SBP

Sustainable Biomass Partnership

Supply Base Report:

Skovdyrkerforeningen Syd A.M.B.A.

www.sustainablebiomasspartnership.org

Completed in Accordance with the Supply Base Report Template version 1.2

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

Document history

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Contents

1 Overview

Producer name:	Skovdyrkerforeningen SYD A.M.B.A
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Geographic position:	Lat E 9 degrees 40.236 minutes, Long N 55 degrees 39.471 minutes
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Company website:	www.skovdyrkerne.dk/syd/
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SBP Endorsed Regional Risk Assessment:	In progress – Final Draft version dated September 2016 submitted to SBP for approval
Web link to SBE on Company website:	Available after the main audit and SBP endorsement

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	☐	☐	☐	☐

2 Description of the Supply Base

The scope of this description is to provide the necessary background information to read and understand this *Supply Base Report* - which constitutes a central part of the preparations for documenting the procedures involved in sustainable harvesting of forest biomass at Skovdyrkerne SYD.

2.1 General description

Skovdyrkerne SYD (SYD is a service organisation owned and controlled by local forest owners. The purpose of the organisation is to provide all services related to forest management - delivered in a way that takes the conditions and outlook of each forest owner as the starting point.

Skovdyrkerne SYD is one of five local branches that constitutes 'De Danske Skovdyrkerforeninger' - together forming a nationwide network providing services to the forest owners.

SYD has, per 1st of January 2017, app. 1.450 members owning a total of app. 17.000 ha forest land (including Christmas tree plantations and open nature types related to forests). The members control the management of their organisation through a board of directors - elected on an annual general assembly.

The service and the operations of the organisation are carried out by a staff of foresters (all educated with a M.Sc. or B.Sc. in forestry) under the leadership of a forest supervisor (CEO). Per 1st of January 2017 the staff included 10 foresters.

The services of SYD comprise all relevant aspects of forest management / natural resource management:

- Advisory services (on site, written reports, green forest management plans, project plans for afforestation etc.).
- Harvest operations in forest - timber and biomass (controlling the supply chain from tree to industry).
- Harvest operations in Christmas trees and decoration foliage (controlling the supply chain from tree to end user).
- All types of manual and mechanical operations in relation to silviculture, Christmas trees, foliage and management of nature in the open range.

Most of the activities and operations takes place in forests owned by the members of SYD – which also enjoys certain advantages compared with other forest owners (non-members). However, buying / selling forest produce and services from / to other forest owners also takes place, as well as buying / and selling forest produce on a trading basis.

2.1.1 Baseline definitions and scope

In this context the following baseline definition about SYD as a biomass producer (BP) can be made:

- Biomass from all harvest operations where SYD is responsible for the whole supply chain (from planning, felling and all the way to the customer) can be considered as 'within the production facility'

- and all procedures in the Supply Base Evaluation, including risk assessment and mitigation measures, are carried out by SYD´s own forest educated and trained staff.

- Biomass sourced from third party has to undergo the procedures in the Supplier Verification Programme to determine whether it can be considered sustainable according to the SBP standard.

The scope of this Supply Base Report is restricted to *primary feedstock*. As an operator closely connected to the forests, SYD does not work with secondary or tertiary feedstock at all.

In relation to the sustainability characteristics defining a batch (SBP instruction note 5a section 8.1) the appropriate distinctions in this context is:

a) Input type: All primary.

b) Forest size: All < 1.000 ha (with rare exceptions)

c) Forest certificate / under Group Scheme: FSC: 8 estates / 3.468 ha.

PEFC: 13 estates / 5.142 ha.

d) SBE status: Inside SBE.

e) Stump wood: Does not contain stump wood

f) Primary forest: No.

Batches are defined in the management system only according to the GHG profile data and the origin according to eventual forest management scheme.

The definition of forest land - where SBP is applicable - is the FAO standard: *Tree covered area of no less than 0.5 ha where the trees becomes higher than 5 m. – Complemented by the definition from the Danish department of Nature stating that the width is at least 20 m* [1)].

2.1.2 Defining the Supply Base Area

SYD is mainly harvesting biomass from region “Syddanmark” and “Midtjylland”.

[1] See FAO definition of forest land in full **link** or Danish version **link**.

Figure 1: The supply base is mainly region Syddanmark" and "Midtjylland"

2.1.3 Denmark - forest resources

Where no other source or reference is given, this section - giving a description of the forest resources in Denmark - is based on the similar description in 'SBP Regional Risk Assessment for Denmark' [2)].

This choice is made for several reasons:

- *The RRA gives an updated overview of the relevant information,*
- *The RRA contains the necessary and relevant references to sources of information - please press this link for further information.*
- *The stakeholder involvement secures that the description is made in consensus with other stakeholders - even if we at SYD are a bit more optimistic in our view on the current status in the Danish forests, we in this manner includes the precautionary principle in our approach.*

[2] 'THE REGIONAL RISK ASSESSMENT FOR DENMARK´ (draft submitted for public consultation by NepCon, May 2016. Link. This draft is still the only version available. We have however been informed, that the results of the public hearing is in no contrast to the outline and procedures in this SBR'

The terrestrial environment of Denmark is divided between two EU biogeographical regions by means of a north-south divide through the middle of the Jutland Peninsula: 1) the Atlantic region, covering the western part of Jutland and the Continental region, and 2) the Continental region covering the eastern part of Jutland and Denmark's islands. These regions are used by the Danish Nature Agency under the Ministry of the Environment and Food to the EU Commission to report on the status and management results of Natura 2000 conservation areas.

In the early 1800's, the forest cover in Denmark is estimated to have been as low as 3-4% of the total land area. Deforestation was caused by logging for timber and firewood and for animal grazing areas. Denmark's first forest legislation came into force in 1805. Its main objective - as wells as following Danish forest acts - has been to maintain the forest covered area and to protect the existing forest from overexploitation, premature felling and grazing by farm animals. In the mid nineteenth century, intensive / structured forest management became widespread and large afforestation projects were carried out. Today approximately 14% (615,000 hectares) of Denmark's land area is covered by various types of forest.

According to the Danish National Forest Inventory, conducted by the Danish Nature Agency, 41% of Denmark's forest area is dominated by broadleaved trees, 39% by coniferous tree species, 11% by a mixed coniferous and broadleaved tree species, 5% are Christmas tree plantation (located within all the above forest types) and 4% of the area is unstocked, e.g., log loading and landing yards, fire prevention areas etc. Furthermore, 67% of the Danish forest area is covered with even-aged planted stands, 9% being even-aged stands from natural regeneration, 10% being un-even-aged managed and 6% of the forest area is uneven-aged natural forest. The latter represent pockets forests that would be closest to what is considered of natural forest stands having retained or regained natural forest characteristics; which can be found in forests both under private and public ownership and they are predominantly located in the Continental region (east Jutland and the isles). The location of these natural forest stands is generally well-known, but some may still be unidentified.

Of Denmark's 615,000 hectares of forest, 440,000 hectares are managed as forest reserves (called 'fredskov' in Danish) governed under the Danish Forest Act. The Forest Act permits forest management activities within these areas; however, Article 8 requires the managed area shall regain forest cover within 10 years from felling, that a maximum of 10% of the forest area can be used for short rotation Christmas trees or greenery production (e.g., cuttings typically from *Abies procera*), and another maximum of 10% of the area can be used for coppicing or for animal forest grazing. The Forest Act also protects streams and wetlands in forests that are not covered by the Nature Protection Act or under the Ministry of Environment or local authorities. It stipulates that lakes, bogs, heathlands, species-rich grasslands, coastal grasslands and bogs and fens located in "fredskov" forest reserve may not be planted or cultivated, drained or in other way changed. It is also important to note the Forest Act does not include many regulations regarding, e.g. harvesting, planting or thinning.

There are 79,000 hectares of forests designated as Natura 2000 areas (13% of the Danish forest area) which have some overlap with the 74,900 hectares forests and other natural areas designated under the EU Habitat Directive, 51,500 hectares under the EU Birds Directive and 13,900 hectares as Ramsar sites. A harvest permit must be obtained from the Danish Nature Agency to conduct any timber harvesting activities within Natura 2000 forests; permits are given provided that the forest ecosystem will not be degraded. Issuing such permit is to be regarded more as an exception than common practice.

In relation to HCV category 3, it is worth noting that although the Forest Act §25 sets standards for registering *'especially valuable forest*s' i.e., valuable in terms of their biodiversity and conservation value, and accompanying appropriate conservation management activities for these areas, these areas have not yet been registered by the Danish Nature Agency. Danish forests biodiversity and conservation values have been surveyed by Department of Geosciences and Natural Resource Management at Copenhagen University through a sampling methodological approach. Therefore, not all forest areas have been systematically surveyed, particularly small privately forests areas. The task of systematically surveying 'especially valuable forests' will be carried out by the Danish Nature Agency in the years 2016 - 2019.

Forest ownership in Denmark is divided by private forests owners, (70%), State and Municipal owners (24%), trust funds or foundations (4%) and unknown owners (2%). There exist app. 26.000 forest estates in Denmark, and the ownership structure is characterised by that e.g. 90% of the owners holds less than 20 ha covering only 20% of the total forest area. Whereas only app. 2% of the owners holds more than 100 ha, but covers almost 65% of the total forest area.

Biodiversity in Danish forests

In general, the biodiversity in the Danish forests are affected by the historic development. In the beginning of the 18th century the forest cover was reduced to a few percent of the land coverage. In 1805 the forest act was implemented for all most all the forests at that time. The intensive afforestation that followed largely coincided with the industrialisation. This shifted focus from firewood to the production on timber, and over the next 200 years' the use of exotic tree species, in particularly coniferous species was dominating. The afforestation largely took place on impoverished open land. Within the exiting (degraded) forests the immediate consequence of the Forest Act was that the forest cover became denser because the trees and the regeneration was protected from the grazing livestock, and degraded / open areas replanted. The actions initiated 200 years ago, with afforestation on open land and reforestation in the forest reminiscences have had a great impact on the biodiversity and we are therefore bound to stop additional reduction of biodiversity in forest. In particularly in the latter forest category.

Since the 1990's forestry practices in Denmark, have gradually shifted from traditional, production oriented forest management towards management regimes with a wider set of goals for conservation, biodiversity, recreation and addressing other social needs such as preserving cultural heritage sites.

Today there is a significant focus on preserving and even increasing the biodiversity in the forest. The awareness of this issue is an important aspect in sustainable forest management, where a lot of considerations must be balanced.

Danish forest have been surveyed by Department of Geosciences and Natural Resource Management at Copenhagen University by means of a sample methodology and their biodiversity and conservation values have been documented under the Danish National Forest Inventory (NFI) hosted by the Danish Nature Agency. (Latest in 2015)

Denmark ratified the Convention on Biological Diversity in 1994. Today more than 11% of Denmark's terrestrial lands are protected, one third of which are classified as IUCN Categories I and II; of which a large number are protected under the Nature Protection Act and the Natura 2000 EU Directive. These areas have been designated specifically to protect species, landscapes, cultural heritage and/or for scientific research and/or education purposes.

Approximately, over 6,300 species in 8 major species groups in Denmark have been assessed according to IUCN Red List criteria, and just over 1,500 or 24% of these have been red-listed. Forests constitute 52% of the habitat affiliations for red-listed species. Furthermore, areas enjoying protection under the Forest Act, Natura 2000 and/or the Nature Protection Act are also mapped and available online via the Danish Nature Agency's digital nature map. Biodiversity data is updated regularly by the Danish Nature Agency and, as mentioned above, the Agency will be completing the registration of "especially valuable forest" over 2016 - 2019. There is one forest area in North Zealand which is listed as UNESCO world heritage due to its historical significance as royal 'Parforce' hunting grounds landscape as, the site demonstrates the application of Baroque landscaping principles to forested areas.

2.1.4 Proportions of SBP feedstock product groups

SBP product group	Annual no. of suppliers	Proportion (%)	Forest certificate (%)	Coniferous (%)	Broadleaved (%)
SBP-compliant Primary Feedstock	150	80	15	10	90
SBP-compliant Secondary Feedstock	0				
SBP-compliant Tertiary Feedstock	0				
SBP non-compliant Feedstock	20	20		10	90

Table 2.1.1 SBP product groups - forecast values for the period 01.06.16 until 31.05.17. The numbers are based on data from previous 12 months. 'Forest certificate' expresses share of 'Proportion', where feedstock originates from forest with a PEFC or FSC certificate.

2.2 Actions taken to promote certification amongst feedstock supplier

SYD have since 2007 been approved to hold a PEFC group forest management as well as CoC certificate. This was followed by a FSC group forest management certificate in 2010.

SYD has embraced the SBP standard as a mean to ensure the procurement of sustainable biomass in a scheme that is affordable for small scale forestry. Skovdyrkerne have been a strong driver and stakeholder in the process towards a Regional Risk Assessment on a national level in Denmark.

SYD implements the SBP risk assessment and mitigation measures in procurement of all primary feedstock - both biomass and timber - and through our Supplier Verification Programme we reach out to further increase the level of sustainability within our geographical work range.

2.3 Final harvest sampling programme

The scope of this description is to quantify how large a proportion of the round wood, which has a potential for value-added use in the woodworking industry, which ends up as biomass.

Due to the price relations in the market, this proportion is insignificant small. There is no realistic risk of / incentive to substitution between i.e. timber logs and wood chips – if a part of a log, that has reached timber dimension or high value end use, is used for biomass, it is usually because of:

- Damages
- Rot
- Inferior quality

SYD approach to forest management and harvesting operations is to optimize the overall economic output for the forest owner. There is a strong economic driver for choosing any other assortment than round wood for energy – as shown in the below sample plot.

Assortment	End use	Volume (m3s)	Proportion (%)	Price relation	Value (%)
2,43 m. KTM|EMB - MIX (60/40) T14R100	High-Value	295	19%	136	16%
2,43 m. KTM|EMB - MIX (60/40) T14R100	High-Value	90	6%	139	5%
4,25 m. Korttømmer T20R60	High-Value	142	9%	167	10%
4,85 m. Korttømmer T14R40	High-Value	473	30%	167	32%
3,65 m. Korttømmer T15R40	High-Value	10	1%	167	1%
3,05 m. Troldhedetræ T14R35	High-Value	254	16%	186	19%
4,85 m. Korttømmer T14R40	High-Value	143	9%	167	10%
3 m. Energitræ T5R60	Biomass	168	11%	100	7%
Total		**1.574**	**100%**		**100%**

Table 2.3.1: Final Harvest Sampling. Data from one representative sample plot indicating, that round wood end use as biomass only constitutes 11% of volume and 7% of value in final harvesting in mature stands (over 40-year rotation age). Please note that the forest owner has at least 36% gain from any other end use than biomass.

The minimum quantity threshold for making High-Value timber in smaller projects is normally one truckload (40 kfm).

2.4 Flow diagram of feedstock inputs showing feedstock type [optional]

N/A

2.5 Quantification of the Supply Base

Supply Base

Data is collected from the National Forest Inventory (2014) [3)]

Skovdyrkerne SYD is defining the Supply Base as the region: “Syddanmark” and “Midtjylland” – which correspond to the map on page 2.

a. Total Supply Base area app. (ha): 363.000 ha forest.
b. Tenure by type (ha): 268.700 ha privately owned, foundations 8.200 ha, 78.000 ha public owned, 8.100 ha other.
c. Forest by type (ha): 0 ha boreal, 363.000 ha temperate, 0 ha tropical
d. Forest by management type (ha): 250.900 ha plantation/planted, 77.900 ha natural forest, 34.200 ha unknown.

[3] National Forest Inventory 2014 is available here: link

e. Certified forest by scheme (ha): ca. 50.000 ha FSC-certified forest and ca. 60.000 ha PEFC forest. Note that many forests hold both FSC and PEFC certificates. The numbers are based on an estimate for the regions in question.

Feedstock

f. Total volume of Feedstock: 0 – 150.000 tonnes pr. year (specific number varies – and is considered to be commercially sensitive information. Skovdyrkerne has no dominant position in the market place).

g. All feedstock is primary: 0-150.000 tonnes pr. year.

h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes (guestimate):
   - 5% Certified to an SBP-approved Forest Management Scheme
   - 95% Not certified to an SBP-approved Forest Management Scheme

i. List all species in primary feedstock, including scientific name.

Danish	English	Latin
Ahorn	Sycamore	*Acer pseudoplatanus*
Ask	Ash	*Fraxinus excelsior*
Dunbirk	White birch	*Betula pubescens*
Vortebirk	Silver birch	*Betula pendula*
Bjergfyr	Mountain pine	*Pinus mugo*
Bævreasp	Aspen	*Populus tremula*
Bøg	Beech	*Fagus sylvatica.*
Contortafyr	Lodgepole pine	*Pinus contorta*
Cypres	Lawson cypress	*Chamaecyparis lawsoniana*
Douglas	Douglas fir	*Pseudotsuga menziesii*
Stilkeg	Common Oak	*Quercus robur*
Vintereg	Sessile Oak	*Quercus petraea*
Elm	Mountain elm	*Ulmus glabra*
Ene	Juniper	*Juniperus communis*
Grandis	Grand fir	*Abies grandis*
Hestekastanie	Horse chestnut	*Aesculus hippocastanum*
Hvidgran	White spruce	*Picea glauca*
Lind	Common lime	*Tilia cordata*
Lærk	European larch	*Larix decidua*
Lærk	Japanese larch	*Larix leptolepis*
Hybridlærk	Dunkeld Larch	*Larix eurolepis*
Nobilis	Noble fir	*Abies procera*
Nordmannsgran	Nordmann fir	*Abies normanniana*
Omorika	Serbian spruce	*Picea omorica*
Poppel	Poplar	*Populus sp.*
Rødeg	Northern red oak	*Quercus rubra*
Rødel	Common alder	*Alnus glutinosa*

Rødgran	Norway spruce	*Picea abies*
Sitkagran	Sitka spruce	*Picea sitchensis*
Skovfyr	Scots pine	*Pinus sylvestris*
Spidsløn	Maple	*Acer platanoides*
Taks	Yew	*Taxus baccata*
Thuja	Western red cedar	*Thuja plicata*
Tsuga	Hemlock	*Tsuga heterophylla*
Ædelgran	Silver fir	*Abies alba*
Østrigsk fyr	Austrian pine	*Pinus nigra*

j. Volume of primary feedstock from primary forest: 0 tonnes (no harvest operations takes place in virgin forest).
k. List percentage of primary feedstock from primary forest (j), by the following categories. Subdivide by SBP-approved Forest Management Schemes:
    - (N/A) Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme
    - (N/A) Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme
l. Volume of secondary feedstock: N/A
m. Volume of tertiary feedstock: N/A

3 Requirement for a Supply Base Evaluation

SBE completed	SBE not completed
X	□

Skovdyrkerne SYD as BP is mainly sourcing uncertified primary feedstock. A SBE is required.

4 Supply Base Evaluation

4.1 Scope

The scope of this Supply Base Evaluation is primary feedstock harvested in region “Syddanmark” and Midtjylland”, Denmark. The majority of the feedstock is harvested by trained professionals at Skovdyrkerne SYD according to the procedures described in “Management System for biomass production at Skovdyrkerne SYD”. The rest of the feedstock is sourced from suppliers approved by the Supplier Verification Programme.

The feedstock is divided in following sub-scopes:

- Primary feedstock sourced from coniferous thinning operations
- Primary feedstock sourced from areas of first generation afforestation
- Primary feedstock sourced from a forest holding with a FM certificate (FSC/PEFC)
- Primary feedstock sourced from a forest holding with a Green Management Plan
- Primary feedstock sourced from areas without a Green Management Plan
- Primary feedstock received with an SBP-approved Chain of Custody (CoC) System claim

4.2 Justification

Skovdyrkerne SYD adopts the ‘The Regional Risk Assessment for Denmark’ – Final draft version: September 2016. The RRA is prepared according to SBP Regional Risk Assessment Procedure Version 1.0 and is a thorough investigation / evaluation of relevant risks in a Danish forest management context.

Skovdyrkerne SYD will, if needed and relevant, make the necessary adjustments according to eventual changes in the RRA later in the endorsement process.

The RRA concludes that there is a specified risk for 4 indicators, all related to mapping and protection of areas of high conservation values (HCV) in the supply base. When an area of high conservation value is mapped and defined, it is possible to identify and address potential threats from forest harvest operations, and hence conserve and protect key ecosystems and the associated biodiversity.

However, in a Danish context coniferous species are all imported and therefore not a part of a natural forest type. The biodiversity is sparse and in case of thinning operations there is no negative impact on the biodiversity. This justifies making a sub-scope categorising all feedstock sourced from coniferous thinning operations as low risk.

In the same way, first generation afforestation holds no high conservation values that can be negatively affected by a harvest operation. Therefore, harvesting operations in forests established as first generation afforestation are all categorised as low risk.

A forest holding with a forest management certificate has a detailed description of the forest including detailed maps with areas in the forest that has high conservation values (specific HCV map). All risks are low when consulting the maps and initiate necessary mitigations actions prior to sourcing biomass from broad-leaved stands or clear cuts.

A forest holding with a green management plan has a detailed description of the forest. The plan includes detailed maps with areas in the forests that have high conservation values (specific HCV map). The HCV registration is mandatory. All risks are low when consulting the HCV maps and initiate necessary mitigations actions prior to sourcing biomass from broadleaved stands or clear cuts.

The last group in the scope consists of areas without a forest management certificate or a green management plan. There is a specified risk that areas of high conservation value have not been mapped. A further consultation of the HNV forest map is needed, possibly complemented by field visits prior to sourcing biomass from thinning in broadleaved stands or clear cuts from areas that are not first generation afforestation. If HCV´s are identified, mitigating actions are made.

SYD has implemented a procedure where all harvesting areas are assessed according to the above sub-scopes prior to biomass production. The procedure is described in the management system and all staff is educated in the procedures.

4.3 Results of Risk Assessment

The Regional Risk Assessment (RRA) states that there is a 'specified risk' in 4 indicators listed below (se appendix).

2.1.1	Forests and other areas with high conservation values in the Supply Base are identified and mapped.
2.1.2	Potential threats to forests and other areas with high conservation values from forest management activities are identified and addressed.
2.2.3	Key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).
2.2.4	Biodiversity is protected (CPET S5b).

There is an understood coherence between identifying areas with high conservation values and being able to conserve important habitats and protect the biodiversity. There is also an understood coherence between threats to high conservation values and the type of forest operation and forest type.

The HCV´s are identified and mapped in some forest holding (FSC/PEFC certified forest holdings and in forest holdings with a green management plan) and in other areas there is a specified risk that there may be unidentified areas with high conservation values.

Thinning operations in coniferous stands and in first generation afforestation is always low risk.

The supply base is therefore divided in the following sub-scopes:

- Primary feedstock sourced from coniferous thinning operations – all low risk
- Primary feedstock sourced from areas of first generation afforestation – all low risk
- Primary feedstock sourced from a forest holding with a FM certificate (FSC/PEFC) - all low risk
- Primary feedstock sourced from a forest holding with a Green Management Plan – specified risk, but the Green Management Plan includes a screening, and when adhering to the mitigation measures for the specified risks indicated in the plan, an all low risk can be obtained.
- Primary feedstock sourced from an area without a Green Management Plan – specified risk
- Primary feedstock received with an SBP-approved Chain of Custody (CoC) System claim – all low risk

4.4 Results of Supplier Verification Programme

The Supplier Verification Programme is designed to ensure that sourcing biomass from external suppliers can be approved as SBP-compliant if it meets certain criteria's. The SVP concludes 5 possibilities for meeting the SVP criteria's:

1. Primary feedstock purchased with a valid FSC or PEFC claim
2. Primary feedstock purchased with a valid SBP claim
3. Primary feedstock from other suppliers that are subject to Supplier Verification Program, were the stand of origin can be verified and were it can be verified the stand is in a low risk sub-scopes; these sub-scopes are:
   a. Feedstock from thinning in coniferous stands
   b. Feedstock from thinning in first-generation afforestation projects
   c. Feedstock from legally compliant non-forest origin

4.5 Credit system

In a Danish context the SBP risk based approach ensures, that biomass is sourced from a non-controversial source in terms of biodiversity is a mean to provide documentation according to the voluntary agreement between the Danish Ministry of Energy, Utilities and Climate and the Danish energy sector [4)]. This agreement (Brancheaftalen) contains two important features:

- The demands for documentation is only obligatory for biomass consumers with an input of 20 Mw or higher,
- There is a stepwise implementation from 2016 (40%) until 2019 (90%).

Since SYD practice a 100% implementation of risk assessment and associated risk mitigation measures (se section 9 for further description) this means that a surplus volume of fully SBP compliant biomass will be produced to customers who not demands (are not required to demand) it due to time or size.

Thus, SYD has developed a credit system to effectively address the demand where it occurs. The credit system is further described in the Management System.

[4] 'Brancheaftalen' is only available in Danish, but can be downloaded here **link**

4.6 Conclusion

The organisation meets the SBP requirement due to a concise approach to risk assessment, where the supply base is divided in 5 different sub-scopes. The competent staff at Skovdyrkerne SYD all have a degree as B.sc or M.sc in forestry and they are able to identify the registered HCV areas within the supply base and determine in witch operations a field assessment is demanded. Necessary mitigation methods are described in the operational plan and map that is handed to the contractor prior to harvest.

External suppliers can provide FSC/PEFC certified feedstock as SBP-compliant feedstock if they hold a valid PEFC CoC/FM or FSC CoC/FM certificate – or if the feedstock can be determined as 'low risk' according to the same criteria's as included in the SBE.

The strength of this approach is:

- It provides the necessary protection of biodiversity in harvesting areas.
- It is integrated in the workflow at Skovdyrkerne SYD and thus feasible and controllable.

5 Supply Base Evaluation Process

The Supply Base evaluation process was initiated by the Regional Risk Assessment for Denmark. Skovdyrkerne SYD has by the representation of Skovdyrkerne Vestjylland has been an indirect stakeholder in the process leading to the decision of making an RRA for Denmark. Through Skovdyrkerne Vestjylland, Skovdyrkerne-DK has played an active role in the RRA stakeholder consultation meeting on May 20th 2016, where the stakeholders where invited to see how Skovdyrkerne Vestjylland assess risks and implement mitigation measure in two different harvest operations –

- thinning operation in coniferous stands
- thinning operation in an old broadleaved stand

After the stakeholder meeting Skovdyrkerne Vestjylland has submitted stakeholder comments to the RRA. The comments were submitted on June 26th 2016.

While adjusting to local conditions this Supply Base Report (SBR) leans on the experiences made by Skovdyrkerne Vestjylland, and will assure that sourcing of biomass is SBP-compliant. The SBR was submitted for public consultation on December 1th 2016.

6 Stakeholder Consultation

The stakeholder consultation will take place during a 30 day period from December 15th 2016 to January 15th 2017

The SBR will be submitted by e-mail to:

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6.1 Response to stakeholder comments

Still pending.

7 Overview of Initial Assessment of Risk

Skovdyrkerne SYD is adopting the 'The Regional Risk Assessment for Denmark' – Final draft version from September 2017. The RRA is prepared according to SBP Regional Risk Assessment Procedure Version 1.0 and is a thorough investigation of relevant risks in a Danish context. See also the annex 1 to this Supply Base Report. Skovdyrkerne SYD will make the necessary adjustments according to eventual changes in the RRA after the completion of the endorsement process.

Indicator		Mitigating measure
2.1.1	Forests and other areas with high conservation values in the Supply Base are identified and mapped	The goal of the mitigation measure is to ensure that any HCV in the area within the Supply Base is identified and sufficiently mapped before sourcing begins of feedstock for biomass production, so that the information about any HCVs can be securely passed on to staff carrying out the felling and chipping operation. As per the source type risk evaluations above, appropriate risk mitigating measure before sourcing biomass feedstock from source type 5: Uneven-aged stands or stands of broadleaf species, is that identification and mapping of HCVs must be carried out. It is suggested that existing knowledge about the forest area where feedstock sourcing is planned is supplemented with a review of the online HNV forest map (which available at http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) prior to a field survey of HCVs for a calculated indication of the potential for HCVs, and that this is used in deciding the scale and intensity of the field survey and mapping activities. It is suggested that the catalogue of Key Biotopes or similar methodology is used in the identification of the HCVs present. The effectiveness of the application of the catalogue of Key Biotopes is reliant upon sufficient skill and training of the personnel carrying out the survey. For a skilled professional the identification and mapping of HCVs would be possible with an acceptable level of effort compared to the size of the area where sourcing of feedstock will take place. It is suggested that the knowledge of relevant third parties and external experts is used for the mapping of key biotopes and that the records (mapping) is made available to third parties on request, if this can contribute to additional identification and mapping of key biotopes based on inputs form relevant third parties and external experts.. Once the maps resulting from the identification and mapping of 'forests containing particular natural values' as per the Danish Forest Act (Article 25) is available, it is suggested that these are used as the indication of the presence of HCVs.
2.1.2	Potential threats to forests and other areas with high conservation values from forest management activities are identified and addressed.	For forests with a green management plan, HCVs have been identified and mapped, but since there is no requirement for independent evaluation of adherence to limitations in the green management plan, the plan including the maps must be consulted and planned activities must be compared to HCV identified the green management plan. For forests without at least a green management plan, HCVs in the area where feedstock for biomass production is sourced must first be identified and mapped (see Indicator 2.1.1), and sufficient maps and instruction prepared – for personnel in charge of the felling or other activities – to ensure that HCVs will not be threatened by forest management activities. It is suggested that the knowledge of relevant third parties and external experts is used for the mapping of key biotopes and that the records (mapping) is made available to third parties on request, if this can contribute to additional identification and mapping of key biotopes based on inputs form relevant third parties and external experts.
2.2.3	Key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b)	Risk mitigation measures are the same as for Indicator 2.1.2: For forests with a green management plan key biotopes and habitats have been identified and mapped, but since there is no requirement for independent evaluation of adherence to limitations in the green management plan, the plan including the maps must be consulted and planned activities must be compared to key Biotopes and habitats identified the green management plan. For forests without at least a green management plan key biotopes and habitats in the area where feedstock for biomass production is sourced must first be identified and mapped (see Indicator 2.1.1), and sufficient maps and instruction prepared – for personnel in charge of the felling or other activities – to ensure that key biotopes and habitats will not be threatened by forest management activities.
2.2.4	Biodiversity is protected (CPET S5b)	The goal of the mitigation measure is to ensure that biodiversity is sufficiently protected. This Indicator is seen as being partially covered by Indicators 2.1.1 and 2.1.2, for which Low risk must be demonstrated or reached through mitigating measures. Required risk mitigation measures are the same as outlined for Indicators 2.1.1 and 2.1.2. Due to the technical requirements that the biomass shall fulfill with regards to humidity and density, it is generally not accepted by Energy Producers that decaying wood is used as input in the chips supplied from Danish Forests. However, it must be ensured that biologically valuable dead and decaying and deadwood on the forest floor is not chipped or removed in connection with production and extraction of biomass.

Table 7: The Regional Risk Assessment for Denmark found 4 Indicators with specified risk. This table shows the corresponding mitigation methods. Skovdyrkerne SYD consents to the suggestions for mitigation methods on all parameters except for the suggestion that HCV maps are made publicly available.

In the following section the risk related to the sub-scopes defined in 4.1:

- Primary feedstock sourced from coniferous thinning operations
- Primary feedstock sourced from first generation afforestation areas
- Primary feedstock sourced from a forest holding with a FM certificate (FSC/PEFC)
- Primary feedstock sourced from a forest holding with a Green Management Plan
- Primary feedstock sourced from an area without a Green Management Plan

… will be assessed – with an individual overview table per sub-scope.

Table 1: **Sub-Scope: Primary feedstock sourced from coniferous thinning operations**. Overview of results from the risk assessment of all Indicators

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
1.1.1		X	
1.1.2		X	
1.1.3		X	
1.2.1		X	
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1		X	
2.1.2		X	
2.1.3		X	
2.2.1		X	
2.2.2		X	
2.2.3		X	
2.2.4		X	
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
2.3.1		X	
2.3.2		X	
2.3.3		X	
2.4.1		X	
2.4.2		X	
2.4.3		X	
2.5.1		X	
2.5.2		X	
2.6.1		X	
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1		X	
2.9.1		X	
2.9.2		X	
2.10.1		X	

Table 2. **Sub-Scope: Primary feedstock sourced from harvest operations in afforestation areas**. Overview of results from the risk assessment of all Indicators

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
1.1.1		X	
1.1.2		X	
1.1.3		X	
1.2.1		X	
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1		X	
2.1.2		X	
2.1.3		X	
2.2.1		X	
2.2.2		X	
2.2.3		X	
2.2.4		X	
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
2.3.1		X	
2.3.2		X	
2.3.3		X	
2.4.1		X	
2.4.2		X	
2.4.3		X	
2.5.1		X	
2.5.2		X	
2.6.1		X	
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1		X	
2.9.1		X	
2.9.2		X	
2.10.1		X	

Table 3: Sub-Scope: Primary feedstock sourced from a forest holding with a FM certificate (FSC/PEFC). Overview of results from the risk assessment of all Indicators

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
1.1.1		X	
1.1.2		X	
1.1.3		X	
1.2.1		X	
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1		X	
2.1.2		X	
2.1.3		X	
2.2.1		X	
2.2.2		X	
2.2.3		X	
2.2.4		X	
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
2.3.1		X	
2.3.2		X	
2.3.3		X	
2.4.1		X	
2.4.2		X	
2.4.3		X	
2.5.1		X	
2.5.2		X	
2.6.1		X	
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1		X	
2.9.1		X	
2.9.2		X	
2.10.1		X	

Table 4: **Sub-Scope: Primary feedstock sourced from a forest holding with a Green Management Plan.** Overview of results from the risk assessment of all Indicators

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
1.1.1		X	
1.1.2		X	
1.1.3		X	
1.2.1		X	
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1		X	
2.1.2	X		
2.1.3		X	
2.2.1		X	
2.2.2		X	
2.2.3	X		
2.2.4	X		
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
2.3.1		X	
2.3.2		X	
2.3.3		X	
2.4.1		X	
2.4.2		X	
2.4.3		X	
2.5.1		X	
2.5.2		X	
2.6.1		X	
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1		X	
2.9.1		X	
2.9.2		X	
2.10.1		X	

Table 5: **Sub-Scope: Primary feedstock sourced from an area <u>without</u> a Green Management Plan.**
Overview of results from the risk assessment of all Indicators

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
1.1.1		X	
1.1.2		X	
1.1.3		X	
1.2.1		X	
1.3.1		X	
1.4.1		X	
1.5.1		X	
1.6.1		X	
2.1.1	X		
2.1.2	X		
2.1.3		X	
2.2.1		X	
2.2.2		X	
2.2.3	X		
2.2.4	X		
2.2.5		X	
2.2.6		X	
2.2.7		X	
2.2.8		X	
2.2.9		X	

Indicator	Initial Risk Rating		
	Specified	Low	Unspecified
2.3.1		X	
2.3.2		X	
2.3.3		X	
2.4.1		X	
2.4.2		X	
2.4.3		X	
2.5.1		X	
2.5.2		X	
2.6.1		X	
2.7.1		X	
2.7.2		X	
2.7.3		X	
2.7.4		X	
2.7.5		X	
2.8.1		X	
2.9.1		X	
2.9.2		X	
2.10.1		X	

7.1.1 SBP compliance – conclusion on initial risk

Skovdyrkerne SYD assesses that:

- Primary feedstock sourced from coniferous thinning operations is low risk.
- Primary feedstock sourced from areas of first generation afforestation is low risk.
- Primary feedstock sourced from a forest holding with a FM certificate (FSC/PEFC) is low risk.
- Primary feedstock sourced from a forest holding with a Green Management Plan is specified risk.
- Primary feedstock sourced from an area without a Green Management Plan is specified risk.

Feedstock sourced from areas outside the forest (farmland) according to FAO definition of forest is non-controversial according to the SBP scope and is hence SBP-compliant on the condition, that harvesting is in compliance with all relevant legislation.

In order to move from a status as specified risk to low risk, Skovdyrkerne SYD as the Biomass Producer (BP) will adapt and implement mitigation measures according to the standard operation procedure (SOP). See 9.1 for at full review of the mitigation measures. Feedstock from suppliers must pass the Supplier Verification Programme. See section 8.

8 Supplier Verification Programme

8.1 Description of the Supplier Verification Programme

Skovdyrkerne SYD procures biomass from a small group of external suppliers. Feedstock from these suppliers must be approved by our Supplier Verification Programme before it can be enter into the supply chain as SBP-compliant.

Feedstock can be divided in the following biomass categories:

1. Feedstock from FM certified (PEFC/FSC) forest.
2. Feedstock from thinning in coniferous stands.
3. Feedstock from thinning in first generation afforestation.
4. Feedstock from non-forest areas.
5. Other feedstock – non-compliant.
6. Feedstock from the neighbouring forest owner associations (not yet within the scope).
7. Feedstock from areas with a specified or unspecified risk. This option is only possible if the full mitigation measures (according to section 9) are implemented by the SYD qualified staff and records of the instructions are kept.
8. Feedstock from a SBP approved supplier

Categories 1-4 and 7-8 can be passed on as SBP-compliant biomass.

Category 6 can be passed on as SBP-compliant biomass only after a scope extension audit has taken place. Here the CB must conduct interview with the forest staff and through field visits find evidence that the staff are competent in implementing mitigation measures.

Biomass from FSC/PEFC certified forest holdings is recognised by SBP as low risk. This leads to a division in to two supplier groups:

- Suppliers with a valid PEFC CoC or FSC CoC certificate – able to pass on biomass for forest holdings with a FM certificate as low risk.
- Suppliers without a valid PEFC CoC or FSC CoC certificate – *not* able to pass on biomass for forest holdings with a FM certificate as low risk.

Category 5 can be passed on as SBP-controlled biomass if it meets the specific criteria's in Management System section 6.2.2. which insures legality according to EUTR.

All suppliers must:

- Implement the SYD Supplier Code of Conduct
- Provide geographic information ensuring that the feedstock is originating from within the Supply Base area.
- Ensure traceability from the harvesting area to the end user for feedstock that is to be passed on as SBP compliant.
- For feedstock that is to be passed on as SBP compliant have reliable systems to provide the necessary data for GHG profile for the batches:
    - Woodchips from forest residues
    - Fuel wood (round wood) for energy
- Have systems enabling planning and description of harvest operations with a corresponding geographical location.
- For feedstock that is to be passed on as SBP compliant on demand deliver the documents of such harvest plan to Skovdyrkerne SYD. The plan must show that the biomass originates from:
    - Primary feedstock where the stand of origin can be verified and where it can be verified the stand is in a low risk sub-scopes; these sub-scopes are:
        a. Feedstock from thinning in coniferous stands
        b. Feedstock from thinning in first-generation afforestation projects
        c. Feedstock from legally compliant non-forest origin

8.2 Site visits

Skovdyrkerne SYD ensures that all biomass with a SBP-claim is sourced in compliance with the SBP standards. The following smpling measure is used: 0,6xsquererot number of supplies of the sourced biomass SYD is conducting an unannounced paper tracking and visits to the sourcing areas.

The internal auditor must control that:

- The origin of the biomass is with-in the supply base
- The biomass category and the distance from the forest to the end-user is correctly recorded / reported.
- If the biomass originates from a forest with a PEFC og FSC FM certificate, the auditor must control the validity of the certificate.
- If the biomass is marked with category 7, - there must be a corresponding *work instruction* made by SYD own forest staff.

8.3 Conclusions on the Supplier Verification Programme

The Supplier Verification Programme is designed to ensure that sourcing biomass from external suppliers can be approved as SBP-compliant if it meets certain criteria's. The SVP concludes 4 possibilities for meeting the SVP criteria's:

1. Primary feedstock purchased with a valid FSC or PEFC claim
2. Primary feedstock from other stands that are subject to Supplier Verification Program, where the stand of origin can be verified and where it can be verified that the stand is within a low risk sub-scopes; these sub-scopes are:
    a. Feedstock from thinning in coniferous stands
    b. Feedstock from thinning in first-generation afforestation projects
    c. Feedstock from legally compliant non-forest origin

9 Mitigation Measures

9.1 Mitigation measures

2.1.1	Forests and other areas with high conservation values in the Supply Base are identified and mapped.	The goal of the mitigation measure is to ensure that any HCV in the area within the supply base is identified and sufficiently mapped before sourcing of feedstock for biomass production begins, so that the information about any HCV can be securely passed on to staff carrying out the felling and chipping operation. For non-FSC or PEFC certified forests and forests without a green management plan, identification and mapping of HCVs must be carried out. It is suggested that the HNV forest online map (available at http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) is consulted for a calculated indication of the potential for HCVs prior to a field survey of HCVs, and that the catalog of key biotopes or similar is used. The effectiveness of the application of the catalog of key biotopes is reliant upon sufficient skill and training of the personnel carrying out the survey. For a skilled professional the identification and mapping of HCVs would be possible with an acceptable level of effort compared to the size of the area where sourcing of feedstock will take place. It is also suggested that, as a safeguard mechanism, the resulting maps are made publicly available. This would allow for expert and stakeholder review and comments.
2.1.2	Potential threats to forests and other areas with high conservation values from forest management activities are identified and addressed.	For forests with a green management plan, HCVs have been identified and mapped, but since there is no requirement for independent evaluation of adherence to limitations in the green management plan, the plan including the maps, must be consulted and planned activities must be compared to limitations in the management plan. For forests without at least a green management plan, HCVs in the area where feedstock for biomass production is sourced must first be identified and mapped (see indicator 2.1.1), and sufficient maps and instruction be prepared for personnel in charge for the felling or other activities, so that it is ensured that HCV will not be threatened for FM activities. It is also suggested that, as a safeguard mechanism, the resulting maps are made publicly available. This would allow for expert and stakeholder review and comments.
2.2.3	Key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).	The goal of the mitigation measure is to ensure that any HCV in the area within the supply base is identified and sufficiently mapped before sourcing of feedstock for biomass production begins, so that the information about any HCV can be securely passed on to staff carrying out the felling and chipping operation. For non-FSC or PEFC certified forests and forests without a green management plan, identification and mapping of HCVs must be carried out. It is suggested that the HNV forest online map (available at http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) is consulted for a calculated indication of the potential for HCVs prior to a field survey of HCVs, and that the catalog of key biotopes or similar is used. The effectiveness of the application of the catalog of key biotopes is reliant upon sufficient skill and training of the personnel carrying out the survey. For a skilled professional the identification and mapping of HCVs would be possible with an acceptable level of effort compared to the size of the area where sourcing of feedstock will take place. It is also suggested that, as a safeguard mechanism, the resulting maps are made publicly available. This would allow for expert and stakeholder review and comments.
2.2.4	Biodiversity is protected (CPET S5b).	The goal of the mitigation measure is to ensure that any HCV in the area within the supply base is identified and sufficiently mapped before sourcing of feedstock for biomass production begins, so that the information about any HCV can be securely passed on to staff carrying out the felling and chipping operation. For non-FSC or PEFC certified forests and forests without a green management plan, identification and mapping of HCVs must be carried out. It is suggested that the HNV forest online map (available at http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) is consulted for a calculated indication of the potential for HCVs prior to a field survey of HCVs, and that the catalog of key biotopes or similar is used. The effectiveness of the application of the catalog of key biotopes is reliant upon sufficient skill and training of the personnel carrying out the survey. For a skilled professional the identification and mapping of HCVs would be possible with an acceptable level of effort compared to the size of the area where sourcing of feedstock will take place. It is also suggested that, as a safeguard mechanism, the resulting maps are made publicly available. This would allow for expert and stakeholder review and comments.

Figure 4.4: From the RRA: Indicators with specified risk and proposals for corresponding mitigation methods.

The indicators are defined in the RRA. A new national digital map covering all areas of high conservation value in forest is in progress. When this new national HCV map is finished, all indicators will be ‘low risk’.

Skovdyrkerne SYD as the Biomass Producer (BP) will adapt and implement the mitigation measures suggested in the RRA - except the suggestion of publishing HCV maps - according to the below standard operating procedure (SOP):

9.1.1 Basics - level of expertise:

All harvest operations are planned and supervised by own forest staff (B.Sc. or M.Sc. in forestry).

a. All staff is trained in the below procedures.
b. All staff is trained in identifying areas of high conservation value according to the catalogue of key biotopes within the supply base.

9.1.2 Planning and risk management:

a. Operations are planned and described in the company database (Pinus) with a corresponding geographic location (GIS) showing a map of the forest with a clear demarcation of ownership, the planned harvest area and eventual areas of high conservation value, that needs to be taken into consideration.
b. The database holds information about the forest owner and the basic risk class of the sourcing area – whether the area is 'PEFC/FSC Certified', 'has a Green Management Plan' or none of the above. This status is marked along with a 'Traffic light':
    i. 'Green light' (no risk),
    ii. 'Orange light' (specified risk identified – proceed with caution / implement mitigating actions)
    iii. 'Red light' (sourcing of feedstock is only possible if the operation can be carried out within EUTR regulation. The biomass originating from such project is SBP non-compliant).
c. When initiation of a new harvest operation, the SBP status is default set as a 'Red light'. In order to move the status to 'Orange light' or 'Green light' - the qualified staff must determine legality (EUTR), the source type and forest type:
d. If the feedstock is sourced from thinning in coniferous stands or 1. Generation afforestation – and legality (EUTR) is ok, - the operation is low risk and status is changed to 'Green light'. The conclusion is described in the *work instructions* [5].
e. If the feedstock is sourced from other areas than section 9.1.2 d. – The forest staff consults suitable information in order to identify areas of High Conservation Value (HCV) and legality issues (EUTR).
    iv. In areas with a FSC/PEFC certificate, - the specific HCV map and management plan is consulted.
    v. In areas with a 'green management plan', - the specific HCV map and green management plan is consulted.
    vi. In areas without a 'forest certificate' or 'green management plan', the official Danish HNV forest online map is consulted. In case of HNV score of 10 or above - the harvest area must be visited and assessed by the trained forest staff.

[5] *Work instruction* – a set of documents including instructions on how to perform the task, all relevant risk assessments and a corresponding map.

vii. I all three cases apply:

1. If there is no conflict with HCV or legislation on the harvest area the status is changed to 'Green light' – and the conclusion is described in the *work instructions*.
2. If there is a conflict with HCV on the harvest area the status is changed:
    a. To 'Orange light' *if* the harvest operation supports the HCV management purpose and can be carried out with extra precaution. The mitigation measures are described in the *work instructions*.
    b. Or maintained as 'Red Light' if the harvest has potential negative impact on the HCV. The biomass can then only be sourced as *Non-compliant*.
3. If there is a conflict with legislation, the status is changed:
    a. To 'Orange light' if the legality is meet by dispensation (§3 or Natura 2000) or if the sourcing is possible with extra precaution (e.g. cultural heritage). The mitigation measures are described in the *work instructions*.
    b. Or maintained as 'Red light' if the operation is not in compliance with EUTR. *In this case harvest is not carried out*.

f. The *work instruction* is emailed / handed over to the sub-contractor, who is instructed to respond if the there is a SBP status without a corresponding conclusion and description of the mitigation measures.

i.

ii. When proceeding with harvesting operation under 'Red Light conditions' - *work instructions* must be emailed to the internal auditor (tvj@skovdyrkerne.dk).

9.1.3 Harvest operations

All harvest operations (cutting, wood chipping, transport etc.) are conducted by trained subcontractors with long term relationships and contracts to the BP.

g. All contractors and staff are trained in understanding the *work instructions* set of documents.
h. All contractors work under the instruction of a SOP for harvesting operations.
i. All contractors and staff have a basic training in identifying areas of high conservation value.

9.1.4 SBP compliance - conclusion

Skovdyrkerne SYD assesses that:

- Feedstock sourced from harvest operations conducted under the above SOP with:
    - 'Green light' – feedstock is low risk.
    - 'Orange light' – the harvest operation contains specified risk, but feedstock is delivered through a mitigation process, that ensures that the biomass is non-controversial in relation to SBP.
- Primary feedstock sourced from coniferous thinning operations is low risk.
- Primary feedstock sourced from areas of first generation afforestation is low risk.
- Feedstock sourced from areas outside the forest (farmland) according to FAO definition of forest.

All is non-controversial according to the SBP scope and is hence SBP-compliant, whereas …

- Feedstock sourced from harvest operations conducted under the above SOP with:
    - 'Red light' – the harvest operation contains specified risk, and the resulting biomass is SBP-non-compliant (but still legal according to EUTR).

Can be considered as legally sourced and hence non-controversial (SBP Controlled) – but not passed on as SBP Compliant.

9.2 Monitoring and outcomes

With respect to the precautionary principle it is decided, that:

- When harvesting in 'Red light' areas - work instructions must be emailed cc. to the internal auditor (tvj@skovdyrkerne.dk). The work instructions will be reviewed and mitigation measures evaluated prior to felling.

This procedure will be evaluated after 12 months in order to verify the outcome and necessity for adjustments of procedures.

10 Detailed Findings for Indicators

Detailed findings for each Indicator are given in Annex 1.

11 Review of Report

To ensure the credibility of this report, a peer review will been conducted.

11.1 Peer review

Identification of Peer Reviewer still pending

11.2 Public or additional reviews

As an additional review The Supply Base Report has also been submitted to the 4 CEO of the sister organisations of Skovdyrkerne. The reviewers' comments and recommendations have been incorporated in the report.

12 Approval of Report

Approval of Supply Base Report by senior management			
Report Prepared by:	***Flemming Sehested***	***M.sc in Forestry***	***December 1st, 2016***
	Name	**Title**	**Date**
The undersigned persons confirm that I/we are members of the organisation's senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report.			
Report approved by:	***Henrik Fredslund***	***Forest manager (CEO)***	***December 1st 2016***
	Name	**Title**	**Date**
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	Name	**Title**	**Date**

13 Updates

13.1 Significant changes in the Supply Base

N/A

13.2 Effectiveness of previous mitigation measures

N/A

13.3 New risk ratings and mitigation measures

N/A

13.4 Actual figures for feedstock over the previous 12 months

N/A

13.5 Projected figures for feedstock over the next 12 months

N/A

Annex 1: Detailed Findings for Supply Base Evaluation Indicators

- Submitted for public consultation on 13 May 2016

	Indicator
1.1.1	The Supply Base is defined and mapped.
Finding	This SBP Regional Risk Assessment covers only Primary Feedstock from all of Denmark, but not including Greenland or the Faroe Islands. The biomass Supply Base includes the main Primary Feedstock suppliers in Denmark: The Danish Nature Agency (State Forests), municipal and other public forest owners, independent private forest owners, and cooperative societies through which some private forest owners are amalgamated. Sawmills and other timber industry entities, importing feedstock and producing feedstock during timber processing, are sources of Secondary Feedstock. These secondary and tertiary sources of feedstock are excluded from this Regional Risk Assessment, since the origin of the material cannot be reliably documented. The main suppliers of Primary Feedstock material are State Forests, private forest owners and other local timber industry entities. These industries can also use material from imports; in which case the imported material could be mixed (during processing or storage) with local wood material. (See more details under Indicator 1.1.2.) In regards to the Supply Base and mapping on the forest level, the main planning document − which serves as a description of the Supply Base in both public and private forests − is the forest management plan. Instructions on forest management planning define the requirements for data and maps to be included in the management plan. A forest management plan is not a legal requirement in Denmark, and some smaller forest estates do not have a detailed management plan, nor sufficient forest maps. However, following several rounds of subsidies, many estates that would not otherwise have forest management plans or forest maps, now have them. For forest or non-forest areas where forest maps are not available, it will be the obligation of the Biomass Producer (BP) to ensure that maps of sufficient scale and quality are available. It is worth mentioning that all 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 regularly evaluated and addressed. On the above background and limitations in scope, it is concluded that there is low risk in relation to the definition and mapping of the Supply Base.
Means of Verification	• The scope is defined and justified; • Maps at the appropriate scale are available; Key personnel demonstrate an understanding of the Supply Base.
Evidence Reviewed	Danish Forestry Act (Skovloven) - https://www.retsinformation.dk/forms/r0710.aspx?id=175267

	Online map of Denmark, including environmental protection – Arealinfo http://arealinformation.miljoeportal.dk/distribution/ Thomas Nord-Larsen, Vivian Kvist Johannsen, Torben Riis-Nielsen, Iben M. Thomsen, Erik Schou, Kjell Suadicani og Bruno Bilde Jørgensen (2015): Skove og plantager 2014, Skov & Landskab, Frederiksberg, 2015. 85 s. ill. (http://ign.ku.dk/samarbejde-raadgivning/myndighedsbetjening/skovovervaagning/intensiv-skovovervaagning/SP2014.pdf)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.1.2	Feedstock can be traced back to the defined Supply Base.
Finding	Supply chains for biomass feedstock to Biomass Producers and Generators in Denmark are typically very short. The Danish Nature Agency produces wood chips in the State forests (held and managed by the same agency), and also to a very limited degree, on private or municipal lands during publicly funded projects. In this case the forest owner is also the BP and the sales are made to the Generators without any intermediary. This is also the case for the largest private forest owners, who have wood from their forests chipped in-forest by contractors and then sell directly to the (small local) Generators. A very common supply chain for wood chip from forest to Generator in Denmark is the following: an intermediary (e.g. cooperative or forestry contractor) buys the feedstock as standing volume, or in stacks in the forest of origin, chips it either in one or two separate processes, and transports it either to a temporary storage location in the forest or directly to the Generator. Occasionally, logs intended for other purposes (cellulose or low-grade timber) will be chipped for biomass. This typically happens when a lot has not been picked up after sale, or when a lot is not large enough for it to be economically viable to transport it to the plant or sawmill. Another, not insignificant, source of feedstock in Denmark is feedstock from nature management projects, i.e. removal of trees from areas designated for open nature areas such as heaths, bogs, meadows, etc. This source of feedstock has the same properties as other sources of Primary Feedstock with regard to traceability within the Supply Base. Due to the short supply chain, feedstock is easily traced back to the forest or region of origin, either by means of invoice from the forest or land owner, or via transport documents and waybill. According to the Danish VAT Code, all commercial invoices must contain details relating to date, buyer and seller, volume and type of product, date of delivery and VAT. There is no general legal requirement for felling or transport permits. As evidenced by Denmark's Corruption Perceptions Index (91, world's highest as per 2015; signifying lowest levels of corruption) and the high level of law enforcement on taxation and VAT, the risk of invoices and transport documents being falsified or tampered with is very low, and consequently documents such as invoices and transport documents can be seen as reliable sources of information. Given the above background, the risk related to the traceability of Primary Feedstock back to the Supply Base is evaluated as Low.

Means of Verification	Invoices between forest owner and BP and between BP and Generator Transport/ shipping documents Waybills The existence of a strong legal framework in the region
Evidence Reviewed	Danish VAT code (Momsbekendtgørelsen) https://www.retsinformation.dk/pdfPrint.aspx?id=173024 Købeloven https://www.retsinformation.dk/pdfPrint.aspx?id=142961 Bekendtgørelse om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ. Bekendtgørelse nr 849 af 27/06/2016. (https://www.retsinformation.dk/Forms/R0710.aspx?id=182076) Bekendtgørelse om sortering af råtræ - https://www.retsinformation.dk/Forms/R0710.aspx?id=77507 Lov nr. 1225 af 18. december 2012 om administration af Den Europæiske Unions forordning om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ: https://www.retsinformation.dk/Forms/R0710.aspx?id=144423
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.1.3	The feedstock input profile is described and categorised by the mix of inputs.
Finding	Since the supply chains are very short, and Biomass Producers usually source feedstock directly from the forests of origin, reliable information regarding the feedstock can be gathered in collaboration with the forest owners when necessary. Thus, for all Biomass Producers and in accordance with SBP requirements, it is possible to accurately classify and describe the type, species, and categorisation into roundwood and residual wood material and, when required, the approximate proportion of roundwood from final fellings. Wood chips for biomass are often sold with a description as either broadleaved, coniferous or mixed. There are no protected tree species in Denmark; so in other words no species that would not be acceptable in feedstock. Rules on measurement and volume calculation of roundwood and timber of standing forests define the procedures, definitions, measurement methods for roundwood and are obligatory for all forest owners, managers, traders and suppliers and therefore feedstock are categorized in a uniform way. The aforementioned VAT legislation and established system guarantee that feedstock input profiles can be described in accordance with national legislation. At forest level, The Danish Nature Agency does not undertake timber processing apart from in-forest chipping and sells only the forest primary products: roundwood, fuel wood, cutting residues, wood chips etc. The other Primary Feedstock producers, such as the private forest owners or estates, typically sell their primary products through intermediaries (De Danske Skovdyrkerforeninger, Hedeselskabet, forestry contractors), either as standing volume or in stacks or heaps. Overview of Legal Requirements The Act on Classification of Wood Sold Under Certain Conditions regulates classification of harvested material. The regulation provides material classifications and quality category names. The Act specifies requirements for both measuring and sorting by dimension and quality. Trees must be sorted by species and usual product type (e.g. plank logs, sleeper logs, full-

	length timber, impregnation masts, piles, box wood, chip wood etc.). All wood classified under this Act shall be marked with A/EØF, B/EØF or C/EØF, etc., indicating the quality. These designations show that the wood has been classified according to the law. **Description of Risk** Trade in Danish-produced wood material is well-regulated and – according to both The Danish Agency for Water and Nature Management and Danish Forest Association – there is no known corruption associated with this requirement. However, mixing of material is not covered by the regulation. **Risk Conclusion:** Based on the available information, the risk for this Indicator has been assessed as Low.
Means of Verification	Invoices between forest owner and BP and between BP and Generator Transport/ shipping documents Waybills Feedstock input records
Evidence Reviewed	Danish VAT Code (Momsbekendtgørelsen) https://www.retsinformation.dk/pdfPrint.aspx?id=173024 Købeloven https://www.retsinformation.dk/pdfPrint.aspx?id=142961 Bekendtgørelse om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ. Bekendtgørelse nr 849 af 27/06/2016. (https://www.retsinformation.dk/Forms/R0710.aspx?id=182076) Bekendtgørelse om sortering af råtræ - https://www.retsinformation.dk/Forms/R0710.aspx?id=77507
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.2.1	Legality of ownership and land use can be demonstrated for the Supply Base.
Finding	Land tenure rights are regulated by the Land Registration Law, with land ownership registered in the Land Book. According to the Land Registration Law, rights to real estate must be registered in the Land Book to manage cases of prosecution and to ensure valid agreements on property. When a land registration document is to be registered, it shall include details of land registry number and address, personal identification number and company registration number. Apart from registration in the Land Book, a legal contract of ownership shall also be signed. Customary rights and legal methods to obtain rights are equally regulated by the Land Registration Law. The Land Book is an online registry that is publicly available: https://www.tinglysning.dk/tinglysning/welcome.xhtml According to the Danish Forest Association, Denmark is one of the most highly organised countries in the context of spatial mapping, especially the forest area. Ownership is very clear, and there are very few areas without clearly defined ownership. The Danish Forest Association does not know of any risks related to ownership. The State's right to obtain land tenure is regulated through the Expropriation Law. All legally registered companies are registered in the CVR register from which information on type of business, size, address etc. is publicly available. The CVR number can be verified at Virk: https://datacvr.virk.dk/data/. A legal business agreement is also a requirement.

	Description of Risk Legal ownership and land use can be demonstrated by reviewing the Land Book or the online register. Rights are clearly established in Denmark and business and tax registration are clear and transparent through public databases. Furthermore, laws in Denmark are very well enforced. In the Corruption Perceptions Index, Denmark was ranked first for the years 2014, 2013 and 2012; that is, for these years, Denmark was considered the least corrupt country in the world. (See https://www.transparency.org/cpi2014/results for 2014 outcomes.) Within the World Bank Worldwide Governance Indicators index, Denmark scores close to 100% for Rule of Law and Control of Corruption. This indicates that there is very low risk that legislation on ownership and legal registration of businesses is not enforced. **Risk Conclusion:** Based on the available information, the risk for this Indicator has been assessed as Low.
Means of Verification	Existing legislation Levels of enforcement Danish Central Company Register: https://datacvr.virk.dk/data/ The Land Book: https://www.tinglysning.dk/tinglysning/welcome.xhtml Online Land register map: http://gstkort.dk/spatialmap?
Evidence Reviewed	Transparency International, Country profile for Denmark: http://www.transparency.org/country/#DNK The World Bank Worldwide Governance Indicators for Denmark 1996–2014: http://info.worldbank.org/governance/wgi/pdf/c63.pdf Lov nr. 1225 af 18. december 2012 om administration af Den Europæiske Unions forordning om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ: https://www.retsinformation.dk/Forms/R0710.aspx?id=144423
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.3.1	Feedstock is legally harvested and supplied and is in compliance with EUTR legality requirements.
Finding	The Danish, forestry-related legislation relevant to EUTR is comprehensive and detailed and regulates numerous aspects, including maintaining the forest area, protection of Natura 2000 areas, general protection of the environment, etc. The Danish Agency for Water and Nature Management is the competent authority on the implementation of the EUTR in Denmark, including in the Danish forestry context. The Danish Agency for Water and Nature Management has published the document “Guidance for Danish Forest Owners on the EUTR” (Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR)) in April 2016. This document lists the applicable legislation, gives examples of cases and includes a requirement that forest owners implement a due diligence system, so they can document that they are in compliance with relevant legislation. The “Bekendtgørelse om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ” (Executive Order on Trade in Wood and Wood Products to Combat the Trade in Illegally Harvested Timber) establishes the regulation required to support the EUTR. The Danish Agency for Water

	and Nature Management is appointed to administer the enforcement. The regulation describes administrative decisions and penalty provisions. The legislation requires that all companies who are placing wood on the market: shall have a due diligence system in place; do not trade in illegally harvested wood; and be able to identify the companies one step up and one step down the market chain. According to interviewed representatives of The Danish Agency for Water and Nature Management , the enforcement of forest legislation in Denmark has been at a moderate level over the past decades since routine visits by government officials to forest owners ended in the mid 1980s. Since then, the enforcement of forest legislation has focused on reported cases of violations of relevant laws. There are a number of cases annually of reported violations of relevant laws but, according to the officials, the violations are not generally systematic, grave nor motivated by economic gain. Typical cases include not seeking a permit before otherwise acceptable felling activities in Natura 2000 areas, illegal construction of hunting cabins, or lack of payment of VAT for sales of firewood to private buyers. The Danish Agency for Water and Nature Management confirms that for legislation governed by the Agency (Forest Act and EU Timber Regulation) the number of violations recorded annually is very low. **Risk conclusion:** The risk conclusion for this Indicator refers to legality associated with the production of timber and feedstock for biomass in general. The risk of feedstock being harvested without legal compliance is assessed as Low.
Means of Verification	Existing legislation Level of enforcement Interviews demonstrate that key staff have a good knowledge of relevant forestry legislation.
Evidence Reviewed	Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR) - https://www.retsinformation.dk/Forms/R0710.aspx?id=179059 Bekendtgørelse om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ. Bekendtgørelse nr 849 af 27/06/2016. (https://www.retsinformation.dk/Forms/R0710.aspx?id=182076) Lov nr. 1225 af 18. december 2012 om administration af Den Europæiske Unions forordning om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ: https://www.retsinformation.dk/Forms/R0710.aspx?id=144423 Forest Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175267 Nature Protection Act: https://www.retsinformation.dk/forms/R0710.aspx?id=175785 Environmental Protection Act: www.retsinformation.dk/forms/R0710.aspx?id=132218 Ochre Act: www.retsinformation.dk/forms/R0710.aspx?id=127107 Watercourse Act: https://www.retsinformation.dk/forms/r0710.aspx?id=145855
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.4.1	Payments for harvest rights and timber, including duties, relevant royalties and taxes related to timber harvesting, are complete and up to date.
Finding	Overview of Legal Requirements Royalties or timber harvesting taxes are not implemented in Denmark, and thus not relevant. A VAT of 25% shall be paid in accordance with the Tax Collection Act and the VAT Law. Value Added Tax shall be paid on a six month, three month or monthly basis depending on company turnover; and is administered by the Ministry of Taxation and applies to persons who conduct an independent business. Description of Risk Denmark scores high against World Bank Worldwide Governance Indicators. On a scale of -2.5 to +2.5, Denmark received a score of 1.72 (2014) for Regulatory Quality, 2.09 for Rule of Law and 2.26 for Control of Corruption. Regulation of sales tax and VAT is considered well-enforced in Denmark, and there are no indications that feedstock enters the biomass supply chain under violation VAT legislation. The risk associated with lack of payment of VAT in relation to feedstock for biomass production in assessed as being Low.
Means of Verification	Sales invoice Transport documents
Evidence Reviewed	Danish VAT Code (Momsbekendtgørelsen) https://www.retsinformation.dk/pdfPrint.aspx?id=173024 Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR) - https://www.retsinformation.dk/Forms/R0710.aspx?id=179059 The World Bank Worldwide Governance Indicators for Denmark 1996–2014: http://info.worldbank.org/governance/wgi/pdf/c63.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.5.1	Feedstock is supplied in compliance with the requirements of CITES.
Finding	N/A: There are no tree species classified as CITES species in Denmark. **Risk Conclusion:** Based on the above information, the risk for this indicator has been assessed as Low.
Means of Verification	CITES Appendices I, II and III
Evidence Reviewed	CITES Appendices I, II and III: (https://cites.org/sites/default/files/eng/app/2016/E-Appendices-2016-03-10.pdf) Wikipedia, List of Trees of Denmark (https://en.wikipedia.org/wiki/List_of_trees_of_Denmark)

Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
1.6.1	Feedstock is not sourced from areas where there are violations of traditional or civil rights.
Finding	There are no Indigenous people with traditional land use rights in Denmark. There are limited customary use rights, e.g. right to use of roads or coppicing. There is no known evidence of disputes or conflicts over traditional or civil use rights related to the sourcing of feedstock for biomass production. **Risk Conclusion:** Based on the above information, the risk for this indicator has been assessed as Low.
Means of Verification	Traditional and civil rights are identified. Procedures are in place to ensure rights are not violated.
Evidence Reviewed	Bekendtgørelse om offentlighedens adgang til at færdes og opholde sig i naturen: https://www.retsinformation.dk/Forms/R0710.aspx?id=182079 The World Bank Worldwide Governance indicators for Denmark 1996–2014: http://info.worldbank.org/governance/wgi/pdf/c63.pdf
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.1.1	Forests and other areas with high conservation values in the Supply Base are identified and mapped.
Finding	**HCV Occurrence** Danish forests have been surveyed by the Department of Geosciences and Natural Resource Management at Copenhagen University by means of a sampling methodology and documented under the Danish National Forest Inventory (NFI) hosted by The Danish Agency for Water and Nature Management . As Danish forests have been well-researched and *significant* conservation values have been identified, it can be concluded – based on consultations with experts – that there are no major knowledge/ data gaps in relation to *significant and important* HCV areas and these areas are mapped and available to the public through the website Danmarks Miljøportal (http://arealinformation.miljoeportal.dk/distribution/) While *significant and important* HCV areas critical to conservation are designated as protected areas at national or EU level (Natura 2000), one consulted key forest ecology expert and two consulted environmental Non-Governmental Organisations (eNGOs) argue that there are very likely a large number of smaller areas or biotopes of local or regional importance to biodiversity or as species habitats. In a Danish context these are called Key Biotopes (“nøglebiotoper”). These areas are not systematically identified and mapped. The tool recommended by The Danish Agency for Water and Nature Management for identification of Key Biotopes is a catalogue of examples developed and published in 2000.

A recent report by the Department of Geosciences and Natural Resource Management at Copenhagen University describes a method for generating a High Nature Value (HNV) forest map for Denmark. Based on this, an interactive map has been developed and made publicly available online. The online map will provide an indication of areas (shown as a color gradient) where a combination of factors makes the occurrence of High Nature Value forest more likely.

Further identification of 'forests containing particular natural values' is a goal of the most recent Danish Forest Act (Article 25). The plans for this project were initiated in early 2016, with the work by The Danish Agency for Water and Nature Management expected to be concluded in 2019. This project will identify previously unknown 'forests containing particular natural values' that is not already covered by Natura 2000 or protected status. This could be Woodland key habitats or biodiversity hotspots, and could likely be in forests that were previously under no or low-intensity forest management.

For this assessment, the HCV categories 1–6 below reference the document Common Guidance for the Identification of High Conservation Values from the HCV Resource Network.

HCV 1:
Habitats/ breeding/ resting places for conservation-reliant and Red List plant and animal species;
An overview of conservation-reliant species in the EU Habitats Directive Annexes II, IV and V and the Birds Directive Annex I can be found on The Danish Agency for Water and Nature Management's website;
Endangered and rare animal and plant species on the Danish Red List.

HCV 2: Large woodland territories: N/A – as according to FSC's HCV 2 definition, Denmark does not contain these types of forests.

HCV 3: In a Danish context, it is determined that this category is covered by Natura 2000 areas, areas covered by the Nature Protection Act (Article 3), other protected areas, as well as an identification of Key Biotopes (Nøglebiotoper). Natura 2000 areas are aligned with the European Commission's Habitats and Birds Directives; and contain Woodland Key Habitats (WKH), protected habitats conserved under the Nature Conservation Act (Article 3), and the Forest Act (Articles 25 , 26 and 27).

Other protected areas and key habitats such as protected lakes, streams, moors, marshes, salt marshes, fresh meadows and grasslands conserved under Nature Conservation Act (Article 3); and Oak shrub forests are preserved under the Forest Act (Article 26). Deciduous forest boundary areas are protected under the Forest Act (Article 27). Natura 2000 areas and protected areas are completely mapped, but there is currently no legal requirement for mapping of areas covered by the Forest Act Articles 27 to 28, nor for the identification and mapping of Key Biotopes.

HCV 4: Natura 2000 areas, Nature Protection Act (Article 3), other protected areas and "near-well protected areas" (Boringsnære Beskyttelsesområder – BNBO) which describe the protected area surrounding a water source (a well), and are areas with important water protection values.

HCV 5: Forest sites and resources are not fundamental to meeting the necessities of communities in Denmark. Forests protected by the Forest Act also provide basic protection of local communities' needs. Therefore, it is concluded that this category is not applicable in the Danish context, and thus it is not addressed here.

HCV 6: This includes areas with significant national cultural and historical values, including ancient burial mounds and other archaeological sites, but also early industrial sites and other significant cultural sites.

HCV Mapping and Identification
HCVs have been identified and mapped in all Danish forests that are FSC- or PEFC-certified, and also in forests that have received government subsidies for the development of a so-called 'green management plan'; since a requirement for the payment of the subsidy is that HCVs are identified, mapped and incorporated into

	the management plan. There is still a significant number of forests that are not FSC- or PEFC-certified and that do not have a green management plan. There is no public register of forests that have a green management plan, nor are there any requirements that the HCVs identified and mapped in the green management plans are made public. The identification and mapping of 'forests containing particular natural values' as per the Danish Forest Act (Article 25) has started (spring 2016) and is expected to be concluded in 2019. Since the maps are still being developed, these cannot currently be used for protection of HCVs when planning feedstock sourcing. **Source Types and their risk levels** There can be defined different "**source types**" e.i. sources of biomass feedstock that share properties with regard to presence, mapping and protection HCVs, including Key biotopes and biodiversity in a broader sense, the following source types are defined and their risk levels assessed: 1. **Feedstock originating from FSC or PEFC certified forests**: Feedstock originating from FSC or PEFC certified forests is recognized by SBP as sustainable, and identification, mapping and protection of HCV is seen as sufficient. These forests are also subject to third party evaluation. Risk is evaluated as LOW **2. Feedstock originating from forest estates with a Green Management plan:** It is a requirement for receiving subsidies for developing a Green Management plan that HCV areas in the forest are identified and mapped. Risk is evaluated as LOW 3. **Feedstock from thinning in even-aged stands of conifers**: Based on feedback from several stakeholders and key experts, is concluded that the chance of key biotopes being under threat from thinning operations in even-aged conifers in Danish forests, and taking into account existing mapping of other HCV categories the risk is assessed as being LOW 4. **Feedstock from thinning in first generation afforestation areas**: Based on feedback from several stakeholders and key experts, is concluded that the chance of key biotopes being under threat from thinning operations in first generation afforestation areas, and taking into existing mapping of other HCV categories the risk is assessed as being LOW 5. **Feedstock from uneven-aged stands or stands of broadleaf species**: Due to no legal requirement for identification and mapping of Key biotopes, it is assessed that for all other forest sources of biomass feedstock, the risk of HCVs being present, but not identified or mapped is SPECIFIED 6. **Feedstock from non-forest areas, e.g. nature maintenance projects, windbreaks or residential areas**: For feedstock from non-forest areas, it is concluded that HCVs are mapped and/or legally protected, and as such the risk related to identification and mapping HCV is evaluated to be LOW. **Risk conclusion** Based on the evidence provided above, it is concluded that there is a specific risk that at least locally important Key Biotopes in forests have not yet been identified and mapped, and may therefore be at risk from threats due to sourcing of biomass. However, it is also concluded that some source types are inherently low in key biotopes, such as first generation afforestation areas or even-aged stands of conifers.
Means of Verification	Internet research Interviews GIS maps of HCV areas Interviews Regional, publicly available data from a credible third party The existence of a strong legal framework in the region

Evidence Reviewed	Brown, E., N. Dudley, A. Lindhe, D.R. Muhtaman, C. Stewart, and T. Synnott (eds). 2013 (October). Common Guidance for the Identification of High Conservation Values. HCV Resource Network. Danmarks Miljøportal: http://arealinformation.miljoeportal.dk/distribution/ Interactive map of protected areas: http://www.fredninger.dk/ Catalogue of Key Biotopes in Forests (Nøglebiotoper i skov – Billedkatalog): http://naturstyrelsen.dk/media/nst/67041/Noeglebiotoper.pdf Development of a High Nature Value forest map for Danmark: http://forskning.ku.dk/find-en-forsker/?pure=files%2F150278108%2FHNVskov_rapport_final.pdf Rules for subsidies for Green Management Plans: http://naturstyrelsen.dk/naturbeskyttelse/skovbrug/privat-skovdrift/tilskud-til-private-skove/groen-driftsplan/ The Digital Nature Map – The Biodiversity map of Denmark (http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) Johannsen, V.K., Rojas,S.K., Brunbjerg, A.K., Schumacher, Bladt, J., Nyed, Moeslund, J.E., Nord-Larsen, T. og Ejrnæs, R. (2015): Udvikling af et High Nature Value - HNV-skovkort for Danmark. IGN Rapport November 2015, Institut for Geovidenskab og Naturforvaltning, Københavns Universitet, Frederiksberg Johannsen, V. K., Dippel, T., Friis Møller, P., Heilmann-Clausen, J., Ejrnæs, R., Larsen, J. B., ... Hansen, G. K. (2013): Evaluering af indsatsen for biodiversiteten i de danske skove 1992 - 2012. Institut for Geovidenskab og Naturforvaltning, Københavns Universitet. http://ign.ku.dk/formidling/publikationer/rapporter/filer-2013/evaluering-biodiversitet-1992-2012.pdf
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Comment or Mitigation Measure	The goal of the mitigation measure is to ensure that any HCV in the area within the Supply Base is identified and sufficiently mapped before sourcing begins of feedstock for biomass production, so that the information about any HCVs can be securely passed on to staff carrying out the felling and chipping operation. As per the source type risk evaluations above, appropriate risk mitigating measure **before sourcing biomass feedstock from source type 5: Uneven-aged stands or stands of broadleaf species**, is that identification and mapping of HCVs must be carried out. It is suggested that existing knowledge about the forest area where feedstock sourcing is planned is supplemented with a review of the online HNV forest map (which available at http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) prior to a field survey of HCVs for a calculated indication of the potential for HCVs, and that this is used in deciding the scale and intensity of the field survey and mapping activities. It is suggested that the catalogue of Key Biotopes or similar methodology is used in the identification of the HCVs present. The effectiveness of the application of the catalogue of Key Biotopes is reliant upon sufficient skill and training of the personnel carrying out the survey. For a skilled professional the identification and mapping of HCVs would be possible with an acceptable level of effort compared to the size of the area where sourcing of feedstock will take place. It is suggested that the knowledge of relevant third parties and external experts is used for the mapping of key biotopes and that the records (mapping) is made available to third parties on request, if this can contribute to additional identification and mapping of key biotopes based on inputs form relevant third parties and external experts.. Once the maps resulting from the identification and mapping of 'forests containing particular natural values' as per the Danish Forest Act (Article 25) is available, it is suggested that these are used as the indication of the

	presence of HCVs.

	Indicator
2.1.2	Potential threats to forests and other areas with high conservation values from forest management activities are identified and addressed.
Finding	Please see Indicator 2.1.1 for discussion regarding the risk designation for identification and mapping of HCVs. **Source Types and their risk levels** There can be defined different "**source types**" e.i. sources of biomass feedstock that share properties with regard to presence, mapping and protection HCVs, including Key biotopes and biodiversity in a broader sense, the following source types are defined and their risk levels assessed: 1. **Feedstock originating from FSC or PEFC certified forests**: Feedstock originating from FSC or PEFC certified forests is recognized by SBP as sustainable. The certification standards include requirements for identification, mapping and protection of HCV and FMUs that have carried out sufficient mapping and implemented procedures to ensure proper protection of HCV's can provide assurance of compliance with these requirements through certification. . Risk is evaluated as LOW **2.** **Feedstock originating from forest estates with a Green Management plan:** It is a requirement for receiving subsidies for developing a Green Management plan that HCV areas in the forest are identified and mapped. However, there is no strict requirement that the HCVs are monitored and protected from forest management, and therefore risk is evaluated as SPECIFIED. 3. **Feedstock from thinning in even-aged stands of conifers**: Based on feedback from several stakeholders and key experts, is concluded that the chance of key biotopes being under threat from thinning operations in even-aged conifers in Danish forests, and taking into account existing mapping of other HCV categories the risk is assessed as being LOW 4. **Feedstock from thinning in first generation afforestation areas**: Based on feedback from several stakeholders and key experts, is concluded that the chance of key biotopes being under threat from thinning operations in first generation afforestation areas, and taking into existing mapping of other HCV categories the risk is assessed as being LOW 5. **Feedstock from uneven-aged stands or stands of broadleaf species**: Due to no legal requirement for identification and mapping of Key biotopes, it is assessed that for all other forest sources of biomass feedstock, the risk of HCVs being present, but not identified or mapped is SPECIFIED 6. **Feedstock from non-forest areas, e.g. nature maintenance projects, windbreaks or residential areas**: For feedstock from non-forest areas, it is concluded that HCVs are mapped and/or legally protected, and as such the risk related to identification and mapping HCV is evaluated to be LOW.
Means of Verification	FSC or PEFC Forest Management certificate Green management plan and map of HCVs Forest Management plan Regional Best Management Practices Standard Operating Procedures

	Codes of Practice Records of BP field inspections Monitoring records Interviews with staff Publicly available information on the protection of the values identified Regional, publicly available data from credible third parties The existence of a strong legal framework in the region
Evidence Reviewed	Rules for subsidies for Green Management Plans: http://naturstyrelsen.dk/naturbeskyttelse/skovbrug/privat-skovdrift/tilskud-til-private-skove/groen-driftsplan/ FSC Standard for Forest Management certification in Denmark PEFC Standard for Forest Management certification in Denmark Johannsen, V. K., Dippel, T., Friis Møller, P., Heilmann-Clausen, J., Ejrnæs, R., Larsen, J. B., ... Hansen, G. K. (2013): Evaluering af indsatsen for biodiversiteten i de danske skove 1992 - 2012. Institut for Geovidenskab og Naturforvaltning, Københavns Universitet. http://ign.ku.dk/formidling/publikationer/rapporter/filer-2013/evaluering-biodiversitet-1992-2012.pdf The Digital Nature Map – The Biodiversity map of Denmark (http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk) Johannsen, V.K., Rojas,S.K., Brunbjerg, A.K., Schumacher, Bladt, J., Nyed, Moeslund, J.E., Nord-Larsen, T. og Ejrnæs, R. (2015): Udvikling af et High Nature Value - HNV-skovkort for Danmark. IGN Rapport November 2015, Institut for Geovidenskab og Naturforvaltning, Københavns Universitet, Frederiksberg (http://ign.ku.dk/formidling/publikationer/rapporter/filer-2013/evaluering-biodiversitet-1992-2012.pdf) Nygaard, B., Ejrnæs, R., Juel, A. & Heidemann, R. 2011. Ændringer i arealet af beskyttede naturtyper 1995-2008 – en stikprøveundersøgelse. Danmarks Miljøundersøgelser, Aarhus Universitet. 82 s. – Faglig rapport fra DMU nr. 816: http://www.dmu.dk/Pub/FR816.pdf
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Indicative / Possible Mitigation Measure	For forests with a green management plan, HCVs have been identified and mapped, but since there is no requirement for independent evaluation of adherence to limitations in the green management plan, the plan including the maps must be consulted and planned activities must be compared to HCV identified the green management plan. For forests without at least a green management plan, HCVs in the area where feedstock for biomass production is sourced must first be identified and mapped (see Indicator 2.1.1), and sufficient maps and instruction prepared – for personnel in charge of the felling or other activities – to ensure that HCVs will not be threatened by forest management activities. It is suggested that the knowledge of relevant third parties and external experts is used for the mapping of key biotopes and that the records (mapping) is made available to third parties on request, if this can contribute to additional identification and mapping of key biotopes based on inputs form relevant third parties and external experts.

	Indicator
2.1.3	Feedstock is not sourced from forests converted to production plantation forest or non-forest lands after January 2008.
Finding	In a Danish context, it is important to note that, due to the history of Danish forests, most forests today are the result of afforestation projects occurring over the last 200 years, since the forest cover was at its lowest in the early 19th century. Additionally, most forests in Denmark have been under some form of forest management. The Danish Forest Act (Article 8) states that areas covered by the Forest Act must support trees that are expected to form a full height stand with a closed canopy. The Forest Act Forest Act also states that tree stands cannot be felled before they have reached maturity and the area must meet the above requirements at the latest ten years after clearcutting. The Forest Act Forest Act (Article 9) contains provision to use – for grazing and coppicing – up to 10% of the forest area protected by the Act Forest Act. This will also include the use of forest land for Christmas tree production or short rotation poplar for biomass purposes. Since conversion of up to 10% of the area protected by the Forest Act can legally be converted to short rotation production stands of Christmas trees or poplar for feedstock purposes, some conversion has most likely taken place since 2008. There is, however, no evidence of significant conversion of forest areas from a natural or near-natural state to production plantation forest after January 2008. **Risk conclusion** Based on the above, it is concluded that the risk of feedstock originating from natural or near natural forests stand that has been converted to short rotation plantation forest stands or non-forest use is Low.
Means of Verification	Historical maps and discussions with stakeholders Regional, publicly available data from a credible third party The existence of a strong legal framework in the region Records of BP field inspections Monitoring records Interviews with staff Aerial photos are available from 1954, 1995 and later at: http://miljoegis.mim.dk/spatialmap?
Evidence Reviewed	The Danish Forest Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175267 Definitions Related to Planted Forests: http://www.fao.org/docrep/007/ae347e/ae347e02.htm National Forest Inventory (NFI) 2014: http://ign.ku.dk/samarbejde-raadgivning/myndighedsbetjening/skovovervaagning/intensiv-skovovervaagning/SP2014.pdf Global Forest Watch, Country Profile for Denmark: http://www.globalforestwatch.org/country/DNK
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.1	Feedstock is sourced from forests where there is appropriate assessment of impacts, and planning, implementation and monitoring to minimise them.

Finding	Monitoring the impact of logging and extraction of biomass from Danish forests is carried out in different ways and by different stakeholders. Forest management practices generally aim to minimise the impact of forest management operations, including impacts to the remaining stand, neighboring stands, soils, wetlands and watercourses. National monitoring and research programs carried out by research institutes have documented this impact on a wide range of parameters including soil structure, nutrients, biodiversity, forest health, volume growth, etc. Impact studies are to a limited extent focused on the specific impact of biomass extraction but do cover this aspect of the forest operation as well. The Danish Nature Agency has established an extensive FM planning practice with a 15 year planning period which includes consideration of the impacts of forest operations and biomass extraction on a range of forest goods and values. Impact considerations are based both on research as well as in-house and external expertise and knowledge which is used in the planning and implementation of forest operations. At private forest level, the situation related to planning and impact monitoring varies significantly among FMUs and depends on the size of the FMU; whether in-house or external forest expertise is used in connection with planning and execution of forest activities; and whether the FMU is covered by a forest management plan. A significant proportion of large- and medium-sized private FMUs have forest management plans that integrate current knowledge about the impact of forest operations. FMUs for which green forest management plans have been developed (based on Government subsidies) include specific mapping of areas of High Conservation Value and Key Biotopes and created plans to avoid negative impacts or improve the biodiversity. There is generally good adherence to relevant legislation protecting forests and the forest environment, and reported illegal activities are dealt with by the authorities. Environmental impact studies are required by law in situations where there is a significant potential impact on forest areas caused by infrastructure or other projects. In such cases, national legislation regarding landscape planning etc. also applies. Some of the wood harvested from such areas affected by these types of projects is likely to be converted to and sold as biomass. In private forests, logging and biomass extraction is to a large extent carried out by entrepreneurs who also operate in FSC- or PEFC-certified forests, including the State forests, with the same machines and drivers used in the certified FMUs. In such cases the machinery fulfills certification requirements related to low soil impact etc., and the drivers have a high level of understanding of how to avoid negative impact on soils, biodiversity, stands, streams, HCVs etc. **Risk conclusion:** This assessment concludes that current practices generally ensure appropriate assessment of impacts in connection with production of biomass, and that planning, implementation and monitoring is sufficient to minimize negative impact based on available knowledge. Therefore the risk is evaluated as low.
Means of Verification	Regional Best Management Practices Supply contracts Assessment of potential impacts at operational level Assessment of measures to minimise impacts Monitoring results Publicly available information on protecting the identified values Level of enforcement Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence	Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR) - https://www.retsinformation.dk/Forms/R0710.aspx?id=179059

Reviewed	Forest Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175267 Nature Protection Act: https://www.retsinformation.dk/forms/R0710.aspx?id=175785 Environmental Protection Act: www.retsinformation.dk/forms/R0710.aspx?id=132218 Watercourse Act: https://www.retsinformation.dk/forms/r0710.aspx?id=145855 Biomassepotentialer i Danmark, EU og Globalt; Rapport udarbejdet for Energistyrelsen af KU og COWI, Oktober 2015 Thomas Nord-Larsen & Kjell Suadicani (2010): Træbrændelsesressourcer fra danske skove over ½ ha – opgørelse og prognose 2010. Arbejdsrapport nr. 113, Skov & Landskab, Københavns Universitet Graudal, L., Nielsen, U.B., Schou, E., Thorsen, B.J., Hansen, J.K., Bentsen, N.S., og Johannsen, V.K. (2013): Muligheder for bæredygtig udvidelse af dansk produceret vedmasse 2010-2100. Perspektiver for skovenes bidrag til grøn omstilling mod en biobaseret økonomi, Institut for Geovidenskab og Naturforvaltning, 86 s. ill.
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.2	Feedstock is sourced from forests where management maintains or improves soil quality (CPET S5b).
Finding	The effects of logging practices and extraction of biomass from forests on the soil and ecosystem nutrient pool in different parts of Denmark have been analysed through research projects over significant periods of time for both nutrient-poor and nutrient-rich soils. The research covers two aspects of soil quality: soil structure and nutrient balance. Leaves/ needles and bark contain most of the nutrients in the trees (N, P, K and Ca). The common practice in Denmark when chipping feedstock for biomass is to leave the branches and top ends in the forest for pre-drying for several months until leaves or needles are shed and left behind in the stand, and before carrying out the chipping. Studies show that this practice significantly minimises plant nutrient loss compared to methods where leaves and needles are removed from the stands. Even with an increase in biomass production the practice of leaving leaves and needles in the forest stands is not expected to change as the technical requirements set by the converters regarding water content in the biomass prevent the production of 'green' biomass, i.e. biomass containing fresh leaves and needles. The removal of plant nutrients over a rotation period should be evaluated against the pool of nutrients that the location can produce through weathering of soil minerals or air deposition. On very nutrient-poor soils the removal of nutrients through wood extraction can exceed the nutrients that are added from weathering and deposition and thereby lead to a long-term decrease in the nutrient pool. Forest owners can compensate for nutrient loss by spreading ash from wood biomass in the stands. The University of Copenhagen has developed a tool (ESBEN) to help calculate the nutrient balance of forest stands in connection with biomass extraction and to evaluate the effectiveness of adding nutrients to the forest stand by spreading ash from wooden biomass in the stands (http://videntjenesten.ku.dk/skov_og_natur/skader_paa_skov/naeringsstof-

	ubalance_i_jorden/videnblad_08.05-16/ It should be mentioned that biomass to some extent is harvested from areas like heaths and bogs where the aim is to keep the soil nutrient levels low, as this is a characteristic of this type of landscape. On such areas all biomass including needles and leaves is often removed in connection with chipping. The impact on soil structure in connection with extraction of biomass from forest stands depends on the soil conditions, the machinery used and how and when the machines operate in the forest stand. In private forests, logging and biomass extraction is to a large extent carried out by entrepreneurs who also operate in FSC- or PEFC-certified forests, including the State forests, with the same machines and drivers used in the certified FMUs. In such cases the machinery fulfills certification requirements related to low soil impact etc., and the drivers have a high level of understanding of how to avoid negative impact on soils. Thus, there are common technical solutions to minimising impacts on soils, e.g. wider tyres with forest-specific design; machines operated in a fashion that takes soil conditions into account. Operations are often moved or rescheduled if the soil is waterlogged, so undue soil damage can be avoided. **Risk conclusion:** It is concluded that the risk of negative impact on forest nutrient balance in connection with biomass extraction is low, considering the current practices of not extracting leaves/ needles from nutrient-poor soils and the possibility of adding nutrients to compensate for net loss. It is concluded that the risk of negative impact on soil structure in connection with biomass extraction is Low.
Means of Verification	Regional Best Management Practices Records of BP field inspections Interviews with staff Assessment at an operational level of measures designed to minimise impacts on the values identified The existence of a strong legal framework in the region Level of enforcement Regional, publicly available data from a credible third party
Evidence Reviewed	Petersen, Leif og Karsten Rasmussen: Jordbundsudvikling under ager og nåleskov. Geografisk Tidsskrift 87: 65-67. København, juni 1987. Retrieved from https://tidsskrift.dk/index.php/geografisktidsskrift/article/viewFile/5186/9796 http://denstoredanske.dk/Geografi_og_historie/Geografi/Naturgeografi/Jordbundsgeografi/podsol Madsen, Henrik Breuning: Clay Migration and Podzolization in a Danish Soil. Geografisk Tidsskrift 84: 6-9. Copenhagen, January. Retrieved from: https://tidsskrift.dk/index.php/geografisktidsskrift/article/view/4477/8383 The Danish Forest Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175267 The Danish Nature Protection Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175785 Miljøforhold ved brændselsfrembringelse og håndtering, Videncenter for Halm- og Flisfyring (www.videncenter.dk) Videnblade vedr. Nærsingsstof-ubalance i jorden, publiceret af Videntjenesten, Københavns Universitet (http://videntjenesten.ku.dk/skov_og_natur/skader_paa_skov/naeringsstof-ubalance_i_jorden/)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.3	Key ecosystems and habitats are conserved or set aside in their natural state (CPET S8b).
Finding	The Danish Forest Act (Article 14–24) establishes legal protection of key ecosystems and habitats in Denmark by means of designation of Natura 2000 areas (approx. 19.000 hectares - comprised of EU Habitats Directive areas and EU Birds Directive areas). With the designation of 21.000 hectares of untouched forest or forests with old management systems such as coppicing, forest grazing, and oak shrub forest, the total forest area where protection of natural values or biodiversity is app. 35.000 hectares or approx. 5,7% of the total forest area (there is some overlap). Some forest landscapes are protected by "fredning" which is a form of legal protection in Denmark. Protected areas can be designated with objectives of landscape or wildlife protection. Protected areas cannot be changed, but maintenance is typically carried out. Protected areas can have regulation of public access to the area, to either maintain right of access; or – where specific wildlife interests mandate this – prohibit public access without a specific permit. A scientific report (Johannsen et al. 2013) concludes that clear goals and better mapping of species, along with evidence-based measures, are prerequisites for future efforts for biodiversity in Danish forests, and ensuring protection of threatened species, structures and habitats should be prioritised. **Risk conclusion:** Based on the existing protection through the Forest Act and designation of Natura 2000 areas and individual protected areas, it is concluded that larger scale key ecosystems and habitats are sufficiently protected, and that sourcing of feedstock for biomass does not pose a threat towards these areas. As mentioned in the findings for criteria 2.1.1 it is likely that a large number of smaller areas or biotopes of local or regional importance to biodiversity or as species habitats, in a Danish context called Key Biotopes ("nøglebiotoper"), which are not systematically identified and mapped. Based on a precautionary approach the risk assessment conclude that for these areas the risk is specified based on the same findings as for Indicators 2.1.1 and 2.1.2.
Means of Verification	Danmarks Miljøportal: http://arealinformation.miljoeportal.dk/distribution/ Interactive map of protected areas: http://www.fredninger.dk/ The Digital Nature Map – The Biodiversity map of Denmark
Evidence Reviewed	Danish Forestry Act (Skovloven) - https://www.retsinformation.dk/forms/r0710.aspx?id=175267 The Danish Nature Protection Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175785 Online map of Natura 2000 areas and protected areas in Denmark: http://arealinformation.miljoeportal.dk/distribution/ Interactive map with all types of protection in Denmark: The Digital Nature Map – The Biodiversity map of Denmark Johannsen, V. K., Dippel, T., Friis Møller, P., Heilmann-Clausen, J., Ejrnæs, R., Larsen, J. B., ... Hansen, G. K. (2013): Evaluering af indsatsen for biodiversiteten i de danske skove 1992 - 2012. Institut for Geovidenskab og Naturforvaltning, Københavns Universitet. http://ign.ku.dk/formidling/publikationer/rapporter/filer-2013/evaluering-biodiversitet-1992-2012.pdf Nygaard, B., Ejrnæs, R., Juel, A. & Heidemann, R. 2011. Ændringer i arealet af beskyttede naturtyper 1995-2008 – en stikprøveundersøgelse. Danmarks Miljøundersøgelser, Aarhus Universitet. 82 s. – Faglig rapport fra DMU nr. 816: http://www.dmu.dk/Pub/FR816.pdf

	Johannsen, V.K., Rojas,S.K., Brunbjerg, A.K., Schumacher, Bladt, J., Nyed, Moeslund, J.E., Nord-Larsen, T. og Ejrnæs, R. (2015): Udvikling af et High Nature Value - HNV-skovkort for Danmark. IGN Rapport November 2015, Institut for Geovidenskab og Naturforvaltning, Københavns Universitet, Frederiksberg
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Indicative / Possible Mitigation Measure	Risk mitigation measures are the same as for Indicator 2.1.2: For forests with a green management plan key biotopes and habitats have been identified and mapped, but since there is no requirement for independent evaluation of adherence to limitations in the green management plan, the plan including the maps must be consulted and planned activities must be compared to key Biotopes and habitats identified the green management plan. For forests without at least a green management plan key biotopes and habitats in the area where feedstock for biomass production is sourced must first be identified and mapped (see Indicator 2.1.1), and sufficient maps and instruction prepared – for personnel in charge of the felling or other activities – to ensure that key biotopes and habitats will not be threatened by forest management activities.

	Indicator
2.2.4	Biodiversity is protected (CPET S5b).
Finding	The Danish Forest Act (Article 14–24) establishes legal protection of key ecosystems and habitats in Denmark by means of designation of Natura 2000 areas (approx. 19.000 hectares - comprised of EU Habitats Directive areas and EU Birds Directive areas). With the designation of 21.000 hectares of untouched forest or forests with old management systems such as coppicing, forest grazing, and Oak brushwood, the total forest area where protection of natural values or biodiversity is approx. 35.000 hectares or approx. 5,7% of the total forest area (there is some overlap). A scientific report (Johannsen et al. 2013) concludes that clear goals and better mapping of species, along with evidence-based measures, are prerequisites for future efforts for biodiversity in Danish forests, and ensuring protection of threatened species, structures and habitats should be prioritised. Two consulted environmental Non-Governmental Organisations (eNGOs) argue that increased demand for biomass feedstock will provide a new incentive for forest managers to remove additional woody biomass from forests, giving rise to a risk that biodiversity will not be sufficiently protected. Especially dead and decaying trees and deadwood on the forest floor have an important role in maintaining biodiversity in Danish forests. **Risk conclusion:** As this Indicator is seen as being partially covered by Indicators 2.1.1 and 2.1.2, for which Low risk must be demonstrated or reached through mitigating measures. The risk for this Indicator is also assessed as Specified. Required risk mitigation measures are the same as outlined for Indicators 2.1.1 and 2.1.2.
Means of Verification	Regional Best Management Practices Supply contracts Assessment of potential impacts at operational level and of measures to minimise impacts Monitoring results Publicly available information on the protection of the identified values Level of enforcement Regional, publicly available data from a credible third party The existence of a strong legal framework in the region

Evidence Reviewed	Danish Forestry Act (Skovloven) - https://www.retsinformation.dk/forms/r0710.aspx?id=175267 The Danish Nature Protection Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175785 Online map of Natura 2000 areas and protected areas in Denmark: http://arealinformation.miljoeportal.dk/distribution/ Johannsen, V. K., Dippel, T., Friis Møller, P., Heilmann-Clausen, J., Ejrnæs, R., Larsen, J. B., Hansen, G. K. (2013): Evaluering af indsatsen for biodiversiteten i de danske skove 1992 - 2012. Institut for Geovidenskab og Naturforvaltning, Københavns Universitet. http://ign.ku.dk/formidling/publikationer/rapporter/filer-2013/evaluering-biodiversitet-1992-2012.pdf Pleje af levende hegn. http://naturstyrelsen.dk/naturbeskyttelse/national-naturbeskyttelse/beskyttede-naturtyper-3/naturplejeportalen/smaabiotoper/smaabiotoper-pleje/levende-hegn/
Risk Rating	☐ **Low Risk** ☒ **Specified Risk** ☐ **Unspecified Risk at RA**
Indicative / Possible Mitigation Measure	The goal of the mitigation measure is to ensure that biodiversity is sufficiently protected. This Indicator is seen as being partially covered by Indicators 2.1.1 and 2.1.2, for which Low risk must be demonstrated or reached through mitigating measures. Required risk mitigation measures are the same as outlined for Indicators 2.1.1 and 2.1.2. Due to the technical requirements that the biomass shall fulfill with regards to humidity and density, it is generally not accepted by Energy Producers that decaying wood is used as input in the chips supplied from Danish Forests. However, it must be ensured that biologically valuable dead and decaying and deadwood on the forest floor is not chipped or removed in connection with production and extraction of biomass.

	Indicator
2.2.5	The process of residue removal minimises harm to ecosystems.
Finding	The Danish Forest Act (Article 1) states that the intention of the Forest Act is to maintain and protect the forests of Denmark and increase the forest area. An additional intention is to promote the sustainable management of the forests in Denmark, including an explicitly stated objective of maintaining and increasing the biological diversity of the forests. The Danish Forest Act (Article 2) puts special emphasis on protecting biodiversity in the Danish State Forests. Residues are removed in connection with thinnings, selective logging and clear cuts, carried out as an integrated part of the logging operations in forests. It is common practice to remove residues after felling operations, either for the production of biomass feedstock, or for firewood. Some stakeholders mention that there is a risk of increased removal of dead wood from forest stands as a consequence of biomass extraction. Due to the technical requirements that the biomass shall fulfill with regards to humidity and density, it is generally not accepted by Energy Producers that decaying wood is used as input in the chips supplied from Danish Forests. Interview with stakeholders and experience from Forest Management audits confirm that decaying wood is generally not used as input in chip-production and only occur exceptionally. The chipping of GROT (tree branches and tree tops) is likely to result in a reduction of the quantity of small dimension residues left in the forest stands. This practice is considered to be compliant with the criteria because the negative impact on ecosystems caused by removal of small dimension tree branches and tops at the current scale and practice, leaving leaves and branches in the forests, is considered to be low.

	Removal of residues occur in connection with removal of wood vegetation from protected open habitats like heaths and bogs where the aim is to regulate the wood vegetation in order to maintain the characteristic of these open habitats. As these habitats are generally protected by law the removal of wooden vegetation shall be carried out without negative impact on the ecosystem and consequently it would be illegal if residues are removed in a way that causes harm to these ecosystem. There are currently no reports or other types of evidence indicating that the process of residue removal from forest stands or protected open habitats cause harm to the ecosystems at a scale that result in specified risk. The report 'Ændringer I arealet af beskyttede naturtyper 1995-2008 – En stikprøveundersøgelse', concludes that app 2,6 % of the protected open habitats have been converted during the mentioned period and that part of this conversion has occurred in violation of the Nature protection act, mainly in connection with conversion of meadows to agricultural land. This type of conversion would not normally lead to production of wooden biomass and the evidence mentioned report thereby support the conclusion that the risk of harm to protected open habitats in connection with removal of residues is low. **Risk conclusion:** Based on the above, it is concluded that the risk to ecosystems from residue removal related to sourcing of feedstock is Low.
Means of Verification	Regional Best Management Practices Supply contracts Assessment of potential impacts at operational level and of measures to minimise impacts Monitoring results Publicly available information on the protection of the identified values Level of enforcement Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	Danish Forestry Act (Skovloven) - https://www.retsinformation.dk/forms/r0710.aspx?id=175267 The Danish Nature Protection Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175785 Online map of Natura 2000 areas and protected areas in Denmark: http://arealinformation.miljoeportal.dk/distribution/ Ændringer i arelaet af beskyttede naturtyper 1995-2008 – En Stikprøveundersøgelse. Danmarks Miljøundersøgelser (2011), Faglig rapport nr. 816
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.6	Negative impacts on ground water, surface water, and water downstream from forest management are minimised (CPET S5b).
Finding	The Nature Protection Act protects surface water interests in Denmark. The Act states that all natural lakes over 100 m^2, along with all watercourses designated for protection by the local municipal authorities, are protected and that their state cannot be altered. The Forest Act protects all ponds and waterbodies located in forests that are themselves protected by the Forest Act, including those not protected by the Nature Protection Act due to size or lack of designation by authorities. Surface and drinking water interests are well protected by the Environmental Protection Act, the Water Sector

	Act and the Water Utilities Act. The municipalities are the competent authorities in relation to drinking water interests, and The Danish Agency for Water and Nature Management under the Ministry of Environment and Food monitors drinking water interests at a national level. There is no evidence of forest management threats to water quality, and in fact afforestation projects are sometimes deployed with an aim to improve water quality in an area. The rates of use of pesticides and fertilisers in forestry are much lower compared to volumes used in the agricultural sector. The average annual application of pesticides (active ingredient) is 2.1 kg/ha for the agricultural sector and 0.05 kg/ha for the forestry sector; however, this does not include the annual pesticide application for Christmas trees and greenery production. Additionally, leaching of nitrate from forest areas is typically in the range of 0–10 kg N/year for forests, and typically in the range of 30–120 kg N/year for agricultural land. Based on observations, 70% of forest areas have insignificant nitrate leaching, 20% have some nitrate leaching and for approximately 10% of the forest area, ground water under the forest does not meet drinking water quality requirements due to nitrate leaching. This is significantly lower than what would be expected under agricultural land use. **Risk conclusion:** Based on the above, it is concluded that the risk of negative impacts on ground water, surface water and water downstream from forest management activities related to sourcing of feedstock is Low.
Means of Verification	Regional Best Management Practices Supply contracts Records of BP field inspections Assessment at an operational level of measures designed to minimise impacts on the values identified Interviews with staff Publicly available information on the protection of air quality Level of enforcement Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	Forest Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175267 Nature Protection Act: https://www.retsinformation.dk/forms/R0710.aspx?id=175785 Environmental Protection Act: www.retsinformation.dk/forms/R0710.aspx?id=132218 Ochre Act: www.retsinformation.dk/forms/R0710.aspx?id=127107 Watercourse Act: https://www.retsinformation.dk/forms/r0710.aspx?id=145855 Water Supply Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175911 Environmental Damage Act: https://www.retsinformation.dk/forms/R0710.aspx?id=173182 Grundvand fra skove - muligheder og problemer. Raulund-Rasmussen, K. & Hansen, K. (eds.). Skovbrugsserien nr. 34, Skov & Landskab, Hørsholm, 2003. 122 s. ill. (http://videntjenesten.ku.dk/filer/rapporter/skov-og-landskab/sogn34.pdf)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.7	Air quality is not adversely affected by forest management activities.

Finding	There is no indication of adverse effect on air quality of any significance from forest management activities in Denmark. All new forest equipment is subject to the Danish implementation of EU Directive regarding pollution from non-roadgoing machinery, which includes tractors and other forest machinery. Furthermore, forestry operations are typically carried out in areas some distance to towns and cities. There is no significant use of burning practices in a Danish forestry context.
Means of Verification	Regional Best Management Practices Supply contracts Records of BP field inspections Assessment at an operational level of measures designed to minimise impacts on the values identified Interviews with staff Publicly available information on the protection of air quality Level of enforcement Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	Bekendtgørelse om begrænsning af luftforurening fra mobile ikke-vejgående maskiner mv: https://www.retsinformation.dk/Forms/R0710.aspx?id=175847
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.8	There is controlled and appropriate use of chemicals, and that Integrated pest management (IPM) is implemented wherever possible in forest management activities (CPET S5c).
Finding	The use of chemicals in private forests is limited, however Glyphosate is used to control regeneration of weedy species prior to replanting; and insecticides, including, but not limited to, synthetic pyrethroids, are used to control outbreaks of pine weevil (*Hylobius abietis*) in the 1–2 years after planting of spruce cultures. All chemical application shall follow the general legislation related to the plant protection products. Requirements – regarding licensing of the personnel in charge of and carrying out the application of chemicals, storage and use of only authorised chemical, use of Personal Protective Equipment and filling and washing of spraying equipment – are well-enforced by responsible authorities. Integrated Pest Management (IPM) practices are implemented. This includes the requirement that chemicals are used only to control significant pressure from insects or weeds, based on monitoring and assessment, and that application is carried out in a responsible manner. The use of any kind of pesticide must be recorded by the forest owner in a spraying journal. The time-limited and use-specific approval of agrochemicals is controlled by the Environmental Protection Agency, which is a part the Danish Ministry of Environment and Food. **Risk Conclusion:** Based on the above information, the risk for this Indicator has been assessed as Low.
Means of Verification	Existing legislation Level of enforcement Assessment, at an operational level, of measures designed to minimise impacts on the values identified Monitoring records Interviews with staff

Evidence Reviewed	Authorisation of pesticides by the Environmental Protection Agency: http://eng.mst.dk/topics/pesticides/ Summary of requirements for users of chemicals: http://eng.mst.dk/topics/pesticides/professional-user/
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.2.9	Methods of waste disposal minimize negative impacts on forest ecosystems (CPET S5d).
Finding	There are no significant impacts – from forest management activities or other forest owner-mandated activities – due to waste disposal in forests under any type of ownership in Denmark. Littering and illegal waste disposal in Danish forests do occur along roads, parking spaces and recreational facilities, especially where these occur near cities and recreational sites that are often visited by forest guests. Whenever possible, the source of the waste is identified and police notified. **Risk conclusion:** The risk of negative impacts from waste disposal in forest is assessed to be Low.
Means of Verification	Existing legislation Level of enforcement Regional Best Management Practices Operational assessment of potential impacts and of measures to minimise impact
Evidence Reviewed	Environmental Protection Act, Section 43: https://www.retsinformation.dk/forms/r0710.aspx?id=132218#K6 Nature Protection Act, Section 28: https://www.retsinformation.dk/forms/r0710.aspx?id=155609 Examples of fines: http://mst.dk/virksomhed-myndighed/affald/affaldsfraktioner/henkastet-affald/oversigt-over-boeder-for-henkastet-affald/
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.1	Analysis shows that feedstock harvesting does not exceed the long-term production capacity of the forest, avoids significant negative impacts on forest productivity and ensures long-term economic viability. Harvest levels are justified by inventory and growth data.
Finding	The Danish Forest Act gives basic protection from over-exploitation of the forests covered by the Act. According to the Danish National Forest Inventory (NFI) 2014, there has been a net increase of both forest area and standing volume in the period examined (2010–2014). Over the period examined, the standing volume on average increased by an estimated 2.9 million m3 per year, compared to an annual harvest of 4.8 million m3 per year, for a total annual increment of 7.7 million m3 per year. Due to age class distribution in the individual forests, there can be management plan periods where the

	harvest levels can exceed the increase in standing volume. These harvest levels are justified by means of inventory and growth data, and do not threaten forest productivity or long-term economic viability. **Risk Conclusion:** Based on the above information, the risk for this Indicator has been assessed as Low.
Means of Verification	Harvesting records, inventory and growth data and yield calculations demonstrate that biomass feedstock harvesting rates are not having significant negative impacts on forest productivity and long-term economic viability Documentation of Operational Practice
Evidence Reviewed	Forest Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175267 Thomas Nord-Larsen, Vivian Kvist Johannsen, Torben Riis-Nielsen, Iben M. Thomsen, Erik Schou, Kjell Suadicani og Bruno Bilde Jørgensen (2015): Skove og plantager 2014, Skov & Landskab, Frederiksberg, 2015. 85 s. ill. (http://ign.ku.dk/samarbejde-raadgivning/myndighedsbetjening/skovovervaagning/intensiv-skovovervaagning/SP2014.pdf) f
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.2	Adequate training is provided for all personnel, including employees and contractors (CPET S6d).
Finding	Generally, forest managers and workers in Denmark have a high level of education. Basic training for a skilled forest worker lasts three years, and includes both practical placement and classroom education. The curriculum includes forest mechanization, ergonomics, health and safety, forestry techniques, biology and economics. There is also an option for acquiring formal recognition as a skilled forest worker through a number of 1–2 week courses. In both cases, the Ministry of Education approves the curriculum. Shorter and more specific courses are also available, and even unskilled forest workers and contractors typically attend one or more trainings every year. Danish forests are permitted to cover an area up to 10% with Christmas trees. Within the Christmas tree industry, there are – according to one NGO – problems with illegal employment of staff from Eastern Europe. However, in forests with requirements for long-term management, this is not reported to be an issue. As Christmas trees will not be used in production of feedstock, the risk is not considered relevant in relation to this Risk Assessment. **Risk Conclusion:** Based on the above information, the risk for this Indicator has been assessed as Low.
Means of Verification	Existing legislation Level of enforcement Training course curricula Records of BP field inspections Training records Interviews with staff Training plans, training records, and records of qualifications
Evidence Reviewed	Information about the education, courses and trainings offered by the forestry school: http://ign.ku.dk/om/skovskolen/

Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.3.3	Analysis shows that feedstock harvesting and biomass production positively contribute to the local economy including employment.
Finding	There are indicators showing that biomass production contribute positively to Local economy for forest owners, entrepreneurs based regionally or in Denmark and the regional and national transport sector Biomass with origin in Danish forests is mainly supplied through domestic supply chains to energy plants (kraft- varmeværker) in Denmark. Studies made by Naturstyrelsen show that production of biomass in connection with thinning and harvesting in the state forests has increased the commercial volumes over a rotation period by app 10% compared to volume models that do not take the biomass into consideration. The increased commercial use of residues in connection with harvesting and thinning contribute moderately to the financial outcome of harvesting and thinning and create an incentive for forest owners and entrepreneurs to manage forest stands (http://www.skovdyrkerne.dk/dyrkningsinfo/skovdyrkning/foryngelse/traeartsvalg/biomaseoptimeretskovdyrkning/). Interview with various stakeholders confirm that logging and processing of biomass (wood chips) is carried out almost entirely by Danish entrepreneurs. The chip production takes place in the forest stands or at processing sites near the forests where logging takes place. The biomass is transported regionally over relatively short distances. **Risk Conclusion:** Based on the reviewed evidence, it is concluded that there is a low risk of non-compliance with the requirement.
Means of Verification	Verbal and email communication with Forest and The Danish Nature Agency, Private forest owner association and Forest Contractors Association (DM&E) Christian Bang, Aisma Vitina, Jay Sterling Gregg, Hens Henrik Lindboe (2013). Analysis of biomass prices. Future Danish prices for straw, wood chips and wood pellets 'Final Report'. Ea Energy Analysis
Evidence Reviewed	
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.1	The health, vitality and other services provided by forest ecosystems are maintained or improved (CPET S7a).
Finding	The Forest Act requires that forest owners maintain forest cover on forest land, as well as establishing 'robust forests' with high level of resistance and resilience towards known calamities such as pests, wind and climate change. Over the past decade, The Danish Nature Agency has implemented 'close to nature' forest management principles in the state forests and increased the area of stands with domestic and mixed species composition – with the explicit aim of increasing the resistance and resilience of forest stands against climate change, storms and other calamities. In connection with wind throws since the 1990s and as a consequence of subsidiaries favouring the establishment of stands with domestic and/or mixed species, a significant proportion of former monocultures was converted to mixed stands with a high ratio of domestic species. In addition, the policies of other types of public subsidiaries have led to conversion of monocultures to mixed forest stands. The health of the forests is continuously monitored as part of the research programme 'Forest Health Development'. The latest report documenting the health of the forests (see reference) concludes that: Overall, the health of the forests was at its lowest in the 1990s. After this, there has been an improvement albeit with ash as a notable exception in recent years. Seeing as the largest portion of the trees monitored are beech, oak, and Norway spruce, the results for these three species are the most reliable. The following conclusions can be drawn on the health of deciduous trees: • The health of the beech was poor in the mid-1990s but has been good for the last 10 years. • The health of the oak fluctuates from year to year depending of the prevalence of different species of caterpillars that eat the leaves in the spring. • Overall, the sycamore has suffered few health issues although affected by the drought in the mid-1990s. • The health of the ash has been fluctuating, and since 2005 it has deteriorated due to the fungal disease ash dieback. The following conclusions can be drawn on the health of the coniferous trees: • The Norway spruce was in poor health in the 1980s and 1990s. However, for the past 10 years its state of health has been satisfactory. • Overall, the health of the Sitka spruce is worse than that of the Norway spruce. Its state of health is slowly improving but suffered a setback in 2007-08 because of a greenfly infestation. • The health of the Scots pine and other species of pine was poor in the 1980s due to a fungal disease. Their health has since improved. Other coniferous trees such as species of larch and silver fir have, generally speaking, been fairly healthy since the mid-1990s.
Means of Verification	Review of scientific reports and data

Evidence Reviewed	Results from the national Forest Vitality monitoring program: Skovsundheden i Danmark (http://ign.ku.dk/samarbejde-raadgivning/myndighedsbetjening/skovsundhed/)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.2	Natural processes, such as fires, pests and diseases are managed appropriately (CPET S7b).
Finding	The overall political framework for the forests in Denmark is defined in the legislation and within the National Forest Program from 2002 which is under revision through a process initiated in 2014 (http://naturstyrelsen.dk/naturbeskyttelse/skovbrug/lovgivning/nationalt-skovprogram/). The Forest Act requires that forest owners maintain forest cover on forest land, as well as establishing 'robust forests' with high level of resistance and resilience towards known calamities such as pests, wind and climate change. Generally, fires, pests and diseases occur at a small scale in Danish forests and are managed by the forest owner. The main natural process that has a negative impact on forest stands is storms that cause wind throw. It is the responsibility of the forest owners and/or managers to apply silvicultural methods that improve the stability of forest stands. Incentives to establish robust forest stands are built into various subsidiaries for private forest owners (stormfaldsordningen, regeneration, and reforestation). Replanting after wind throw in private forests is subsidised through an insurance system which covers most forest owners. State forests are managed according to 'close to nature' forest management principles (ref. Handlingsplan for Naturnær Skovdrift) with the intent to promote species composition and forest structure with high level of resistance and resilience. The management of other types of pests, fires and diseases is carried out by each forest owner, and is generally based on knowledge and guidance provided by internal forest staff, forestry consultants, forestry magazines and other channels of information. **Risk Conclusion:** Based on the reviewed evidence, it is concluded that there is a low risk of non-compliance with the requirement.
Means of Verification	Review of documentation Interviews with private and State Forest management staff General knowledge about forest practices collected from general engagement with the forest sector
Evidence Reviewed	Skov- og Naturstyrelsen (2005) Handlingsplan for Naturnær Skovdrift i Statsskovene. Skov- og Naturstyrelsen og J. Bo Larsen (2005). Katalog over Skovudviklingstyper I Danmark

	Hans Peter Ravn (2016). Typografsituationen april/maj 2016. Videntjenesten, Københavns Universitet Videntjenesten, Københavns Universitet, Skader på Skov Results from the national Forest Vitality monitoring program: Skovsundheden i Danmark (http://ign.ku.dk/samarbejde-raadgivning/myndighedsbetjening/skovsundhed/)
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.4.3	There is adequate protection of the forest from unauthorised activities, such as illegal logging, mining and encroachment (CPETS7c).
Finding	In general, there is a high level of law enforcement in Denmark. Illegal logging and encroachment are not issues in Denmark, as forests are so small and forest activities are in most cases visible to the public and forest management staff from roads. The types of illegal activities most commonly encountered in Denmark are illegal littering, stray dogs, unauthorised mountain biking, theft of firewood and, occasionally, poaching. Illegal or unauthorised activities in Danish forests generally have limited economic or biological impact. **Risk conclusion:** It is assessed that the risk from unauthorised activities in Danish forests is Low.
Means of Verification	Records of BP field inspections Monitoring records Interviews with staff Interviews with stakeholders Publicly available information (news and media)
Evidence Reviewed	Interviews with officials from The Danish Nature Agency and representatives from the Danish Forest Owners' Association.
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.5.1	The legal, customary and traditional tenure and use rights of indigenous peoples and local communities related to the forest, are identified, documented and respected (CPET S9).
Finding	There are no indigenous people with traditional land use rights in Denmark and this requirement is therefore not applicable; The following discusses forest use rights for the general public, including local communities. According to the Nature Protection Act (Article 23), the public has the right to access both public and private forest by foot, bicycle and horseback (except areas used by the military). In public forests, access is permitted to the entire forest area, while the public has a right to private forests only by roads or trails from 6am until sunset. Fencing out or restricting public access is not permitted. A private forest owner is able to restrict access by bicycles and horseback, even though in certain cases such restrictions can be overruled by the municipality.

	Gathering of mushrooms, berries and mosses for private use is permitted, but only in limited amounts (BEK nr 1317 af 21/12/2011, §28). In private forests, however, only what can be reached from the roads or trails may be collected. It is permitted to cut branches from deciduous trees with a height of more than 10 metres, while branches may be collected from both deciduous and coniferous trees that are dead. There is no general right to collect firewood. This is only permissible following agreement with the forest owner. **Description of Risk** There are a few cases of conflict occurring between private forest owners and people accessing the forests (personal communication); such cases are being reported to and dealt with by the municipality. Often these cases are resolved according to the legislation and requirements are clarified with the forest owners or the public users of the forests. The cases are rarely brought to court. According to a 2014 report from the Outdoor Council, there are no indications of systemic conflicts with forest owners; with the same report stating that 97% of visitors are happy with their visit to the forests and mainly use the forest for recreational purposes. **Risk conclusion:** The risk for violation of local communities' use rights is assessed as Low.
Means of Verification	Customary use rights are identified and documented Interviews with local communities and other stakeholders, indicate that their rights are being respected Appropriate mechanisms exist to resolve disputes Agreements exist regarding these rights
Evidence Reviewed	Act on public access to nature: https://www.retsinformation.dk/Forms/R0710.aspx?id=139348 Danskernes brug af naturen - og omfanget af generende oplevelser i mødet med andre brugere (The Outdoor Council - Report on the Danes' use of nature) (http://www.friluftsraadet.dk/media/974418/rapport_danskernes_brug_af_naturen.pdf) :
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.5.2	Production of feedstock does not endanger food, water supply or subsistence means of communities, where the use of this specific feedstock or water is essential for the fulfilment of basic needs.
Finding	Subsistence needs for local communities are assessed as being not applicable for Denmark. **Risk conclusion:** Based on the above, it is concluded that there is a low risk of non-compliance with the requirement.
Means of Verification	
Evidence Reviewed	

Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.6.1	Appropriate mechanisms are in place for resolving grievances and disputes, including those relating to tenure and use rights, to forest management practices and to work conditions.
Finding	Grievances and disputes, including those relating to tenure and usage rights, forest management practices and work conditions, are regulated by legislation, namely, the Constitution, the Law of Obligations Act, the Labour Code etc. The detailed procedures, duties and responsibilities of involved persons are defined in the legislation. The legislation and justice system provide a route for appeal should people be dissatisfied with the outcome of the dispute resolution process. The disputes related to work conditions shall be resolved according to administrative procedures and labour legislation. Prevailing practice is to include additional dispute resolution-related statements of clarification in the working agreements. In addition, the trade unions can assist in resolving disputes over working conditions and can use their own procedures and agreements. **Risk conclusion:** Based on the reviewed evidence it is concluded that there is a low risk of non-compliance with the requirement.
Means of Verification	Existing legislation Level of enforcement Regional Best Management Practices Supply contracts
Evidence Reviewed	
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.1	Freedom of Association and the effective recognition of the right to collective bargaining are respected.
Finding	The Danish Act on Freedom of Association in the Labour Market protects the rights of workers in relation to their being members of workers' unions, and protects workers from unfair dismissal. Denmark has ratified 72 ILO conventions and one ILO Protocol, including Convention 87 on the freedom of association and protection of the right to organise, and Convention 98 on the right to organise and collective bargaining. The International Trade Union Confederation (IUTC) assigns Denmark a rating of 1, which is the best (on a scale from 1 to 5+) in the ITUC Global Rights Index 2014. This assessment is given for countries where

	"Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis." Bygge-, Anlægs- og Trækartellet (The Cartel of Unions in the Building, Construction and Wood sectors) concludes that the freedom of association and right to collective bargaining is respected for workers in relation of harvest of biomass feedstock in Danish forests, when this work is carried out by Danish workers or Danish contractors. They do not know if this is the case for workers working for foreign contractors, and they do not know how much work is carried out by foreign contractors in relation to feedstock production in Danish forests. Foreign service providers in Denmark have to register in the Registry for Foreign Service Providers (RUT-registeret), or face the risk of a 10000 dkr fine. When companies have registered in the RUT registry, government authorities gain knowledge of the size of the company and the business area the services are provided in, and the companies can then be subject to inspection from government authorities. A look-up in the publicly available RUT-registry returns names of 22 companies, all small (1 or 2-4 employees) and medium size (5-9 and 10 -19 employees), working in forestry related services, excluding production of Christmas trees. This limited level of foreign contractors corresponds well with estimates from the employer's association GLS-A. **Description of Risk** In Denmark there is relatively high enforcement of regulations relating to the working environment, this also includes registered foreign contractors. Most employees in Denmark are covered by a collective agreement. Companies covered by a collective agreement shall follow the law. **Risk Conclusion:** Based on the available information and the assumption that there is currently very little activity relating to feedstock production being carried out by unregistered foreign contractors in Danish forests, the risk for this indicator has been assessed as Low.
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (news and media)
Evidence Reviewed	ITUC Global Rights Index 2014: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Overview of ILO conventions ratified by Denmark: http://www.ilo.org/dyn/normlex/en/ Ministry of Employment, Overview of applicable legislation: http://bm.dk/da/Love%20og%20Regler/Gaeldende%20love%20og%20regler.aspx Registry for Foreign Service Providers: https://erhvervsstyrelsen.dk/registrering-af-udenlandske-tjenesteydere-rut
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.2	Feedstock is not supplied using any form of compulsory labour.
Finding	The Work Environment Act aims to create a safe and healthy work environment at all times in accordance with society's technical and social development. The Act is the basis for companies to resolve health and safety issues with guidance from social organisations, and guidance and control by the Labour Inspectorate. Denmark has ratified 72 ILO conventions and one ILO Protocol, including Conventions 29 and 105 on forced and bonded labour. The International Trade Union Confederation (IUTC) assigns Denmark a rating of 1, which is the best (on a scale from 1 to 5+) in the ITUC Global Rights Index 2014. This assessment is given for countries where "Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis." Bygge-, Anlægs- og Trækartellet (The Cartel of Unions in the Building, Construction and Wood sectors) concludes that there is no occurrence of forced and bonded labour in relation of harvest of biomass feedstock in Danish forests. **Description of Risk** In Denmark, there is high enforcement of regulations relating to the work environment, for safety, minimum age of work, and hazardous work. There is no evidence of compulsory labour in Denmark. **Risk Conclusion:** Based on the available information, the risk for this indicator has been assessed as Low.
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (news and media)
Evidence Reviewed	ITUC Global Rights Index 2014: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Overview of ILO conventions ratified by Denmark: http://www.ilo.org/dyn/normlex/en/ Ministry of Employment, Overview of applicable legislation: http://bm.dk/da/Love%20og%20Regler/Gaeldende%20love%20og%20regler.aspx
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.3	Feedstock is not supplied using child labour.
Finding	The Work Environment Act aims to create a safe and healthy work environment at all times in accordance with society's technical and social development. The Act is the basis for companies to resolve health and safety issues with guidance from social organisations, and guidance and control by the Labour Inspectorate. Denmark has ratified 72 ILO conventions and one ILO Protocol, including Convention 138 on minimum age

	for workers. The International Trade Union Confederation (IUTC) assigns Denmark a rating of 1, which is the best (on a scale from 1 to 5+) in the ITUC Global Rights Index 2014. This assessment is given for countries where "Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis." Bygge-, Anlægs- og Trækartellet (The Cartel of Unions in the Building, Construction and Wood sectors) concludes that there is no occurrence of child labour in relation of harvest of biomass feedstock in Danish forests. Description of Risk In Denmark, there is high enforcement of regulations relating to the work environment, for safety, minimum age of work, and hazardous work. There is no evidence of child labour in Denmark. **Risk Conclusion:** Based on the available information, the risk for this indicator has been assessed as Low.
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (news and media)
Evidence Reviewed	ITUC Global Rights Index 2014: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Overview of ILO conventions ratified by Denmark: http://www.ilo.org/dyn/normlex/en/ Ministry of Employment, Overview of applicable legislation: http://bm.dk/da/Love%20og%20Regler/Gaeldende%20love%20og%20regler.aspx
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.4	Feedstock is not supplied using labour which is discriminated against in respect of employment and occupation.
Finding	The Act relating to equal treatment of men and women ensures equal treatment of men and women in the occupational schemes and covers the working population, including self-employed, workers who are temporarily out of work due to illness, maternity, accident or involuntary unemployment and persons seeking employment, and retired and disabled workers. The law is also applicable in relation to insurance and related financial services. Denmark has ratified 72 ILO conventions and one ILO Protocol, including Convention 100 on equal remuneration and Convention 111 on discrimination. The International Trade Union Confederation (IUTC) assigns Denmark a rating of 1, which is the best (on a scale from 1 to 5+) in the ITUC Global Rights Index 2014. This assessment is given for countries where "Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis." Bygge-, Anlægs- og Trækartellet (The Cartel of Unions in the Building, Construction and Wood sectors)

	concludes that there is no occurrence of child labour in relation of harvest of biomass feedstock in Danish forests. According to a report from the European Commission Directorate-General for Justice and Consumers, the most recent case law concerning anti-discrimination in the workplace has dealt with disability and age. There has been no recent cases related to the forestry sector or the supply of feedstock. **Description of Risk** In Denmark there is relatively high enforcement of regulations relating to the work environment, for safety, minimum age of work, and hazardous work. Most employees in Denmark are covered by a collective agreement. Companies covered by a collective agreement shall follow the law. **Risk Conclusion:** Based on the available information, the risk for this category has been assessed as Low.
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (news and media)
Evidence Reviewed	European Commission (Report by Pia Justesen): Country report Non-discrimination Denmark 2014. (http://www.equalitylaw.eu/downloads/3678-denmark-country-report-pdf-1-26-mb) ITUC Global Rights Index 2014: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Overview of ILO conventions ratified by Denmark: http://www.ilo.org/dyn/normlex/en/ Ministry of Employment, Overview of applicable legislation: http://bm.dk/da/Love%20og%20Regler/Gaeldende%20love%20og%20regler.aspx
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.7.5	Feedstock is supplied using labour where the pay and employment conditions are fair and meet, or exceed, minimum requirements.
Finding	The Act relating to equal treatment of men and women ensures equal treatment of men and women in the occupational schemes and covers the working population, including self-employed, workers who are temporarily out of work due to illness, maternity, accident or involuntary unemployment and persons seeking employment, and retired and disabled workers. The law is also applicable in relation to insurance and related financial services. According to the Holiday Act, holidays and payments for employees are regulated. An employee is entitled to holiday pay or salary during holidays. Denmark has ratified 72 ILO conventions and one ILO Protocol, but not Convention 95 on protection of wages or Convention 131 on minimum wage fixing. The International Trade Union Confederation (IUTC) assigns Denmark a rating of 1, which is the best (on a scale from 1 to 5+), in the ITUC Global Rights Index 2014. This assessment is given for countries where "Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis."

	Bygge-, Anlægs- og Trækartellet (The Cartel of unions in the Building, Construction and Wood sectors) concludes that pay and employment conditions are fair and meet, or exceed, minimum requirement in relation of harvest of biomass feedstock in Danish forests, when this work is carried out by Danish workers or Danish contractors. They do not know if this is the case for workers working for foreign contractors, and they do not know how much work is carried out by foreign contractors in relation to feedstock production in Danish forests. Several stakeholders mention that Danish contractors regularly employ workers from other countries (mainly EU Countries) for manual work such as logging and planting. Forest organizations state that the use of manual work in connection with harvesting and biomass production is declining due to changes in stand structures and introduction of new technology. Some stakeholders mention that there can be a few cases where mainly non-Danish forest workers receive average payments that do not meet minimum requirements as specified in the collective agreement between 3F and GLS-A. There are no statistics about the level of payment in these cases but stakeholders evaluate that it is not significantly below the level required in the collective agreements. Three major organizations (Skovdyrkerforeningen Vestjylland, HedeDanmark and Naturstyrelsen) producing biomass, have commented that they only use contractors registered in the Danish company registry. The large forest management company HedeDanmark in 2015 asked their contractors to reply to a questionnaire, and of the almost 400 replies, all have a Danish Company Registry Number, more than 80% only employ Danish citizens, more than 75 % have entered into the common agreement with the union, and all declared that they follow Danish legislation with regard to salaries, holiday payments and taxes. This is of special significance due to the position and size of the organization, and the number of contractors they employ. These 400 contractors will constitute a large proportion of all forest contractors in Denmark. The Danish Agency for Water and Nature Management specifically require contractors to ensure that employment conditions for their employees meets the minimum requirements as specified in collective agreement between 3F and The Danish Nature Agency and request contractors to sign a comprehensive “Supplier clause” which gives the Agency the right to monitor compliance with this conditions. Foreign service providers in Denmark have to register in the Registry for Foreign Service Providers (RUT-registeret), or face the risk of a 10000 dkr fine. When companies have registered in the RUT registry, government authorities gain knowledge of the size of the company and the business area the services are provided in, and the companies can then be subject to inspection from government authorities. A look-up in the publicly available RUT-registry returns names of 22 companies, all small (1 or 2-4 employees) and medium size (5-9 and 10 -19 employees), working in forestry related services, excluding production of Christmas trees. This limited level of foreign contractors corresponds well with estimates from the employer’s association GLS-A. **Description of Risk** NEPCon evaluates that Denmark has a high level of enforcement of regulations relating to the working environment, and this also includes registered foreign contractors. Most employees in Denmark are covered by a collective agreement, or receive wages and benefits at the levels specified in collective agreements between 3F and GLS-A and between 3F and The Danish Nature Agency. There is no legally determined minimum wage in Denmark. It cannot be ruled out that some forest workers receive average payments that do not meet minimum requirements as specified in the collective agreements between 3F and GLS-A and between 3F and The Danish Nature Agency. However, based on information provided by a range of stakeholders and currently available evidence, it is assessed that the scale and impact of the violations does not constitute a specified risk in relation to the supply of feedstock for biomass production. **Risk Conclusion:** Based on the available information and that there is currently very little activity relating to feedstock production being carried out by unregistered foreign contractors in Danish forests, the risk for this indicator has been assessed as Low
Means of	Existing legislation Level of enforcement

Verification	Regional, publicly available data from a credible third party Publicly available information (news and media)
Evidence Reviewed	ITUC Global Rights Index 2014: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Overview of ILO conventions ratified by Denmark: http://www.ilo.org/dyn/normlex/en Ministry of Employment, Overview of applicable legislation: http://bm.dk/da/Love%20og%20Regler/Gaeldende%20love%20og%20regler.aspx Registry for Foreign Service Providers: https://erhvervsstyrelsen.dk/registrering-af-udenlandske-tjenesteydere-rut
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.8.1	Appropriate safeguards are put in place to protect the health and safety of forest workers (CPET S12).
Finding	The Work Environment Act aims to create a safe and healthy work environment at all times in accordance with society's technical and social development. The Act is the basis for companies to resolve health and safety issues with guidance from social organisations, and guidance and control by the Labour Inspectorate. The employer has to ensure that working conditions are acceptable according to health and safety, and has to develop a written assessment of the health and safety of the working environment (in Danish; arbejdsmarkedspladsvurdering, APV). The type of work and the size of the organisation must be considered, and the APV shall be revised either when organisational changes occur or every third year. The APV shall be accessible to management, employees and the supervising authorities. Denmark has ratified 72 ILO conventions and one ILO Protocol, including Convention 148 on working environment and Convention 155 on occupational health and safety. Description of Risk According to statistics from the Labour Inspectorate, forestry work – together with agriculture –has a high risk of work-related accidents, but lower than (e.g.) construction, slaughterhouse, water, or sewer work (Arbejdstilsynet 2013). Companies are required to make an evaluation of their work place, but both companies and individual entrepreneurs are subject to health and safety legislation, and can be controlled by the Labour Inspectorate. An assessment of work environments for a variety of industries was carried out in Denmark in 2014. The forestry industry was placed in a joint category with agriculture and fisheries; and as a whole performed better than the mean when responding to the statements "the management always encourages safety at work" and "[Management provides] guidance and instruction for safe execution", which indicates sufficient enforcement of the Work Environment Act. In the same assessment, respondents indicated that minor accidents are an accepted part of the work, with the percentage of work-related accidents also higher than the mean of all other categories. However, no evidence was found that the law was not enforced (National Research Centre for the Working Environment 2014). The study on the working environment showed no issues of violation of health and safety legislation. In general there is a relatively extended focus on the work environment and safety in Denmark. The employer is required by the Work Environment Act to correctly instruct the workers on the use of (e.g.) machinery. According to the Danish Forest Association there may be cases where this obligation is not respected. How-

	ever, in general, according to both the Danish Forest Association and The Danish Nature Agency, accidents occurring in Danish forestry are not related to violation of the law. In general the risk is also low because employees in Denmark are aware of their rights and of the legislation related to health and safety. The International Trade Union Confederation (IUTC) assigns Denmark a rating of 1, which is the best (on a scale from 1 to 5+) in the ITUC Global Rights Index 2014. This assessment is given for countries where "Collective labour rights are generally guaranteed. Workers can freely associate and defend their rights collectively with the government and/or companies and can improve their working conditions through collective bargaining. Violations against workers are not absent but do not occur on a regular basis." Bygge-, Anlægs- og Trækartellet (The Cartel of Unions in the Building, Construction and Wood sectors) concludes that health and safety conditions are sufficient to protect workers in relation of harvest of biomass feedstock in Danish forests, when this work is carried out by Danish workers or Danish contractors. They do not know if this is the case for workers working for foreign contractors, and they do not know how much work is carried out by foreign contractors in relation to feedstock production in Danish forests. Foreign service providers in Denmark have to register in the Registry for Foreign Service Providers (RUT-registeret), or face the risk of a 10000 dkr fine. When companies have registered in the RUT registry, government authorities gain knowledge of the size of the company and the business area the services are provided in, and the companies can then be subject to inspection from government authorities. A look-up in the publicly available RUT-registry returns names of 22 companies, all small (1 or 2-4 employees) and medium size (5-9 and 10 -19 employees), working in forestry related services, excluding production of Christmas trees. This limited level of foreign contractors corresponds well with estimates from the employer's association GLS-A. **Description of Risk** In Denmark there is relatively high enforcement of regulations relating to the working environment and workers health and safety, this also includes registered foreign contractors. **Risk Conclusion:** Based on the available information and that there is currently very little activity relating to feedstock production being carried out by unregistered foreign contractors in Danish forests, the risk for this indicator has been assessed as Low
Means of Verification	Existing legislation Level of enforcement Regional, publicly available data from a credible third party Publicly available information (news and media)
Evidence Reviewed	ITUC Global Rights Index 2014: http://www.ituc-csi.org/IMG/pdf/survey_ra_2014_eng_v2.pdf Overview of ILO conventions ratified by Denmark: http://www.ilo.org/dyn/normlex/en/ Ministry of Employment, Overview of applicable legislation: http://bm.dk/da/Love%20og%20Regler/Gaeldende%20love%20og%20regler.aspx Registry for Foreign Service Providers: https://erhvervsstyrelsen.dk/registrering-af-udenlandske-tjenesteydere-rut
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.9.1	Feedstock is not sourced from areas that had high carbon stocks in January 2008 and no longer have those high carbon stocks.
Finding	Wetlands, peatlands and old mature forests stands are considered to have high carbon stocks. According to the Forest Act and the Nature Conservation Act, wetlands such as peatlands and bogs are strictly protected and the majority of these areas are registered in publically available databases. Most of the Danish forest area is regulated by the Forest Act and is set aside as forest reserves (Fredskov). Currently there is no evidence that forestry practice has an impact on any remaining, important large-scale forests. Forest operations are planned and implemented in accordance with the requirements in the Forest Act which require protection of wetlands and peatlands. In forests that are not reserved as forest stands (fredskov), wetlands and peatlands are protected under the Nature Protection Act (Naturbeskyttelsesloven) and there are no reports available indicating feedstock is sourced from such areas. **Risk conclusion:** Based on the reviewed evidence it is concluded that there is a low risk of non-compliance with the requirement.
Means of Verification	Maps Procedures and records Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	Danish Forestry Act -: https://www.retsinformation.dk/forms/r0710.aspx?id=175267- The Danish Nature Protection Act: https://www.retsinformation.dk/forms/r0710.aspx?id=175785 http://www.miljoeportal.dk
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.9.2	Analysis demonstrates that feedstock harvesting does not diminish the capability of the forest to act as an effective sink or store of carbon over the long term.
Finding	There is a comprehensive collection of the data used for the calculation of the standing volume of growing stock as well as the effect of biomass harvesting and other factors affecting the total growing stock of the forest. The scientific work and its results are available at ign.ku.dk: - http://ign.ku.dk/english/research/forest-nature-biomass/forest-resource-assessment-bioenergy/) - http://ign.ku.dk/samarbejde-raadgivning/myndighedsbetjening/skovovervaagning/danmarks-skovstatistik/ The inventory of Danish forest resources conducted in 2014 (source: Skove og Plantager 2014) shows that the growing stock in Danish forests make a total of 130 million cubic metres equalling 209 cubic metres per hectare. 'The growing stock in the forests has seen a significant increase since the 2000 inventory (Figure 1.5). This development is related to the continuous expansion of woodland areas and is most likely also linked to an increase in growing stock per hectare. However, a significant part of the cause is that the method for calculating the volume of growing stock is no longer based on the distribution of age and species.' 'The

	largest total growing stock can be found in Central Jutland, whereas the largest density of growing stock per hectare occurs in the eastern part of the country.' The standing volume of growing stock currently absorbs 40 million tonnes of carbon with a slightly upward trend due to the fact that the annual growth in the forests exceeds the annual felling. According to the report 'Muligheder for bæredygtig udvidelse af dansk produceret vedmasse 2010-2100. Perspektiver for skovenes bidrag til grøn omstilling mod en biobaseret økonomi', it is possible to make very substantial improvements on the figures for harvest and storage. The report assesses that certain initiatives pertaining to the cultivation of the forests could increase the harvest of wood by 30% by 2050 all the while the amount of carbon stored in the forests will be rise correspondingly. Especially the portion of trees used for the production of energy could be increased. Currently making up approximately 2% of our energy consumption, trees could comprise up to 5% already by 2020, more than 7% in 2050, and around 13% in 2100. An equivalent increase in the amount of carbon stored by the forests would mean that the annual displacement of fossil carbon and the accumulation of carbon in forests and forest products would rise from a level of less than 5 million tonnes of CO2 per annum to 6 million tonnes in 2020, 7-9 tonnes in 2050, and 10-13 million tonnes in 2100, i.e. an increase from less than 10% to more than 20% of our current annual emission of CO2 (the level of 2011). If the target of reducing our emission of carbon dioxide with 80-95% is reached, the amount of carbon accumulated by forests would constitute more than half of the annual emissions in 2050 and be on the same level by 2100. **Risk conclusion:** Based on the reviewed evidence it is concluded that there is a low risk of non-compliance with the requirement
Means of Verification	Conference presentations Reports and scientific articles with results of analysis of carbon stocks Analysis of historic and present carbon uptake rates Regional, publicly available data from a credible third party The existence of a strong legal framework in the region
Evidence Reviewed	Thomas Nord-Larsen, Vivian Kvist Johannsen, Torben Riis-Nielsen, Iben M. Thomsen, Erik Schou, Kjell Suadicani og Bruno Bilde Jørgensen (2015): Skove og plantager 2014, Skov & Landskab, Frederiksberg, 2015. 85 s. ill. Graudal, L., Nielsen, U.B., Schou, E., Thorsen, B.J., Hansen, J.K., Bentsen, N.S., og Johannsen, V.K. (2013): Muligheder for bæredygtig udvidelse af dansk produceret vedmasse 2010-2100. Perspektiver for skovenes bidrag til grøn omstilling mod en biobaseret økonomi, Institut for Geovidenskab og Naturforvaltning, 86 s. ill. Suadicani, M. K. (2010). Carbon sequestrations and emissions from harvested wood products - different approaches and consequences. Forest & Landscape, University of Copenhagen. (Working Papers / Forest & Landscape ; No. 56). HedeDanmark, Skovdyrkerne, Dansk Skovforening (2011). Danske skove kan fordoble produktionen af træ til energy. Baggrundsnotat udarbejdet november 2011
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**

	Indicator
2.10.1	Genetically modified trees are not used.
Finding	There is no commercial use of GM trees in Denmark. All approved GMO species within the EU (also covering Denmark) can be identified in the EU register of authorised GMO (http://ec.europa.eu/food/dyna/gm_register/index_en.cfm); and no tree (i.e. wood-producing) species are registered. A number of trial releases have occurred for GMO in Denmark, but none was for tree species. All trial releases must be subject to a process of public consultation. There are no reports of illegal use of GMO species in Danish forestry. **Risk Conclusion:** Based on the available information, the risk for this Indicator has been assessed as Low.
Means of Verification	EU register of authorised GMO: http://ec.europa.eu/food/dyna/gm_register/index_en.cfm Global Forest Registry: http://www.globalforestregistry.org/
Evidence Reviewed	EU register of authorised GMO: http://ec.europa.eu/food/dyna/gm_register/index_en.cfm Global Forest Registry: http://www.globalforestregistry.org/
Risk Rating	☒ **Low Risk** ☐ **Specified Risk** ☐ **Unspecified Risk at RA**