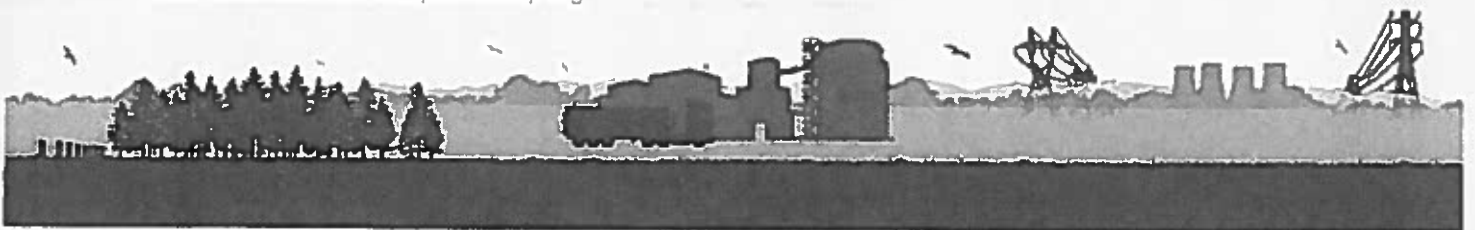


SBP

Sustainable Biomass Partnership

Supply Base Report for The Danish Nature Agency

www.sustainablebiomasspartnership.org



Version 1.2
June 2016

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

Document history

Version 1.0: published 28 June 2016

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1 Overview

On the first page include the following information:

Producer name: The Danish Nature Agency
Producer location: Førstballevej 2, 7183 Randbøl
Primary contact: The Danish Nature Agency
 Att. Per Lynge Jensen
 Førstballevej 2
 7183 Randbøl

Company website: www.nst.dk

Date report finalised: 28-06-2016

Close of last CB audit: 10-05-2016

Name of CB: NEPCon

Translations from English: Yes

SBP Standard(s) used: Standard 2 version 1.0, Standard 4 version 1.0, Standard 5 version 1.0

Weblink to Standard(s) used: <http://www.sustainablebiomasspartnership.org/documents>

SBP Endorsed Regional Risk Assessment: Not applicable

Weblink to SBE on Company website: Not applicable

| Indicate how the current evaluation fits within the cycle of Supply Base Evaluations | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Main (Initial) Evaluation | First Surveillance | Second Surveillance | Third Surveillance | Fourth Surveillance |
| X | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2 Description of the Supply Base

2.1 General description

Danish forest area

According to Statistics Denmark (2013) the forest cover in Denmark is 615254 ha which is equal to app. 14 % 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. 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.

| Forest area Denmark | | |
|---------------------|--------------------------------------|------------|
| | | 2013 |
| All Denmark | Total forest area | 620.500 ha |
| | Broadleaves | 42 % |
| | Conifers | 39 % |
| | Mixtures of broadleaves and conifers | 11 % |
| | Christmas trees and greenery | 5 % |
| | Unstocked | 1 % |
| | Temporarily unstocked | 1 % |

Table 1. Forest cover in Denmark (Statistics Denmark 2013)

| Ownership | % |
|---------------------|-----|
| Private forest | 59 |
| Private companies | 10 |
| Foundations | 4 |
| State forest | 19 |
| Other state owned | 1 |
| Other public forest | 4 |
| Unknown | 2 |
| Total | 100 |

Table 2. Forest ownership (Thomas Nord-Larsen et al 2015)

| Forestry farms sizes | | | |
|----------------------|--|-------|------|
| Units Number | | | |
| | | 2014 | % |
| All Denmark | All forestry farms | 24142 | 100 |
| | Farms with 0,5-19,9 hectare forestry | 21570 | 89,3 |
| | Farms with 20,0-49,9 hectare forestry | 1335 | 5,5 |
| | Farms with 50,0-99,9 hectare forestry | 579 | 2,4 |
| | Farms with 100,0-249,9 hectare forestry | 365 | 1,5 |
| | Farms with 250,0-499,9 hectare forestry | 145 | 0,6 |
| | Farms with 500,0 hectare forestry and over | 148 | 0,6 |

Table 3. Forest ownership distributed on forest size (Statistics Denmark 2014)

The standing volume is app. 130 mio m³ which is equal to 209 m³/ha. Broadleaves account for 57 % and conifers for 43 % of the standing volume. Standing volume has increased for many years due to an increasing forest area, and properly also an increase in standing volume/ ha. The annual total increment in standing volume is estimated to 7,7 mio m³/ha and the annual harvest is estimated to 4,8 mio m³/ha. Thus the annual net increment is 2,9 mio m³/year.

The total gross factorial income for forest products is app. 1 billion Danish Kroner (app. 133 mio euro). In 2015 the production of energy wood accounted for 300 mio Danish Kroner.

More than 85% of the Danish forest area is protected under the Danish forest legislation. Certain forest habitats are also protected under Nature 2000 legislation.

Supply-base: State forest managed by the Danish Nature Agency

The Danish Nature Agency manages forest and nature areas owned by The Ministry of Food and Environment and only supply wood chips from these areas. The areas are managed in a holistic approach, where respect for nature protection, outdoor recreation, cultural history, production, etc. are all rated highly. However there is a special emphasis on nature protection and support of outdoor opportunities.

The forest management is certified according to PEFC og FSCs standards for responsible forest management. Only a limited area is excluded from the certificates:

| Certificates | Areas excluded | Area excluded (ha) |
|--------------|---|--------------------|
| PEFC | Farmland, camping grounds, golf courts , nurseries, special project areas | 4684 |
| FSC | Farmland, camping grounds, golf courts , nurseries, special project areas, christmas tree areas | 5882 |
| SBP | Farmland, camping grounds, golf courts , nurseries, special project areas | 4684 |

Table 4. List over areas excluded from certificates

The total FSC certified area is 195366 ha, while the PEFC certified and SBP compliant area is 196565 ha.

The Danish Nature Agency manages the forest according to principles for Nature Based Management. This means that clear felling in general is not used although exceptions can occur.

| | Beech | Oak | Ash and maple | Other broadleaves | Spruce | Noble fir | Mountain pine | Other conifers | Forest areas | Open nature areas | Other areas e.g. roads | Total |
|----|-------|-------|---------------|-------------------|--------|-----------|---------------|----------------|--------------|-------------------|------------------------|--------|
| ha | 20767 | 15656 | 2612 | 5203 | 31643 | 6821 | 6842 | 16833 | 106377 | 75255 | 14934 | 196566 |
| % | 10,6 | 8,0 | 1,3 | 2,6 | 16,1 | 3,5 | 3,5 | 8,6 | 54,1 | 38,3 | 7,6 | 100,0 |

Table 5 Land use state forest

2.2 Actions taken to promote certification amongst feedstock supplier

The Danish Nature Agency is sourcing the main part of the biomass from own areas. Only in connection with nature projects where neighbor areas are included there may be woodchip from outside The Danish Nature Agency's ownership. Woodchip from outside The Danish Nature Agency's ownership will not be claimed as SBP compliant. Areas managed by The Danish Nature Agency are for the main part certified against PEFC as well as FSC forest management standards. Furthermore The Danish Nature Agency is participating in certification standard setting processes.

2.3 Final harvest sampling programme

The Danish Nature Agency only use clear fellings to a limited extend. A clear felling is a restricted coherent forest areas where all the trees are cut down at the same time. Instead the forest management is based on principles for nature based forest management. Nature Based forest management aims to build stable forests that are rejuvenating naturally, and where forest climate is maintained. Forests will consist of locally adapted and especially native species and the forest will be characterized by high variation in age and species composition. In the management of state forest there is a focus on providing dead wood, natural hydrology, protect and provide key habitats and create recreational values. Furthermore, there is ban on the use of pesticides in the state's forests.

Wood chip production represents around 200,000 tonnes annually. The chips are preferably provided in connection with the initial thinning, and as a byproduct in later fellings.

Thinnings 119.771 ton (2015 numbers)

From the first thinnings where trees are cut down using a feller/- buncher. Wood chip are the only product from these operations. Chipping is carried out in the stand and the chips are transported to the power plant or to a storage. Some of the wood chip also come from nature projects (For example clearing of health).

Distribution of wood chip associated with thinning:

Nature 11.262 ton

projects

| | |
|-----------------------|------------|
| Thinnings broadleaves | 13.232 ton |
| Thinnings conifers | 95.276 ton |

Treetops: 34.688 ton (2015 numbers)

Chipping of treetops when harvesting mid age or older deciduous trees. Treetops are stacked and chipped on roadsides.

Rundtræ: 35.551 ton (2015 numbers)

Is produced as a by-product in later fellings of conifers where timber is the main product. The wood chip is low quality wood which cannot be used for high quality products. The products are harvested using a harvester forwarded to road side, from where it is transported directly to the power plant or to a storage where it is chipped.

2.4 Quantification of the Supply Base

Provide metrics for the Supply Base including the following. Where estimates are provided these shall be justified.

Supply Base

- a. Total Supply Base area (ha): 196.565 ha¹
- b. Tenure by type (ha): public 196.565 ha
- c. Forest by type (ha): temperate 196.565 ha
- d. Forest by management type (ha): managed natural
- e. Certified forest by scheme (ha): 196.565 ha is PEFC certified
195.366 ha is FSC certified²

Feedstock

- f. Total volume of Feedstock: between 200.000 to 400.000 m³
- g. Volume of primary feedstock: between 200.000 to 400.000 m³.
- h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
 - PEFC certified 100 %
 - FSC certified 98 %
- i. List all species in primary feedstock, including scientific name:

| Coniferous species | | | |
|--------------------|-------------|----------------|-----------------------|
| Abies Alba | Larix spp | Pinus contorta | Pinus spp |
| Abies Grandis | Picea abies | Pinus nigra | Pseudotsuga menziesii |

¹ Parts of the area is set-aside forest and will not contribute to the Feedstock

² FSC does not recognize and allow greenery areas as certified. This area covers an area of 1199 ha which is the between the FSC and PEFC certified area.

| | | | |
|----------------------------|---------------------|---------------------|--------------------------------|
| Abies Normaniana | Picea glauca | Pinus ponderosa | Thuja plicata |
| Abies Procera | Picea sitchensis | Pinus strobus | Tsuga heterophylla (Raf.) Sarg |
| Abies spp. | Picea spp | Pinus sylvestris | |
| Broadleaved species | | | |
| Acer platanoides | Betula pubescens | Populus tremuloides | Quercus Rubra |
| Acer pseudoplatanus | Carpinus betulus L. | Populus Spp | Quercus Spp |
| Alnus glutinosa | Fagus sylvatica | Prunus avium | Salix Spp |
| Alnus incana | Fraxinus excelsior | Quercus Petraea | Sorbus Spp |
| Betula pendula | Populus tremula | Quercus robur | |

- j. Volume of primary feedstock from primary forest 0 ha
- k. List percentage of primary feedstock from primary forest (j), by the following categories. Subdivide by SBP-approved Forest Management Schemes: N/A
- l. Volume of secondary feedstock: 0%
- m. Volume of tertiary feedstock: 0%

4 Review of SB Rapport

Data and information used in this report is for a large part public available. In order to ensure this report further credibility it has been sent to peer review.

4.1 Peer review

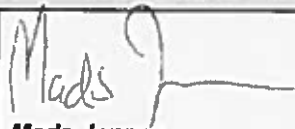
Peer review has been carried out by forestry professor Palle Madsen at Copenhagen University. Comments and recommendations has incorporated in the report.

3 Requirement for a Supply Base Evaluation

| SBE completed | SBE not completed |
|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The full forest area in the supply base is FSC and/ or PEFC certified.

4 Approval of Report

| Approval of Supply Base Report by senior management | | | |
|---|--|-------------------------|-------------------|
| Report Prepared by: | <i>Par Lyng Jensen</i> | <i>Forest officer</i> | <i>29-06-2016</i> |
| | Name | Title | Date |
| <p>The undersigned person confirm that I are members of the organisation's senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report.</p> | | | |
| Report approved by: |  <i>Mads Jensen</i> | <i>Head of division</i> | <i>29-06-2016</i> |
| | Name | Title | Date |