceability certificates.

### **Green Project Categories**

#### **Sustainable and FSC-certified forest management**

Investments in sustainable forest management to maintain a good rate of return, while maintaining important natural values and FSC-certification through the forest lifetime-cycles. Managing the forest responsibly increases growth and therefore sequestration of carbon dioxide (CO<sub>2</sub>).

Investments in sustainable forestry according to the Swedish forest model divides into following steps or actions:

*a) Planning*

Planning procedures and labour management of entrepreneurs in positions like harvesting managers, nature conservation specialists, silviculture managers, road maintenance specialists etc. is the foundation in successful sustainable forestry.

*b) Seedlings*

The plant production in Sveaskog's trademark Svenska Skogsplantor is ISO 14001 certified. Sveaskog has developed the environmental friendly method Conniflex for protection from pine weevil attacks, as a result covered root plants delivered from the trademark Svenska Skogsplantor is not treated with chemicals. This has been a major breakthrough for Swedish forestry as free of chemicals.

*c) Silviculture (planting, cleaning and thinning)*

A growing forest removes CO<sub>2</sub> from the atmosphere through photosynthesis, converting it into organic carbon stored in the fibres and ground, hence the trees capture the most CO<sub>2</sub> when growth is the greatest. Sustainable forest silviculture aims to maximise the growth and thus also the carbon sequestration. When silviculture is performed correctly,

every single tree making it to harvest captures around 300-500kg CO<sub>2</sub> above ground during its lifetime-cycle.

*Planting*

Three new plants replace every tree harvested on the landholdings of Sveaskog. Regeneration is the first important step to secure the quality and value of the new forest. Prior to planting, the harvested areas are site prepared in order to create the most beneficial environment for the new fragile plants and seeds. Sveaskog plants approximately 40 million new plants each year.

*Pre-commercial thinning*

Pre-commercial thinning diminishes competition from other vegetation and aims to direct the development of the stands and give space to the most high quality trees to develop optimal. Pre-commercial thinning is normally conducted once or twice before the stands reach the age of approximately 30 years.

*Commercial thinning*

Commercial thinning is an activity that furthers improve the quality of the stand. Weak and damaged trees are harvested which give remaining trees more light, water and nutrition to grow. Harvested trees are used for mainly pulp, but also timber and bioenergy.

d) *Fertilization*

Fertilizing forest land with nitrogen 10-15 years prior to harvesting is a very efficient way to increase the growth of the forests and thus also the carbon sequestration. The increased growth after fertilization is estimated to be between 15-20 m<sup>3</sup> per hectare, which corresponds to an additional carbon sequestration between 15-20 tonnes CO<sub>2</sub> per hectare. Fertilization is thoroughly planned and forest land nearby water, wetlands, high conservation values and cultural remnants are excluded from fertilization.

e) *Harvesting*

All forests sequester carbon, but with age growth decreases and thus the tree's capacity to capture CO<sub>2</sub>. When the forest gets old it might even start to decay. This may result in a carbon sink saturation.

Managed forests therefore provide most long-term climate benefits, considering how the products from forests substitute other materials produced by fossil resources. Harvesting normally occurs when the annual growth has maximised. The age of harvesting varies from 50 years in productive spruce forests in the southern parts of Sweden to 110 years in less fertile pine forests in the northern parts.

All harvesting operations are consulted with the Swedish Forest Agency according to the Swedish Forestry Act. Sveaskog works intensely to avoid negative impact on the environment and has set an environmental goal that 99 percent of all forest operations will be conducted without severe impact on nature conservation values and cultural remnants. During all forest operations, environmental consideration is taken which include establishment of buffer zones along watercourses to enhance conservation values and to prevent leakage of nutrition and silts, limitation of clear-felling areas and the retention of snags and groups of trees. These practices protect valuable biotopes, aquatic ecosystems in the forest landscape and cultural remnants. In addition, they ensure that there are appropriate amounts of dead and decaying wood in forests. On an

average around 10 percent of the forested area is retained at the harvesting site on the landholdings of Sveaskog.

f) *Forest roads*

Construction and maintaining of roads to make harvesting and transportation of logs and felling residuals possible are all crucial parts in maintaining the FSC-certification and high productivity. Without roads, energy use would be intense and more damage would be caused to forests and its' habitats. The road network of Sveaskog comprises over 43 000 km (2016).

Construction of new roads is always consulted with the Swedish Forestry Agency and preceded by a nature conservation value assessment. Impact on high nature or culture conservation values is avoided to greatest possible extent. Transitions over ditches and streams are constructed with considerations to fish and other aquatic organisms and aims to preserve their ability for passages. Roads are normally open for the public, making the forest assessable as a venue for nature-based experiences.

g) *Nature conservation*

Nature protection and habitat management are crucial parts of sustainable forest management. Well-managed nature conservation leads to a varied vegetation and species-rich forest.

Sveaskog works with nature conservation in different scales – from small environmental considerations at our forest operations to set aside nature conservation forests and large contiguous landscapes, so called ecoparks. The voluntary offsets made by Sveaskog make a large contribution to national environmental goals concerning protection of forest land.

The company works both to preserve existing high nature conservation values but also to restore and enhance biodiversity values. Investments related to nature conservation may include:

*Environmental consideration during harvest operations*

The retained forest areas after harvesting will result in higher biodiversity values in the productive forests in the future. The forests will have a higher proportion of deciduous trees, dead wood and old and large trees, which will be beneficial for many species. On an average Sveaskog leaves 10 percent of the forest for nature conservation at a harvesting site.

The set asides for environmental consideration during harvest operations are calculated for a rotation time of 80 years. By the end of 2016, Sveaskog had set aside approximately 100 000 hectare below the mountain areas as environmental retention areas. With current environmental ambitions and landholdings these offsets will increase to 220 000 hectares throughout a rotation time.

Sveaskog continuously works to improve the quality of our environmental set-asides by regular education to employers and entrepreneurs as well as internal and external revisions in accordance to the Swedish FSC standard and ISO 14001.

*Restoration of deciduous forests*

Modern forestry has prioritised coniferous stands at the expense of deciduous forests due to higher economical values. Sveaskog works to increase the proportion

of deciduous trees both by leaving leaf trees at harvesting in accordance to Swedish FSC standard as well as restoration of deciduous forests.

*Prescribed burning*

Forest fire is a natural disturbance that has almost disappeared since humans became skilled in fighting and preventing fires. Many species are dependent on the structures and elements of the forests that fires creates. Prescribed burning is therefore an important restoration measurement and Sveaskog aims to, annually, burn around 400 hectares.

*Wetland restorations*

Ditching wet forest land was a common method to increase the forest productivity during the 20<sup>th</sup> century. This has led to a lack of shallow wetlands and flooded forest land, which are important habitats for many species. By refilling ditches, Sveaskog restores wetlands on a regular basis to the benefit of many species, in particular birds.

*Voluntary set asides*

In 2003, Sveaskog decided to set aside 20 percent of the productive forests below the mountain areas for nature conservation, which is partly done as environmental retention areas at harvesting sites, and partly as pure set asides of forests, so called nature conservation forests. The nature conservation forests outside production forests comprises approximately 364 000 hectares of productive forest land below the mountain areas and in total approximately 440 000 hectares, included the mountain areas (2016).

**FSC-certified forest land**

Sveaskog is already the largest forest owner in Sweden with over 4 million hectares of forest land (2016). The total standing volume on managed forest land comprises 245 million forest cubic metre with an annual growth on 11.3 million cubic metre (2016). Sveaskog, normally, only harvests approximately 70 percent of the annual growth. Thus the total standing volume on the landholdings of Sveaskog increases every year. In addition to organic growth, Sveaskog invests in forest land and future forest land.

Acquisition of, to Sveaskog, new forest land and the refinancing of forest land holdings. When acquiring forest land Sveaskog will, if it is not already FSC-certified, take action to make sure the new forest land is eligible to FSC-certification and have the forest land certified in accordance with the Swedish FSC standard.

**Research and development**

Investments in the development of energy and fuels from forests and other innovation projects aiming to increase the use of wood raw material and thus reduce greenhouse gas emissions.

Examples of on-going investments and projects related to research and development:

*SunCarbon*

SunCarbon is a project under a development phase with the ambition to produce Lignin, a renewable fuel from a forest industry by-product. Lignin is extracted from black liquor and processed to a depolymerised lignin-rich oil. In order to test full-scale production a pilot plant will be established in Piteå under 2017, with Sveaskog as one of the investors.

*The Forestry Research Institute of Sweden*

The Forestry Research Institute of Sweden (SkogForsk) is the central research body for the Swedish forestry sector and financed jointly by the government and the members of the Institute. Sveaskog contributes with 0.60 SEK per harvested forest cubic metre each year. The goal of the Institute is to provide Swedish forestry with knowledge, services and products that contributes to a profitable and sustainable forestry. The demand-driven applied research includes a wide variety of fields, such as forest technology, raw-material utilization, environmental impact and conservation, forest tree breeding, logistics, forest bioenergy and silviculture.

### **Green Project evaluation and selection process**

- Sveaskog perform and manage all investments, projects and assets in accordance with Sveaskog forest policy (skogspolicy), environmental policy (miljöpolicy) and human resources policy (personal policy).
- All Sveaskog forest holdings are FSC-certified and managed in compliance with the Swedish FSC standards, Swedish Forestry Act and Swedish law.
- Sveaskog support the UN Global Compact and thereby issues related to human rights, social conditions, environmental responsibility, the right to form trade unions and anti-corruption. Communication on progress is reported to the Global Compact annually.
- Sveaskog reports in accordance with the GRI Sustainability Reporting Guidelines G4, with GRI indicators adhering to the principles.



The process for Green Project evaluation and selection is a two-step process:

- i. Sveaskog Business Controllers present investments, projects or assets, meeting any of the Green Project Categories definitions to the Green Bond Committee.
- ii. The Green Bond Committee solely makes the decision to finance Green Projects, in line with the Green Project Category definition, with net proceeds from the issuance of Green Bonds. A decision to allocate net proceeds will require a consensus decision by the Green Bond Committee. The decision is documented and filed.

The Green Bond Committee is a joint venture of the Sveaskog Sustainability Council and the Sveaskog Treasury & Risk Department.

The Sveaskog Sustainability Council is formed by representatives from a variation of positions in the organisation and can change over time. At the time of writing this document the Sveaskog Sustainability Council consisted of representatives from the Sustainability Department, the Forest Management Department, the Forest Policy Department, the Environmental Department and the Business Development Department.

For the avoidance of doubt, the Green Bond Committee holds the right to exclude any Green Project already funded by Green Bond net proceeds if the Green Project is sold, or for other reasons loses its eligibility. Funds would then follow the procedure under Management of Proceeds.

### **Management of Proceeds**

An amount equal to the net proceeds of the Green Bond issuance credits a separate account to support Sveaskog's financing of Green Projects. Sveaskog will document all transfers to and from such separate account, to secure tracking of the funds and to simplify the annual review.

In the event the separate account has a positive balance, Sveaskog has the right to temporary; (i) deposit such positive balance with banks and/or (ii) invest in (a) Swedish treasury bills, (b) any green bonds, (c) covered bonds and/or (d) commercial papers and short dated bonds. Temporary investments will not be in entities with a business plan focused on fossil or other CO<sub>2</sub> intense activities. Temporary investments will be in entities with at least A- rating from S&P or equivalent rating from other rating institute.

As long as Green Bonds are outstanding and the separate account has a positive balance, such positive account balance will, in relation to amounts allocated to Green Projects, be adjusted at least every fiscal quarter. Sveaskog will, until full allocation of such Green Bond net proceeds has taken place, in its reporting disclose the amount equal to the Green Bond net proceeds not yet allocated to Green Projects. For the avoidance of doubt Sveaskog can, where relevant, use the net proceed to repay any Green Bonds.

### **Methodology for impact assessment**

Sveaskog intends to show impact reporting to all Green Projects financed with Green Bond net proceeds. Such reporting is provided with the reservation that not all project related data can be covered and that calculations therefore will be on a best intention basis.

Sveaskog use external competence to calculate CO<sub>2</sub>-equivalent footprint, including contractors and hauliers, on an aggregated level.

- i. **Sustainable and FSC-certified forest management & FSC-certified forest land**  
Due to geographic growth rate differences Sveaskog will show the aggregated annual net absorption of CO<sub>2</sub>-equivalents per market area MO Nord (North), MO Mitt (Middle) and MO Syd (South) in proportion to the aggregated annual investments financed or refinanced with Green Bond net proceeds. The annual net absorption will be accounted as the annual regrowth subtracted with harvested volumes in the specific market area.
- ii. **Research and development**, Sveaskog will report potential climate, biodiversity and sustainability deliveries due to investments in research and development projects with a climate positive impact. The procedure for reporting will be developed for each individual project depending on type of project.

Sveaskog Sustainability Team will estimate the reasonableness of reported reductions.



## Reporting and transparency

Sveaskog will annually and until maturity of the Green Bonds issued, to the investors - on its website: [www.sveaskog.se](http://www.sveaskog.se) and in the Sveaskog Annual Sustainability Report, provide the following information:

- i. A summary of the Green Bond developments.
- ii. The outstanding amounts of issued Green Bonds.
- iii. The balance of the separate account (including any temporary deposits or investments and Green Bond repayments) and the available headroom in green value (if any).
- iv. The total proportion of Green Bond net proceeds used to finance new Green Projects (includes Green Projects not yet known at the time of issuance, planned, ongoing and those finalized within 12 months before the time of issuance) and the proportion of Green Bond net proceeds used to refinance Sveaskog FSC-certified forest holdings.
- v. Total amount of Green Bond net proceeds allocated to relevant Green Project category.
- vi. Green Project reporting
  - Sustainable and Swedish FSC-certified forest management & FSC-certified forest land
    - Brief description of example investments, projects and/or assets.
    - An aggregation of Green Bond net proceeds used per geographical market area (North, Middle and South).
    - Confirming that all forest land holdings where Green Bond net proceeds have been used are FSC-certified.
    - An aggregation of estimated net absorption of CO<sub>2</sub>-equivalents per geographical market area (North, Middle and South), and where relevant other climate and sustainability deliveries.
  - Research and development
    - Brief description of all investments and projects.
    - Green Bond net proceeds used per investment and project.
    - Report potential climate, biodiversity and sustainability deliveries due to investments in research and development projects with a climate positive impact. The procedure for reporting will be developed for each individual project depending on type of project.

In the event that any Green Project is a co-investment, or not fully financed/refinanced with net proceeds from Green Bonds, Sveaskog will disclose the entire project and highlight the part financed/refinanced by net proceeds from Green Bonds. Sveaskog will in its Green Bond reporting, only account for the net proceeds and impact in relation to the amount financed/refinanced by Green Bonds.