Denmark

Sustainable Biomass Program (SBP)

Regional Risk Assessment for Denmark Trees Outside Forests

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Interim RRA

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In the case of inconsistency between translations, the official English language version shall always take precedence.

SBP welcomes comments and suggestions for changes, revisions and/or clarifications on all of its Standards documentation. Please contact: **info@sbp-cert.org**

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Abbreviations

AMO	Arbejdsmiljøorganisation (Work Environment Organisation)
APV	Arbejdsmarkedspladsvurdering (Labour Market Assessment)
BNBO	Boringsnære beskyttelsesområder ("Near-well Protected Areas")
CAP	The EU's Common Agricultural Policy
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CVR	Centrale Virksomhedsregister (Central Business Register)
DCE	Danish Centre for Environment and Energy
DM&E	Danske Maskinstationer og Entreprenører (Danish Machine Rentals and Entrepreneurs)
DMU	Danmarks Miljøundersøgelser (National Environmental Research Institute of Denmark)
ENGO	Environmental Non-Governmental Organisation
EU	European Union
EUTR	European Union Timber Regulation
FAO	Food and Agriculture Organization
FMU	Forest Management Unit
FSC	Forest Stewardship Council
GIS	Geographical Information System
GLS-A	Gartneri-, Land- og Skovbrugets Arbejdsgivere (Horticulture, Agriculture and Forestry Employers)
GM	Genetically Modified
GMO	Genetically Modified Organism
GROT	Grene og toppe (Tree branches and treetops)
HCV	High Conservation Value
HNV	High Nature Value
IDA	Ingeniørforeningen i Danmark (The Danish Society of Engineers)
IGN	Institut for Geovidenskab og Naturforvaltning (Department of Geosciences and Nature Management)
ILO	International Labour Organisation
IPM	Integrated Pest Management
ITUC	International Trade Union Confederation
LULUCF	Land Use, Land-Use Change and Forestry
NFI	National Forest Inventory
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PEFC	Programme for the Endorsement of Forest Certification
RED	Renewable Energy Directive
RRA	Regional Risk Assessment
RUT	Registret for Udenlandske Tjenesteydere (Register of Foreign Service Providers)
SBP	Sustainable Biomass Program
SFDA	Sustainable Forest Development Act
TOF	Trees Outside Forest
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-Added Tax
WKH	Woodland Key Habitat

Foreword

SBP is pleased to present this interim SBP Regional Risk Assessment for trees outside forests for Denmark. The risk assessment is the result of collaborative efforts of SBP and a Working Body including input from stakeholders and experts.

Trees outside forests (TOF) are an important source of biomass for energy and other purposes, but they also provide various ecosystem services and benefits for the environment as well as for people. Therefore, it is essential to assess the potential risks and impacts the harvest of TOF has on biodiversity, soil, water, carbon, and social aspects.

This work is the first of its kind to conduct a comprehensive and systematic risk assessment of TOF in Denmark, following the SBP framework and standards. The text provides valuable information and guidance for biomass producers, users, and stakeholders who want to ensure that their biomass is sourced from low-risk areas and meets the SBP requirements.

The text also contributes to the global knowledge and best practices on TOF management and certification, as well as to the promotion of responsible and sustainable use of biomass resources. I hope this text will inspire and inform readers who are interested in learning more about TOF and their role in the transition to a low-carbon economy.

1 Introduction

The objective of this report is to present the Sustainable Biomass Program (SBP) – Interim Regional Risk Assessment (RRA) for Trees Outside Forest for Denmark. The report is made according to the latest version of the SBP Standard 1 (version 2.0): Feedstock Compliance and Standard 2 (version 2.0): Feedstock Verification by using the latest version of SBP Regional Risk Assessment Procedure (version 1.2) and Instruction Document 1A (version 1.0): SBP Requirements for Primary Feedstock from Trees Outside Forests (TOF). It is the first time that the RRA for Trees Outside Forest has been elaborated for Denmark.

This RRA for Trees Outside Forests covers woody biomass, the primary feedstock domestically sourced from TOF origins according to SBP ID1A (see table 1.1 below).

Table 1.1 TOF product groups, origins and feedstock types

Product Group	Origin	Feedstock type
Trees outside forests (TOF) – Urban and landscape feedstock	Landscape	Low grade stemwood Tree residues with stumps Tree residues without stumps End-of-life trees Salvage trees Trees removed for nature conservation
	Urban, domestic and infrastructure	
Trees outside forests (TOF) – Agricultural land feedstock	Woody residues from agricultural land (Orchards, vineyards, nuts and other woody crops, agro-forestry)	Product and co-products End-of-life trees Salvage trees
	Woody energy crops (i.e. woody biomass), short rotation coppice	

SBP TOF origins in table 1.1 are aligned with the REDII TOF origins, to be found in SBP Instruction Document REDII: Bridging Requirements for Meeting RED, section 4.1.

SBP TOF origins are for Danish context aligned with the Danish Energy Agency definitions of biomass types see table 1.2 (Energistyrelsen, 2018). The Danish Energy Agency has presented interpretations and guidelines, which can be found on the Agency´s website under questions and answers: https://ens.dk/sites/ens.dk/files/spoergsmaal_og_svar_om_baeredygtighedskrav_til_biomasse_2023.pdf

If the Danish Energy Agency sharpens the definitions in table 1.2, the interpretations in the present RRA are sharpened accordingly.

Table 1.2 TOF feedstock groups alignment between SBP and Danish Energy Agency

SBP Product Group	SBP Origin	Biomass type as defined by the Danish Energy Agency
Trees outside forests (TOF) – Urban and landscape feedstock	Landscape	Woody biomass from non-forest: All wood parts except stumps and roots from hedgerows* and other small stands that are not forest, agriculture, gardens or parks, and that are not from areas cleared for new infrastructure or new housing.
	Urban, domestic and infrastructure	Woody biomass from gardens, parks and infrastructure Can contain: 1. Garden waste 2. Wood from clearings for new infrastructure, raw material excavation and new buildings 3. Wood/biological material from pruning etc. that maintains the function of roads, railways, power lines and the like, including statutory pruning along watercourses.
Trees outside forests (TOF) – Agricultural land feedstock	Woody residue from agricultural land (orchards, vineyards, nuts and other woody crops, agro-forestry)	Residue from agricultural areas. For example Christmas trees (not originating from forest protected by the Forest Act) and fruit trees.
	Woody energy crops (i.e. woody biomass), short rotation coppice	Energy wood from agricultural land in a maximum 10-year rotation/harvest interval. For example willow, poplar and eucalyptus. *Poplar species in Denmark or a similar climate zone can be included up to and including 20 years from planting or summoning.

* The term hedgerows has been used throughout this TOF RRA and includes interpretations of windbreaks and shelterbelts (Irish Agroforestry Forum, 2024)

Regarding table 3.2.: TOF origins are the same both at private and public lands. It is though important to note that for the two SBP origins on agricultural land (Woody residue from agricultural land and Woody energy crops) that if feedstock get older than defined active agricultural lifespans /no longer is under active agricultural production, the origin changes classification from Agricultural land feedstock into forest feedstock and shall be handled as such. This irrespective of that land is classified as agricultural land. Processing residue from sawmill and wood processing industries and post-consumer feedstock as well as imported feedstock are excluded from this RRA.

Forests are defined as areas of more than 0.5 hectares and a minimum width of 20 meters with trees taller than 5 meters and a degree of crown coverage of more than 10%; or with trees that are able to reach these limit values on the spot, cf. FAO's definition of forest. Areas defined as forest by the country's competent authority are also considered forest. Hence, in Denmark wooded areas subject to the Danish Forest Act are considered forest. Areas subject to the Danish Forest Act are defined as follows:

1) Areas that the Minister of Environment has decided are to be subject to a forest conservation obligation.

2) Areas that are registered as Majorat Forest in the land register.

3) Areas with forest owned or acquired by the state, municipalities or the national church, areas owned by these and where forest is established or occurs, as well as associated areas without tree growth.

Areas that are considered forests, either by FAO's definition or the country's competent authority, are excluded in this RRA for Trees Outside Forest. The TOF RRA for Denmark is following the Danish definition for energy crops. Where in Denmark, it can be considered an energy crop from agricultural areas up to and including the age of 20 years from planting or latest cutting. Even though these crops might be able to meet FAO's Forest definition, they are not considered forest and are therefore included in this RRA. FAO defines Trees outside forests as trees and tree environments on land not defined as forest or other wooded land. Trees outside forests (ToF) include: (a) groups of trees covering an area of less than 0.5 ha, including lines and shelterbelts along infrastructure features and agricultural fields; (b) scattered trees in agricultural landscapes; (c) tree plantations mainly for other purposes than wood, such as fruit orchards and palm plantations; and (d) trees in parks and gardens and around buildings. ToF are not assigned an area in the overall land use classification but occurs inside Other wooded land and Other land. Although the definition of ToF is based on the trees, the concept includes also the site and other vegetation at the location." https://www.fao.org/4/ad665e/ad665e03.htm

This SBP RRA for Trees Outside Forest has made use of several sources of information, including applicable legislation, reports from state authorities and other stakeholders, various databases as well as statistical data sources. Detailed descriptions and analyses are presented, and a risk class is assigned to each indicator in Annex 1. The RRA for TOF is prepared by a Danish Working Body team consisting of a forestry and certification expert from B4Trees Aps and an expert on Danish forestry and forest certification from Skovsøhus Natur ApS.

2 Regional background and statement of scope

2.1 Regional background

The "Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" (hereafter mentioned as the Handbook) from 2021 is regarding the sourcing of biomass fuels for energy purposes, the most important act in Denmark with a direct regulatory importance for Combined Heat and Power plants. The handbook also regulates other heating plants and consumption in the manufacturing industry as well as firewood in households. The Nature Protection Act is equally important but with an area regulatory importance for the landowners of TOF areas in Denmark. The Nature Protection Act was adopted by the Danish Parliament on 20 December 1991 and entered into force on 1 July 1992. The Act has since been amended several times, but the main content of the general protection of nature types in § 3 has been in force since 1992. Other relevant legislation includes Natura 2000, conservation areas, the Planning Act, the Hunting and Wildlife Management Act, the Watercourses Directive, and several others. As formerly mentioned, Trees Outside Forest can be sourced from four different origins: 1) Landscape, 2) urban, -domestic and infrastructure, 3) woody residues from agricultural land and 4) woody energy crops, short rotation coppice. Regional data for these TOF origins in a Danish context is presented below.

Landscape

In the context of the present TOF RRA for Denmark landscape areas encompass for instance hedgerows and smaller woodlots like wildlife refuges (vildtremiser). Similar minor wooded areas and nature conservation areas including areas along streams comply as well.

In the arable land multiple different small biotopes is found. They can either be linear, such as hedges, field divides, ditches and dykes or flat and point-shaped, such as burial mounds, thickets, waterholes, solitary trees and areas around agricultural buildings. The small biotopes are often so small that they are not covered by the Nature Protection Act, and many small biotopes have disappeared with the intensification of agricultural operations (Ejrnæs et. al., 2021). The small biotopes in cultivated land are important as they serve as habitats for many of the farmland's animals and plants. Bumble bees build nests in fences or stone dykes and look for pollen and nectar nearby. Other invertebrates, amphibians, reptiles and small mammals seek shelter and food in the small biotopes. This makes the many small biotopes extremely important. Finally, the small biotopes function as stepping stones or guiding lines (dispersal corridors) for both animals and plants. The largest part of the biodiversity in the arable land is thus linked to the small biotopes, despite their limited area (Moeslund et. al., 2021). The total area of small biotopes fell dramatically until the end of the 1980s. Especially the wet and the smallest biotopes were lost and became a part of the cultivated area. In the 1970s and 1980s, one waterhole or one marl pit disappeared every 3 days (Wilhjelmudvalget 2001 cf. Ejrnæs et. al., 2021). In arable land, somewhere between 95% and 98% of the original wetlands disappeared during the 19th and 20th centuries. However, the dry small biotopes have also declined. Burial mounds surrounded by cultivated fields have been subject to ploughing, fertilizing and cultivation, often to such an extent that the mounds have been plowed quite square, despite requirements for a two-meter undisturbed zone around the mounds. This has led to a reduction in area and has had a major impact on the plant and animal life on the burial moounds. The old earth and stone dykes were erected in the moraine landscape 200-500 years ago to mark ownership, but many dykes have disappeared. From the entry into force of the Nature Protection Act in 1992 the dykes were protected via Section 4, but in 2004 the protection passed to Section 29a of the Museums Act, and responsibility for the dykes was assigned to the municipalities. This practice has proven to be inadequate for the protection of earth and stone dykes. Many kilometres of dykes have been laid down illegally or by dispensation, just as trees and bushes on the dykes, which

were often several hundred years old, have been cleared and used for wood chips. The dykes are important as habitats for animals and plants. For birds, bats and many insects, they form essential and often the only habitats in an otherwise monotonous field landscape (Ejrnæs et. al., 2021).
Hedgerows typically consist of lines of trees, shrubs and associated herbaceous understory vegetation forming a contiguous network across the farmed landscapes. Their species composition is floristically native but often also includes exotic species. In Denmark, woody species typically include Prunus spinosa (blackthorn), Crataegus spp. (hawthorn), Corylus avellana (hazel), Rosa canina (dog rose), Sambucus nigra (elder), Sorbus sp. (roan), Picea sitchensis (sitka spruce), Picea abies (norway spruce), Sessile oak (Quercus petraea), Pedunculate oak (Quercus robur) and many more.

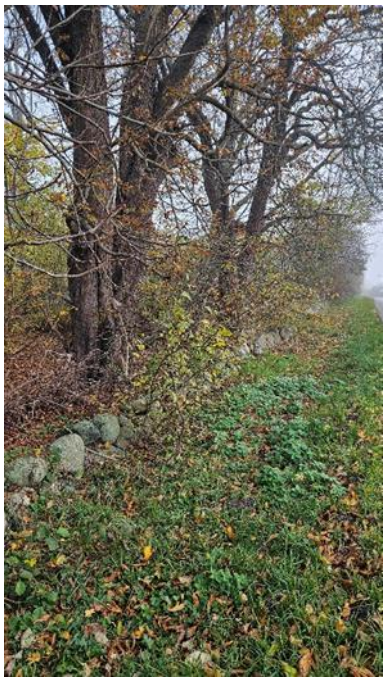
Hedgerows

Hedgerows can vary in their form from single row hedgerows of Sitka spruce (or other exotics) to multi rowed hedgerows with a variety of native broadleaved species. Forest edges (skovbryn) are not included in the present TOF scope but are included in the forest scope. Historically some major trends of hedgerow establishment can be found in Denmark. In 1794, the first Fencing Act was approved, but in the early 19th century hedgerows were still only common in the south-east parts of the country. Hedgerows served to delimit properties, to provide farms with firewood and poles or to fence in animals. From 1880, windbreak planting became well organized, and thousands of kilometres of mainly single row hedgerows were established to control the wind and soil erosion. On sandy soils in western Jutland, picea glauca dominated, whereas a wider range of woody species (crataegus monogyns, sorbus intermedia, populus spp. and syringa vulgaris) was used in Eastern Denmark on richer soils. Many hedgerows were subsequently removed following intensification of agriculture with increasing field and farm sizes. This tendency accelerated nationally after c. 1950 due to drastic changes in Danish agriculture. By the late 1960´s the significant loss in the total number of hedgerows was acknowledged and subsequently, the trend has been reversed (Tybirk et. al., 2001).

Hedgerows

In 2021 approx. 33,000 kilometres of protected stone and earth dykes were registered in the indicative registration. These dykes are tree covered and can be categorized as hedgerows (The Danish Society for Nature Conservation; Folketinget Kulturudvalg, 2021). In addition to the registered dykes with hedgerows, non-registered hedgerows widely exist. There are no official data, but biomass producers estimated that about 80.000 km´s of hedgerows exist in Denmark at present time. This number

corresponds well with assessment estimates of about 60,000 km´s around 2001 (Tybirk et. al., 2001) assuming that more hedgerows have been created as these have been subsidized in the last decades. Another data source is the Danish Agriculture and Food Council, who on basis of farmers registrations estimates that Denmark has 60,000 hectares (app. 1 km of hedgerow with a width of 10 meters correspond to 1 hectare) of hedgerows located next to fields, which when compared to a total farmed area of 2.6 mio. hectares equal 2.3%. For comparison, according to Graham et al. (2018) the Republic of Ireland had hedgerows on 11% of farmland according to a reference from 2017 and Great Britain had 477,000 km as of 2007.



Protected dike

Small TOF Forest woodlot

The smaller woodlots and wildlife refuge areas (vildtremiser) along with similar areas can have the function of providing a safe space for game to hide, or they can form areas for biodiversity in the landscape. The wildlife refuge areas (vildtremiser) are to a large extent also part of active game management, and they can have the character of relatively young but untouched forest, (to be checked if it is clasified as forest based on Danish definition / SBP definition) with very different levels of biodiversity value. It is often seen that corn is grown in vicinity to the wildlife refuge areas to attract game. The areas are in terms of HCV existence comparable with hedgerows. Smaller woodlots and wildlife refuge areas can sometimes be difficult to distinguish from forests as they can have similar appearance. This is also the case for urban and agricultural areas. Forests are determined both by the presence of trees and the absence of other predominant land uses. Forests are defined as an area of more than 0.5 hectares and a minimum width of 20 meters with trees taller than 5 meters and a degree of crown coverage of more than 10%; or with trees that are able to reach these limit values on the spot; except for land that is predominantly under agricultural or urban land use; cf. FAO's definition of forest. https://www.fao.org/4/ad665e/ad665e03.htm

About 70% of forest in Denmark are managed as forest reserves (called 'fredskov' in Danish) governed under the Danish Forest Act. These forest reserves are registered in publicly available databases as 'Miljøgis' and 'Miljøportalen'. If an area is registered as 'fredskov' or reaches the FAO's forest definition

of forest it will not be subject to this TOF RRA. If in doubt, The Ministry of Environment is the competent authority in Denmark to decide whether a wooded area is considered a forest or not. Short rotation coppice (SRC) is coppice grown as an energy crop. This woody solid biomass can be used in applications such as district heating, electric power generating stations, alone or in combination with other fuels. SRC uses high yield varieties of poplar and willow. Typically willow species chosen are varieties of the common osier or basket willow, Salix viminalis.

Short rotation coppice

Nature conservation areas are relevant as biomass can originate from nature conservation fellings. Nature conservation areas are protected by the Danish Nature Protection Act which regulates the protected areas according to the following nature types:

1) Lakes (Søer)
2) Bugs and peatlands (Moser)
3) Heathlands (Heder)
4) Grasslands/pastures (Overdrev)
5) Meadows (Enge)
6) Coastal meadow (Strandenge)
7) Streams (vandløb)

Most recent available data on nature conservation areas (1-6) both outside the forest and inside the forest are shown in table 6.1 below (Johansen and Nord-Larsen 2017). As can be seen from the table a total of approximately 380,400 hectares of registered Nature Protection Act § 3 (NBL § 3) area is found in the TOF origin "landscape". For comparison the area covered by forest in Denmark is 640,835 hectares by 2021 (Nord-Larsen et. al., 2023).

Table 2.1 Nature conservation areas (in thousand hectares) outside and inside the forest

Nature type	Areas outside forest	Areas inside forest*	Total protected area
	thousand ha	thousand ha	thousand ha
Meadows (Enge)	105.5	3.8 ha	109.3
Heaths (Heder)	62.5	23.2	85.7
Bugs (Moser)	66.8	35.3	102.1
Pastures (Overdrev)	30.5	3.8	34.3
Lakes (Søer)	69.1	1.1	70.2
Beach meadow (Strandenge)	46	2.0	48.0
TOTAL nature	380.4	69.1	449.6
Total forest area		637.6	

Table 1: Nature conservation areas on basis of LULC method according to Johansen and Nord-Larsen (2017). *LULC with forests areas over 0.5 ha.

The different landscape areas described above, are according to similar risks divided into two subscopes:

SUBSCOPE 1: Hedgerows and smaller woodlots

SUBSCOPE 2: Nature conservation areas

Urban domestic and infrastructure

Urban, domestic and infrastructure areas are found in table 6.2 below. Feedstock from urban, domestic and infrastructure areas, it is anticipated, can potentially be found at (5.6% + 7.6% + 1,0% + 1.6%) 15.8% of the Danish land area according to Statistics Denmark (2024a).

Table 2.2: Land by time, land cover and unit

Land by time, land cover and unit		
	Hectares (ha)	Percent of Danish land area
2021		
Roads, railroads and runways	238,710	5.6%
Buildings and built-up areas	325,340	7.6%
Other artificial surfaces	41,440	1.0%
Unclassified	67,810	1.6%
TOTAL	673,300	

Wood residue from agricultural land

By 2022 according to Statistics Denmark (2024b) it is estimated that there are 24,298 hectares of Christmas and foliage trees on arable land and 2,281 hectares of orchards with apples, cherry and pears divided between 472 orchards with apples, 136 orchards with cherry and 116 orchards with pears. The total area with orchards has decreased from about 6,000 hectares in 1977 to the present level. No subscopes have been created as the areas covered and volume origination from this TOF origin is

considered limited. The present risk assessment both consider the risk related to the production of biomass from these areas but also the primary production on the site, e.g., the pesticide used to produce apples in an orchard.

Wood energy crops, short rotation coppice

Woody energy crops, short rotation coppice is generally grown on agricultural land with duty to, harvest willow at least every 10th year and poplar at least every 15th year according to the Agricultural Act (SEGES, 2021). The Danish Energy Agency has assessed that poplar species on agricultural land in Denmark can be considered an energy crop from agricultural areas up to and including the age of 20 years from planting or latest cutting (Danish Energy Agency, 2022a). On basis of data from 2022 it is estimated that there are 8,100 hectares of willow (4,900) and poplar (3,200) grown as short rotation coppice in Denmark (Landbrug og Fødevare, 2023).

2.2 Statement of scope and sub-scopes

The territory of Denmark, excluding Greenland and the Faroe Islands, is divided into two EU biogeographical regions through a north-south division through the middle of the Jutland Peninsula: 1) the Atlantic region, covering the western part of Jutland, and 2) the Continental region covering the eastern part of Jutland and the islands of Denmark. The beforementioned division is based on the difference of soil types, a product of the Weichsel ice age which ended about 11.700 years ago and which resulted in mainly sandy soils in the Atlantic region and mainly moraine sand/gravel and moraine clay soils in the eastern part of Denmark.

Figure 2.3 Map of Denmark showing potential TOF biomass origins.

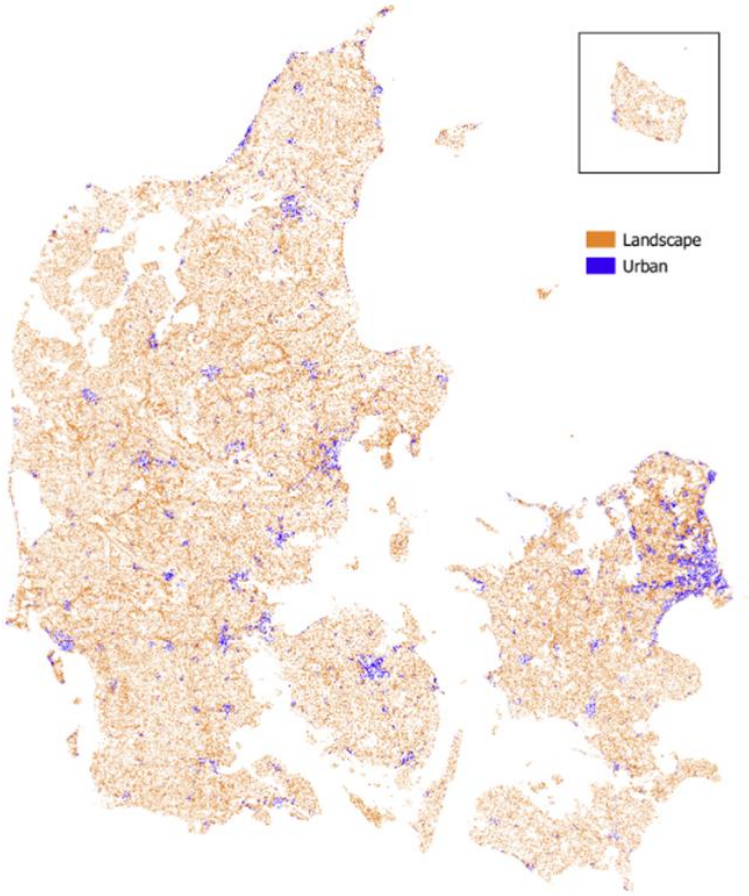


Figure 2.3 shows an overview of two of the four TOF origins[1]: Landscape and Urban, domestic and infrastructure. Woody residues from agricultural land and wood energy crops are not presented on the map due to the lack of public available spatial data.

[1]The map is produced using public available data retrieved from GeoDanmark: https://www.geodanmark.dk/, Geodatastyrelsen: https://gst.dk/matriklen/om-matriklen/matrikelkort-registret-og-arkiv, and PlanInfo: https://planinfo.dk/plandatadk

Table 2.4 below presents TOF origins and sub-scopes resulting from the TOF RRA process and analysis conducted for Denmark. The reasoning for the two sub-scopes under the origin "Landscape" is that there is a general difference in the legislation: 1) Hedgerows and smaller woodlots are mostly regulated if and when biomass is sold to CHP´s (though the Museum Act and Fencing Act also apply to these areas) while 2) Nature conservation areas are protected by area-protection legislation (In general by the Nature Protection Act, but also other acts apply). Further the harvest operations for the two different sub-scopes differ in the sense that harvesting in Nature Conservation areas to a large extend require a permit or firm knowledge of if a permit isn´t required, while this is not the case for hedgerows and smaller woodlots.

Table 2.4: TOF origins and sub-scopes, resulting from the TOF RRA process in Denmark.

TOF origin	Risk
Landscape areas	Assessed
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Assessed
Woody residues from agricultural land[1]	Assessed
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

[2]For woody residues it is particularly important to note that when sourcing woody residues from agricultural production a risk assessment has to be performed both for the production of the biomass (the residues), but also the primary production of agriculture i.e. management of the orchard plantation.

2.3 Overview of the local biomass sector

The volume of biomass originating from Trees Outside Forest (TOF) has quite some uncertainties related to the figures. Some of the larger biomass producers estimate that 15 - 20% of their Danish sourced feedstock originates from TOF landscape areas. The wood flow analysis for Denmark by Brownell II et al. (2023) estimated that in 2018, 2,889,000 solid wood equivalents (SWE) out of 6,593,000 (SWE) corresponding to 44% of the total domestic harvest of wood was primarily used for energy purposes. There is, however, great uncertainty about this percentage as the quantification is based on the amount of wood that is missing to balance the wood consumption with the harvest. It is therefore believed that an estimation of 44% is too high to evaluate what has been consumed as biomass by the energy sector. TOF data on what has been consumed by the energy sector is provided by the Danish Energy Agency. Preliminary percentage-based data for Danish origin from the Danish Energy Agency for 2022 is presented below and indicate the about 30% (16% + 10% + 4%) of biomass useable for the energy sector originates from TOF origins.

- Biomass from forest: 70%
- Urban, domestic and infrastructure 16% [3]
- Biomass from landscape: 10%
- Biomass from agriculture (only woodchips): 4%
- TOTAL 100%

Volume based data for 2022 was not available by November 2023.

[3] Defined by Danish Energy Agency as: Garden/park waste, wood from clearings for new infrastructure, raw material excavation and new buildings, as well as biological material from pruning etc., which maintains the function of roads, railways, power lines and the like, including statutory pruning along watercourses.

3 Methodology

3.1 Data collection

Data for this SBP RRA for Trees Outside Forests is collected mainly through desktop searches from a range of sources. The sources include applicable Danish and EU legislation and regulations, reports and articles from relevant Danish ministries and state authorities, NGO and industry bodies, various databases as well as technical and scientific reports. Notable Danish ministries and state authorities from where data is collected include the Ministry of Environment, the Ministry of Climate, Energy and Utilities, the Ministry of Employment, the Danish Nature Agency, the Danish Environmental Protection Agency, the Danish Energy Agency, the Danish Agriculture and Food Council and the Danish Working Environment Authority. Further, Consultancies, SBP audits, communications with authorities and cooperation with contractors serve as a basis for the collection of relevant data. Lastly, with the approval of SBP, specialists (annex 2) have been consulted on the format, the extent of analysis of risk descriptions and definitions only. The specialists were not consulted for opinions on outcome of risk assessment which takes place during public stakeholder consultation.

Danish ministries and agencies concerning land use and nature protection have undergone structural changes regarding ministries and agencies, and therefore references to ministries and agencies mentioned in the document may have changed since the time of writing.

3.2 Selection of indicators to be updated

As this is the first version of RRA, this section does not apply.

3.3 Risk classification

A thorough analysis is done for each indicator leading to the assignment of either a low or a specified risk class. The analysis examines (i) the applicable legislative, regulatory framework or industry best practices on the specific issues addressed by the criteria and indicator in question, (ii) mechanisms for implementation or enforcement, (iii) monitoring procedures (presence or absence and frequency or quality), and (iv) the current situation on compliance if the information is available. Additionally, risk conclusion and justification are given for the risk class assigned for each indicator.

For assigning a risk class to an indicator the guidance given in SBP Standard 2: "Feedstock Verification" is followed.

- An indicator is assigned with a low-risk class 'if there is evidence of negligible risk of non-conformance, taking into account probability and severity'.
- The indicators that 'cannot be categorised as low risk shall be considered a specified risk'.

Some indicators have not been assessed, this is in accordance with SBP Instruction Document 1A, these are assigned not applicable (N/A). In order to maintain a stringent structure throughout the risk assessment, the scheme presented in table 5.1 is used twice for each indicator, initially to indicate the TOF origins which are assessed under each indicator and subsequently to convey the conclusion for each indicator.

Table 3.1 Risk Assessment scheme used for all indicators

TOF origin	Risk
Landscape areas	Assessed
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Assessed
Woody residues from agricultural land[4]	Assessed
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

For selected indicators the risk is considered to be homogeneous across the TOF origins, hence the risk for all 4 TOF origins is assessed as one. In this case the term "assessed as TOF group" is used. As can be seen from table 5.1, two sub scopes have been created for biomass of landscape origin, this is described in the following section on regional background.

[4] For woody residues it is particularly important to note that when sourcing woody residues from agricultural production a risk assessment has to be performed both for the production of the biomass (the residues), but also the primary production of agriculture i.e. management of the orchard plantation.

4 Stakeholder consultation

Consultation with stakeholders and experts is a required and essential source of information for developing a robust and credible RRA. Stakeholder consultation undertaken with the development of this RRA conforms to the requirements set out in the SBP Regional Risk Assessment Procedure (v1.2, May 2021).

To identify potentially affected stakeholders, B4Trees conducted an analysis of sectors, organisations, and individuals that have a sincere interest in biomass production and/or may be affected by the results of the RRA. Using this process and the stakeholder groups specified in the SBP Regional Risk Assessment Procedure (v1.2, May 2021), the following stakeholder groups were identified:

- Economic interests
- Social interests
- Environmental interests
- Certification bodies and certificate holders
- National and State forest agencies
- Forestry certification schemes
- Research institutions and universities

The stakeholder consultation was carried out by the working body during the period 10 January to February 16, 2024. During the process SBP received information about the stakeholder consultation and received first draft risk assessment for review prior to the public consultation. The second draft of the risk assessment was submitted to SBP in April 2024.

A 30-day public consultation was implemented by SBP beginning on November 11, 2024, and ending on December 11, 2024.

The working body analysed all the information gathered during the consultation and documented it in the stakeholder consultation report. Modifications to the draft RRA report were completed as appropriate in response to relevant stakeholder feedback. A revised draft RRA report was then submitted to the SBP in December 2024 for review and comment by the SBP Secretariat.

5 Conclusions

Summary of identified risk areas

The table below summarizes risk ratings according to SBP´s standard 1, as follows:

- Principle 1, feedstock is legally sourced
- Principle 2, feedstock sourcing does not harm the environment
- Principle 3, feedstock is only sourced from Supply Bases where the forest carbon stock is stable or increasing in the long term
- Principle 4, feedstock sourcing benefits people and communities

Indicators marked with "LOW" or "SPECIFIED" indicate that a risk assessment has taken place. Indicators marked with "N/A" are not applicable to the feedstock source in question.

Risks are rated as "LOW" or "SPECIFIED". Organisations are required to ensure that all specified risks are managed and thus reduced to a low level or otherwise exclude the feedstock associated with specified risks from SBP supply chains.

Table 5.1 Summary of risk designated for indicators.

Indicator	Sub-scope					
	Landscape		Urban, domestic and infrastructure	Woody residues from agricultural land		Woody energy crops, short rotation coppice
	Hedgerows and smaller woodlots	Nature conservation areas		Woody residues	Primary production of the agriculture	
1.1.1	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
1.1.2	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
1.1.3	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
1.1.4	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
1.1.5	N/A	N/A	N/A	Low risk	N/A	N/A
2.1.1	Specified risk	Specified risk	N/A	Low risk	Low risk	Low risk
2.1.2	Specified risk	Specified risk	N/A	Low risk	Low risk	Low risk
2.1.3	Specified risk	Specified risk	N/A	Low risk	Low risk	Low risk
2.2.1	Low risk	Low risk	N/A	Low risk	Low risk	Low risk
2.2.2	Specified risk	Specified risk	N/A	N/A	N/A	Low risk
2.2.3	Low risk	Low risk	N/A	Low risk	Low risk	Low risk
2.2.4	Specified risk	Specified risk	N/A	Low risk	Low risk	Low risk
2.2.5	Low risk	Specified risk	N/A	Low risk	Specified risk	Low risk
2.2.6	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
2.2.7	N/A	Low risk	N/A	Low risk	Specified risk	Low risk
2.2.8	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
2.2.9	Low risk	Low risk	N/A	N/A	N/A	N/A
2.2.10	Specified risk	Specified risk	N/A	N/A	N/A	N/A
2.2.11	Low risk	Low risk	N/A	N/A	N/A	N/A
2.2.12	Low risk	Low risk	N/A	Low risk	Low risk	Low risk
3.1.1	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
3.2.1	Low risk	Low risk	N/A	N/A	N/A	N/A
3.2.2	Low risk	Low risk	N/A	N/A	N/A	N/A
3.2.3	Low risk	Low risk	N/A	N/A	N/A	N/A

3.3.1	N/A	N/A	N/A	N/A	N/A	N/A
4.1.1	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
4.1.2	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
4.1.3	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
4.1.4	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.1.5	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.1.6	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.1.7	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.1.8	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.1.9	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.1.10	Low risk	Low risk	Low risk	Low risk	N/A	Low risk
4.2.1	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
4.2.2	N/A	N/A	N/A	Low risk	Low risk	Low risk
4.2.3	N/A	N/A	N/A	Low risk	Low risk	Low risk
4.2.4	Low risk	Low risk	N/A	Low risk	Low risk	Low risk
4.2.5	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
4.2.6	Low risk	Low risk	N/A	Low risk	N/A	Low risk
4.2.7	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk

* For woody residues it is particularly important to note that when sourcing woody residues from agricultural production a risk assessment has to be performed both for the production of the biomass (the residues), but also for the primary production of agriculture i.e. management of the orchard plantation.

Annex 1 Detailed findings for Supply Base Evaluation

Principle 1 – Feedstock is legally sourced

Criterion 1.1 – Operators and operations are legal

1.1.1 **Operations related to feedstock sourcing and biomass production shall comply with all existing applicable laws and regulations.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

The main act in Denmark which specifically has the purpose of regulating feedstock sourcing from TOF areas is the EU Renewable Energy Directive (RED II). The Danish implementation of the REDII directive (in Danish VEII) has resulted in an Executive order and a Handbook officially, "Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" which incorporates the TOF biomass types.

There are in addition a range of other acts which protects and regulates operations on the TOF areas, these include in particular the Nature Protection Act § 3, the habitat directive, the bird protection directive (implemented in §§19a-19h of the Nature Protection Act) and the Museum Act §29A for the protection of dykes. Agricultural areas designated as mark block areas are also included if they receive EU farming subsidies obliged to adhere to cross compliance requirement.

The main acts and their purposes:

- The "Order on Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" has sustainability requirements focused on primary feedstock from all 4 TOF origins plus provisions for processing residues etc. For the TOF origin

"Hedgerows and smaller woodlots" it is important to note that there is limited legislation regulating other purposes than biomass usage.

- The Nature Protection Act regulate operations if there is overlap with registered § 3 areas. The Nature Protection Act § 3 protects areas (6 nature types) typically over 2.500m2, lakes over 100 m2 and areas along watercourses and these are considered well mapped and regulated. In general, the Nature Protection Act is considered well implemented. During recent years with increased demand on biomass an annual estimated 5-6 legal cases are raised against biomass producers cutting down areas protected by either the Nature Protection Act § 3 (lakes, bogs, moors, beach meadows, natural pastures, water streams) or the watercourse act. The ministry of Environment anticipate that a number of cases are handled directly by the 98 municipalities in Denmark and therefore does not reach their attention. The data above are retrieved from an interview with the Ministry of Environment and also cases from media indicate that there, compared to 5-8 years ago, is an increased impact from biomass harvest on especially the landscape origins. There is not available data to indicate the statistical severeness (the total number of landscape areas which have been cut for biomass) therefore there is no strong indication for neither low nor specified risk. However, as law enforcement is strong then a low risk is suggested.
- 105 cross compliance requirements regulate amongst others Environment, climate change and good agricultural and environmental condition of land.
- Order no. 1595 of 6 December 2018, Habitatbekendtgørelsen, focus on the designation and administration of international nature conservation areas and the protection of certain species. The international nature protection areas in Denmark, which include habitat and bird protection areas – together called Natura 2000 areas – and Ramsar areas, are an important contribution to protecting biological diversity in Denmark. They constitute the Danish contribution to a network of natural areas throughout the EU that contain particularly valuable nature from a European perspective. Natura 2000 areas are designated to protect bird habitats and to protect habitats, habitats and plant and animal species that are threatened, vulnerable, distinctive, or rare in the EU.
- Order no. BEK 2091 of 12/11/2021: Announcement on appointment and administration of international nature conservation areas and protection of certain species" The Danish Executive Order BEK No. 2091, issued on November 12, 2021, also known as the Habitatbekendtgørelse, focuses on the designation and management of international nature conservation areas. Its primary purpose is to establish guidelines for the protection of significant natural habitats and species, ensuring compliance with both national and international environmental obligations. the Executive Order No. 2091 from November 12, 2021, builds upon BEK 1595 of 6 December 2018 by providing more detailed guidelines for the management of these nature conservation areas.
- Order on the protection of certain animal and plant species and the care of injured game. BEK no 521 of 25/03/2021. The purpose of Danish Executive Order No. 521 of 25/03/2021, also known as the Artsfredningsbekendtgørelsen, is to protect specific species of animals and plants in Denmark. This regulation prohibits the hunting, capturing, or harming of designated wildlife and plants, ensuring their conservation and the preservation of their natural habitats.
- The Planning Act can regulate the conservation of trees in domestic areas.
- The Decree on the use of land resources for cultivation and nature which dictate a "clearance obligation" (in Danish Rydningspligt), which means that you must maintain your agricultural land so that the growth of trees and bushes does not become more than five years old. The purpose of the clearing duty is to respect nature, because overgrowth can threaten the content of wild plants and animals in the light-open semi-cultivated areas. The clearing obligation also aims to ensure that uncultivated agricultural areas can be used again without major difficulties.
- There are public and private water courses in Denmark. The public water courses are regulated by the Water Course Directive. Regulations (vandløbsregulativer) are made by the municipalities (98 in Denmark) which describe conditions in the public waterways. In special cases the water course authority can regulate private streams on issues of shape and/or flow of water, maintenance, collection of crops. Together the Water Course Directive and the Nature Protection Act § 3 regulate the water courses.
- The Act on environmental assessment of plans and programs and of specific projects (VVM). The purpose of the Act is to ensure a high level of environmental

	protection and to contribute to the integration of environmental considerations during the preparation and adoption of plans and programs and when permitting projects with a view to promoting sustainable development, by carrying out an environmental assessment of plans, programs and projects, which can have a significant impact on the environment**.** **Enforcement and monitoring** The Danish Environmental Protection Agency in collaboration with the Danish Nature Agency – both under the Ministry of Environment - enforces the Nature Protection Act. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces regulations related to energy. Regular monitoring of the enforcement is conducted and reported by the concerned agencies. The municipalities are the authorities on Natura 2000 areas outside the forests, VVM (EIA) areas and streams/water courses (both Nature Protection Act-regulated streams and streams governed by the water stream directives). Ministry of Food, Agriculture and Fisheries, the Agricultural Agency enforces the clearance obligations. **Risk conclusion and justification** The legislation covering operations related to feedstock are well implemented and new decrees are on a pending basis amended with the purpose of clarification and refinement. There are reported cases of breach of the Nature Protection Act, however, as these cases are handled by authorities and as there is strong focus on enforcement then a low risk is considered for all 4 TOF categories.
Supply Base Verifiers	• Habitatsvejledningen (11.11.2020) https://www.retsinformation.dk/eli/retsinfo/2020/9925 • Order on Cross-Compliance (krydsoverensstemmelse) (21.12.2022) https://www.retsinformation.dk/eli/lta/2022/1601 • Danish Energy Agency (2022) (26.10.2023). Order on Handbook on the fulfillment of sustainability requirement for saving greenhouse gas emissions for biomass fuels for energy purposes. https://ens.dk/sites/ens.dk/files/Bioenergi/db584_haandbog.pdf • Nature Protection Act (28.06.2024) https://www.retsinformation.dk/eli/lta/2024/927 • Guidance on the use of land resources for cultivation and nature 2023 (26.10.2023): https://lbst.dk/landbrug/natur-og-miljoe/rydningspligt#c8660 • Act on environmental assessment of plans and programs and of specific projects (VVM) https://www.retsinformation.dk/eli/lta/2023/4 • Order on designation and administration of international nature conservation areas and protection of certain species: https://www.retsinformation.dk/eli/lta/2023/1098
Evidence reviewed	• Relevant webpages of the Danish Nature Agency, Danish Environmental Protection Agency, Danish Environmental Agency, Ministry of Environment, Ministry of Climate, Energy and Utilities, the Danish Parliament, and European Commission • Statistics Denmark • Relevant Danish national and EU acts, laws and regulations

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low Risk
- Nature conservation areas	Low Risk
Urban, domestic and infrastructure	Low Risk
Woody residues from agricultural land	
- Woody residues production	Low Risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low Risk

1.1.2 Legal ownership of land and resource use rights shall be respected.

Findings

Scale of assessment

TOF biomass in Denmark sourced from both publicly and privately owned land.

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Land tenure rights are regulated by the Land Registration Law, with land ownership registered in the Land Book (Land Registration Law 2014; The Land Registry, "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 the 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 (Land Registry: "The Land Book"). All legally registered companies are registered in the CVR register from which information on the type of business, size, address etc. is publicly available (Danish Business Authority, "Danish Central Company Register"). The CVR number can be verified in the registry. A legal business agreement is also a requirement. Legal ownership and land use can be demonstrated by reviewing the Land Book or the online registration. Rights are clearly established in Denmark and business and tax registrations 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 2019-2022; that is, for these years, Denmark was considered the least corrupt country in the world (Transparency International, 2022). Within the World Bank Worldwide Governance Indicators index, Denmark scores very high for the Rule of Law and Control of Corruption (World Bank: "Worldwide Governance Indicators"). This indicates that there is a very low risk that legislation on ownership and legal registration of businesses is not enforced. **Enforcement and monitoring** Land Book is publicly available online and is updated regularly. The Danish Geodata Agency is responsible for providing geodata about land and sea in the country. The Danish Cadastre Office under the Danish Geodata Agency maintains and regularly updates a country-wide cadastral map, an official register, and a cadastral archive. These are the basis of all land registration and thus play a central role in the public management and administration of land ownership in Denmark. **Risk conclusion and justification** Based on the available information, the risk for this Indicator has been assessed as Low for all TOF origins. Land registrations in Denmark are clear, transparent, and updated regularly through publicly available databases, furthermore, laws in Denmark are very well enforced, therefor the risk for this Indicator has been assessed as Low for all TOF origins.
Supply Base Verifiers	• Websites of Danish Geodata Agency and Danish Cadastre Office • Existing legislation • Relevant registries • Relevant data from non-governmental organisations and financial organisations.
Evidence reviewed	• Danish Business Authority. "Danish Central Company Register" (26.10.2023). https://datacvr.virk.dk/ • Danish Geodata Agency: "Danish Cadastre Office" (26.10.2023). https://eng.gst.dk/danish-cadastre-office • Danish Geodata Agency (26.10.2023). "Home". https://gst.dk/ • Land Registration Law (30.09.2014). https://www.retsinformation.dk/eli/lta/2014/1075 • Land Registry. "The Land Book". (27.10.2023) https://www.tinglysning.dk/tinglysning/landingpage/landingpage.xhtml • The World Bank Worldwide Governance Indicators: (27.10.2023) Worldwide Governance Indicators | DataBank (worldbank.org) • Transparency International (2022). "Corruption Perceptions Index 2022". https://www.transparency.org/en/cpi/2022 • Transparency International (27.10.2023), Country profile for Denmark: Denmark - Transparency.org • World Bank. (27.10.2023) "Worldwide Governance Indicators". https://databank.worldbank.org/source/worldwide-governance-indicators

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

1.1.3 Feedstock shall be legally harvested, supplied and produced, including in compliance with CITES, EUTR and other applicable legal trade requirements.

Findings

Scale of assessment

Woody feedstock harvesting, production and sourcing in Denmark are regulated by both national and EU-level legislation. EU Timber Regulation (EUTR) is the main applicable trade framework for assuring the legality of feedstock in the country.

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Assessed
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis

The Danish, forestry-related legislation relevant to EUTR is comprehensive and detailed and regulates numerous aspects, including maintaining the forest area, protecting Natura 2000 areas and general protection of the environment. The EUTR also regulates obligations of operators who place timber and woodchips from Trees Outside Forest areas on the EU market.

For the present analysis the Ministry of Environment was contacted to have their input on operators' compliance with EUTR in the different TOF areas, the following was found:

Landscape: during recent years with increased demand on biomass an annual estimated 5-6 legal cases are raised against biomass producers cutting down areas protected by either the Nature Protection Act § 3 (lakes, bogs, moors, beach meadows, natural pastures, water streams) or the watercourse act. The ministry of Environment anticipate that a number of cases are handled directly by the 98 municipalities in Denmark and therefore does not reach their attention.

Urban, domestic and infrastructure: No registrations

Woody residues from agricultural land (Orchards, vineyards, nuts and other woody crops, agro-forestry): No registrations

Woody energy crops (i.e. woody biomass), short rotation coppice: No registrations

The national media (DR) has recently (first half of 2023) had a series of articles where illegal clearings of landscape biomass has been in focus.

There are no tree species classified as CITES species in Denmark and thus CITES regulation is not applicable here.

The above-mentioned interview with the Ministry of Environment and cases from media indicate that there, compared to 5-8 years ago, is an increased impact from biomass harvest on especially the landscape origins. There is not available data to indicate the statistical severeness (the total number of landscape areas which have been cut for biomass) therefore there is no strong indication for neither low nor specified risk. However, as law enforcement is strong then a low risk is suggested.

Enforcement and monitoring

Competent Authority is the Ministry of Environment and the Environmental Protection Agency. Regular monitoring of the enforcement is conducted and reported by the concerned agency.

Risk conclusion and justification

There are no tree species classified as CITES species in Denmark and thus there is low risk for the cutting of CITES species. Regarding EUTR: Compared to 5-8 years ago, there is an increased impact from biomass harvest on especially the landscape origins. On basis of an annual estimated 5-6 cases of illegal cuttings on landscape areas plus an anticipated number of cases handled directly by the municipalities the risk of compliance for biomass originating from the TOF landscape category need focus. There is not available data to indicate the statistical severeness (the total number of landscape areas which have been cut for biomass) therefore there is no strong indication for neither low nor specified risk. However, as law enforcement is strong then a low risk is suggested. For the other 3 TOF categories a low risk is concluded as there are not indications of breach of EUTR.

Annex 1 Detailed findings for Supply Base Evaluation

Supply Base Verifiers	EUTR • Existing legislation • Webpage of the Danish Nature Protection Agency • Interviews demonstrate that key staff has a good knowledge of relevant forestry legislation. CITES • CITES Appendices I, II and III
Evidence reviewed	EUTR • Act on the Administration of the European Union Regulations on Trade in Timber and Timber Products with a View to Combating Trade in Illegally Logged Timber (Lov om administration af Den Europæiske Unions forordninger om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ). (18.12.2012). https://www.retsinformation.dk/Forms/R0710.aspx?id=144423 • Danish Energy Agency (2022a). Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål) (31.05.2023). https://ens.dk/sites/ens.dk/files/OlieGas/haandbogen.pdf • Environmental Protection Act (19.01.2022). https://www.retsinformation.dk/eli/lta/2022/100 • Forest Act (26.05.2023). https://www.retsinformation.dk/eli/lta/2023/690 • Ministry of Environment and Food. (2016). "Guidance for Danish Forest Owners on the EUTR" (Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR). • Nature Protection Act. (28.06.2024). https://www.retsinformation.dk/eli/lta/2024/927 • Ochre Act (10.12.2015). https://www.retsinformation.dk/eli/lta/2015/1581 • Watercourse Act. (25.11.2019). https://www.retsinformation.dk/eli/lta/2019/1217 CITES: CITES Appendices I, II and III (26.10.2023): (https://cites.org/sites/default/files/eng/app/2016/E-Appendices-2016-03-10.pdf)

Annex 1 Detailed findings for Supply Base Evaluation

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

1.1.4 Payments for harvest rights and feedstock, including duties, relevant royalties and taxes related to timber harvesting shall be complete and up-to-date.

Findings

Scale of assessment

Only VAT applies to timber and feedstock harvesting from all TOF areas in Denmark.

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

	Royalties or timber harvesting taxes are not implemented in Denmark for either TOF or forests, and thus not relevant. A VAT of 25% shall be paid in accordance with the VAT Law (BEK no 2246 of 30/11/2021) (VAT Law, 2021). 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 through the Danish Tax Agency and applies to persons who conduct an independent business. **Enforcement and monitoring** Regulation of sales tax and VAT is considered well enforced in Denmark by the Danish Tax Agency, and there are no indications that feedstock enters the biomass supply chain under violation of VAT legislation. **Risk conclusion and justification** Regulation of sales tax and VAT is considered well enforced in Denmark by the Danish Tax Agency, and there are no indications that feedstock enters the biomass supply chain under violation of VAT legislation. The risk associated with lack of payment of VAT in relation to feedstock for biomass production – based on the analysis above – can therefore be considered low for all 4 TOF categories.
Supply Base Verifiers	• Sales invoice • Transport documents • Website of Danish Tax Agency
Evidence reviewed	• Danish Tax Agency (Skattestyrelsen) (26.10.2023). https://skat.dk/ • Ministry of Environment and Food. (2016). "Guidance for Danish Forest Owners on the EUTR" (Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR). • VAT Law (Momsbekendtgørelsen) (30.11.2021). https://www.retsinformation.dk/eli/lta/2021/2246
Risk rating	

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

1.1.5	**There shall be adequate protection of the Supply Base from unauthorised and illegal activities, such as illegal logging, mining, and encroachment.**

Findings

Scale of assessment

Woody residues harvesting, production and sourcing from agricultural land in Denmark are regulated by both national and EU-legislation.

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Not applicable

Analysis

In general, there is a high level of law enforcement in Denmark and there are no indications that the situation is different between TOF areas and forest areas. Illegal logging and encroachment are not issues in Denmark. The forest governance portal of the Chatham House, UK – which monitors illegal logging globally – does not record any illegal logging activities in Denmark (Chatham House, 2023).

The types of illegal activities most encountered in Denmark on TOF areas are illegal littering, stray dogs, theft of Christmas trees, theft of fruit from orchards and, occasionally, poaching. Illegal or unauthorised activities on agricultural land generally have limited economic or biological impact.

Enforcement and monitoring

The Danish Environmental Protection Agency in collaboration with the Danish Nature Agency – both under the Ministry of Environment and Food – enforces the relevant legislation. Regular monitoring of the enforcement is conducted and reported by the concerned agencies.

Risk conclusion and justification

There is a high level of law enforcement In Denmark and regular monitoring of the enforcement, therefore, it can be concluded that the risk from unauthorised activities on agricultural areas is low and thus this indicator is assigned low risk.

Supply Base Verifiers	• Monitoring records • Interviews with staff • Interviews with stakeholders • Publicly available information (news and media)
Evidence reviewed	• Chatham House (2023). "Forest Governance and Legality". https://forestgovernance.chathamhouse.org/ • Transparency International (27.10.2023) "Denmark". https://www.transparency.org/en/countries/denmark • World Bank (27.10.2023) "Worldwide Governance Indicators". https://databank.worldbank.org/source/worldwide-governance-indicators

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Not applicable

Principle 2 – Feedstock sourcing does not harm the environment

Criterion 2.1 – Biodiversity is maintained or enhanced

2.1.1 **Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed

- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis hedgerows and smaller woodlots

Hedgerows and smaller wood lots have not been surveyed systematically for HCV´s. A lot of identifications do, however, exist e.g., in the private app "Naturbasen" where the exact locations and names of found species are registered. Similarly, the DOF database contains a number of georeferenced findings (red-listed ones can be sorted out in search function). Neither of the app´s are based on systematic identification of HCV´s in hedgerows and smaller woodlots, and since the vast majority of the hedges etc. covered by the standard are not publicly accessible, data will be very sparse and, at best, inaccurate (Wejdling, 2024).

The Ministry of Food, Agriculture and Fisheries of Denmark have developed a High Nature Value map with the purpose of prioritizing applications for subsidies for the care of grass- and nature areas. This map assigns an area with a score between 0 and 13, with 13 indicating the highest level of nature values. The quality of the map is considered high. However, it does not cover all areas, and it does not indicate which species that need protection.

On the basis that no systematic surveillance or identification of HCV´s in hedgerows and smaller woodlots has taken place, specified risk is assessed.

Analysis nature conservation areas

All nature conservation areas registered according to the Nature Protection Act § 3 have been systematically surveyed for HCV´s. These areas can be found in the app "§ 3-Natur". However, small biotopes are often so small that they are not covered by the Nature Protection Act, and these have not been registered (Ejrnæs et. al., 2021). On this basis specified risk is raised for identification of small biotopes not covered by the Nature Protection Act.

Analysis woody residues and primary agricultural production site.

Christmas tree plantations on arable land typically consist of monocultures within a plantation covering an age class distribution from 1 to 12 years. The plantations are typically from 5 hectares and up with the largest professional producers having 500+ hectares distributed amongst several plantations. In general, the plantations are intensively managed and only the occasional existing lake or burial mound is protected inside the plantation. The trees never get very old, and there is a much higher use of chemicals compared to ordinary forest management. In addition, there is no natural ecosystems. Around 80 percent of Danish Christmas trees are grown on agricultural land and the remaining 20 percent are grown in forests.

On basis of the above-mentioned, low risk is considered for threats and impacts on HCV´s. This is supported by the Danish Society for Nature Conservation who do not categorize Christmas tree plantations as nature (Danish society for Nature Conservation about Christmas trees (26.10.2023).

Orchards in Denmark are primarily consisting of apple, pear and cherry trees (Danmarks Statistik, 2024). According to The European Forum on Nature Conservation and Pastoralism, the presence of High Nature Values in orchards depends particularly on the presence of large, old trees and a (semi-)permanent unsown understory

which may indicate HNV farmland (High Nature Value Farming Indicators (09.04.2024). In a Danish context apple, pear and cherry trees have a rotation age of about 15-30 years (Copenhagen University (15.04.2024)). It is considered that this fairly short rotation age does not give the trees a cultural value like for instance old olive trees does in a South European context, and therefore no HNV is considered linked to the age of the trees. However, it has been considered if the orchards could be important as semi-natural habitat with importance for pollinating insects like bumblebees. Twenty four percent of European bumblebee species are threatened with extinction according to an IUCN study from 2014 (IUCN, 2014). Contradictory, the use of pesticides leads to the conclusion that orchards does not play a significant role as a semi-natural habitat, as pollination depends on surrounding habitats and therefore low risk is assessed for threats and impact on HCV´s. On basis of the general use of monocultures, exotics in Christmas tree plantations and use of pesticides on agricultural land in both Christmas tree plantations and fruit orchards, low risk is considered for the existence of key species, habitats, ecosystems and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base and therefore identification is not relevant.

Analysis energy crops

Woody energy crops, short rotation coppice is generally grown on agricultural land with duty to harvest willow at least every 10th year and poplar at least every 15th year according to the Agricultural Act (SEGES, 2021). The Danish Energy Agency has assessed that poplar species on agricultural land in Denmark can be considered an energy crop from agricultural areas up to and including the age of 20 years from planting or latest cutting (Danish Energy Agency, 2022a).

The Danish Tax authorities consider the cultivation of energy willow and poplar as agricultural production, and under the Danish Agency for Agriculture there is a requirement that you must keep your lowland forest and perennial energy crops (willow/poplar) to energy in good plantation condition and has regular harvest. Making requirements for the operation of energy willow/poplar in addition to what is stated in the directive/order may be in direct conflict with the requirements and guidelines set for such plantations and must be expected to have a decisive negative effect on the operation (SKAT, 2014).

The mapping of potential and barrier of short rotation willow and poplar was done in a study by Agrotech for the Energy Agency in 2015. In the study it was found that the number of birds and bird species increases on areas planted with willow and poplar compared to areas with conventional agricultural land. The highest bird diversity is found in 2–5-year-old cultures. Finally, it was found that willow and poplar can improve the living conditions for bees. Willow in particular can be an important source of pollen in the early spring. Poplar, on the other hand, is an important source of propolis that bees obtain from shoots and flower buds. Bees use propolis as an antiseptic material in the hive.

According to Reddersen et al. (2001) the gain for bird fauna by establishing short rotation willow is moderate in terms of species, species richness and densities.

According to Reddersen & Petersen (2004), the bird species diversity is not high and the species composition is not particularly characteristic but is a mixture of some of the most common bird species of the surrounding biotope types, e.g. skylark, pheasant and warbler.

According to an interview with an expert from DOF Birdlife on the 28th of February 2024, the findings of Reddersen et al. (2001) and Reddersen & Petersen (2004) are correct and there are limited chances of identifying bird species of high conservation value (HCV) pertaining to biodiversity in areas of short rotation energy crops.

It is concluded that the main taxa to consider for identification of existence of HCV in energy crops are bird species. Considering different bird species, it is concluded that species diversity is not high, the species composition is not particularly characteristic but is a mixture of some of the most common bird species of the surrounding biotope types, e.g. skylark, pheasant and warbler, and on this basis, low risk is assessed for identification of HCV´s in energy crop fields.

	Enforcement and monitoring Municipalities are in charge of updating and maintaining the indicative § 3 registration. Municipalities further supervise compliance with conservation regulations on protected areas, except for areas owned by the Ministry of Environment. Landowners wishing to make changes to a protected natural area must apply for a dispensation from the municipality. **Risk conclusion and justification** Hedgerows and smaller woodlots On basis that no systematic surveillance or identification of HCV´s in hedgerows and smaller woodlots has taken place, specified risk is assessed**.** Nature conservation areas All nature conservation areas registered according to the Nature Protection Act § 3 have been systematically surveyed for HCV´s, these areas can be found in the app "§ 3-Natur". However, small biotopes are often so small that they are not covered by the Nature Protection Act, and these have not been registered (Ejrnæs et. al., 2021). On this basis specified risk is raised for identification of small biotopes not covered by the Nature Protection Act. Woody residues and primary agricultural production site. On basis of the general use of monocultures, exotics in Christmas tree plantations and use of pesticides on agricultural land in both Christmas tree plantations and fruit orchards low risk is considered for the existence of key species, habitats, ecosystems and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base and therefore identification is not relevant. Energy crops It is concluded that the main taxa to consider for identification of existence of HCV in energy crops are bird species. Considering different bird species, it is concluded that species diversity is not high, the species composition is not particularly characteristic but is a mixture of some of the most common bird species of the surrounding biotope types, e.g. skylark, pheasant and warbler. On this basis, low risk is considered for identification of HCV´s in energy crops.
Supply Base Verifiers	• Desktop search • Interviews • GIS/Aerial maps of HCV areas • Regional, publicly available data from a credible third party • The existence of a strong legal framework in the region

Evidence reviewed

- Biodiversity map for Denmark (26.10.2023) https://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk
- IUCN (2014). (26.10.2023) Bumblebees threatened in Denmark Bad news for Europe's bumblebees | IUCN https://www.iucn.org/content/bad-news-europes-bumblebees
- Danish society for Nature Conservation about Christmas trees (26.10.2023). https://www.dn.dk/vi-arbejder-for/skov/produktion-af-trae/juletraeer/
- Danish Society for Nature Conservation https://www.dn.dk/vi-arbejder-for/biodiversitet/jorddiger-og-levende-hegn/
- Danmarks Statistik, 2024 (09.04.2024): Det dyrkede areal efter enhed, område, afgrøde og tid. https://www.statistikbanken.dk/statbank5a/selectvarval/saveselections.asp
- High Nature Value Farming Indicators (09.04.2024) European Forum on Nature Conservation and Pastoralism – What we do (efncp.org) https://www.efncp.org/what-we-do/high-nature-value-farming/indicators-high-nature-value-farming/
- Ministry of Food Agriculture and Fisheries of Denmark, High Nature Value map (30.10.2023) https://lbst.dk/landbrug/natur-og-miljoe/pleje-af-graes-og-naturarealer/hnv-kortet-high-nature-value
- Nature Protection Act (28.06.2024). https://www.retsinformation.dk/eli/lta/2024/927
- Ministry of Environment: "Danmarks Miljøportal" (30.10.2023). http://arealinformation.miljoeportal.dk/distribution/
- Ministry of Environment: "The Digital Nature Map 2021 incl. the "Biodiversity map" (De Digitale Naturkort 2021 inkl. Biodiversitetskortet) (30.10.2023). http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk
- Naturbasen – private app (03.11.2023) https://www.naturbasen.dk/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Specified risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.1.2	**Threats to and impacts on the identified key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified and evaluated.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis – landscape areas, hedgerows, and smaller wooded lots

Current rules at play to harvest a site

The current rules at play for hedgerows and smaller wooded areas are as follows in terms of approvals etc:

A. According to the Handbook section 6.1.1:

- Hedgerows shall be re-established. The requirement for re-establishment is considered fulfilled if only pruning takes place, including coppicing and thinning or if bushes or trees are actively replanted. The requirement for re-establishment can be waived if there is a written assessment that shows that permanent clearing of the stand is in favour of nature and biodiversity rather than re-establishment, or if there is evidence that a similar hedge or other small stands with equivalent or greater biodiversity scope and value are established elsewhere. Self-rejuvenation is not sufficient to meet the re-establishment requirement for wood from areas outside forests (non-forest).

- Risk assessment and risk minimization in relation to high nature values shall take place. Requirements for risk assessment and risk minimization in relation to natural values are considered fulfilled if a management system at the source area level ensures that the area before harvesting is:

o reviewed in the field by an expert, who examines whether the felling area contains high biodiversity, suitable habitats for, or known occurrences of, particular animal, plant or fungal species, cultural heritage, landscape or other values.

o the review is documented in maps and instructions that are used by relevant parties and which ensure that the identified values are protected.

B. If the site is on a mark block, there is a "clearance obligation" (in Danish Rydningspligt), which means that the landowner must maintain his agricultural land

so that the growth of trees and bushes does not become more than five years old. The purpose of the clearing duty is to respect nature, because overgrowth can threaten the content of wild plants and animals in the light-open semi-cultivated areas. The clearing obligation also aims to ensure that uncultivated agricultural areas can be used again without major difficulties.

C. Other legislation, like registered conservations, Natura 2000 protection also will also lead to the need for approval of operation.

At present no certifications have been approved by the Danish Energy Agency for the documentation of compliance with the requirements mentioned in A. for TOF origins. The Danish Energy Agency is, however, aware of the existence of on-site specific control systems like WSP and Responsible Biomass Programme (abbreviated RBP and developed by Preferred by Nature). The Danish Energy Agency does not see the system "Approved Biomass Producer/Responsible Biomass/Alternative Documentation" as an authority-approved certification scheme, but as a possible aid to the actors' work in documenting compliance with the legislation's requirements vis-à-vis verifiers (Danish Energy Agency, 2024).

Findings related to threats and impact for landscape areas, hedgerows, and smaller wooded lots is done on basis of the following references:

- Beier, Caspersen and Karlsson (2017) on: "Field size; roads in the landscape and small biotopes in Denmark from 1954 to 2025"
- Ejrnæs et. al (2021): Danmarks biodiversitet 2020 – Tilstand og udvikling. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi
- Danish Society for Nature Conservation (2023): Jorddiger og levende hegn: Naturens sidste tilflugtssted.
- Tybirk et. Al. (2001): Botanical Conservation Values in Danish Hedgerows"
- Interview with a Professor at Department of Ecoscience - Biodiversity, University of Aarhus (2023)
- Graham et al. (2018): "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes"
- DOF Birdlife (2024): Interview with an expert
- Ministry of Environment (2024): "Ophørte tilskudsordninger til skov- og natur"
- The Danish Redlist 2019

Based on the report Assessing by Beier, Caspersen and Karlsson (2017) on: "Field size; roads in the landscape and small biotopes in Denmark from 1954 to 2025" an overall picture of the development in land use with a focus on field size, roads in the field and small biotopes nationwide is given.

Field size analysis: The report covers 8 study areas and finds that there is a growth in field size. There are clear regional differences, as the greatest growth occurs on the land most suitable for cultivation, but generally throughout the period there is a significant increase in field size. It is also clear that this growth varies in speed.

In the new nationwide field map it is found that very significant development can be seen in the direction of very large fields. The number of fields between 100 and 200 ha in actual rotation (grass areas of all types are not included) has doubled in the period 2010 to 2015. It is not concluded that protected natural areas have actively been removed in this process. But it is expected that significant areas of biotope rich field boundaries have been lost.

Small biotopes analysis: The report shows that since the 1990s the landscape has generally experienced an increase in biotope area. In many places, the biotope area in 2015 constitutes almost 10% of the land use, as living fences and small forests are included here, in addition to the useful value that certain organic farms contribute. In this connection, biologists express concern that the quality of the new biotopes is not at the same level as the former meadows and pastures.

Biodiversity assessment: Assessment of the loss of biodiversity is further done by reviewing the report by Ejrnæs et. al. (2021). The report contains an evaluation of the 2020 target to stop loss of biodiversity. The authors assess the development in biodiversity represented by 171 indicators for species, habitats and processes in 9 Danish ecosystems. The analyses show that there is a steady decline for half of the indicators, while there is only progress or stable development for 12% of the indicators. For the remaining, the development is unknown.

In the report the authors conclude that the goal of stopping loss of biodiversity in Danish farmland has not yet been achieved. Decline is primarily seen for the species groups, and although the decline in habitats has slowed down to some extent, there is still a reduction in the area of small biotopes. The area of the most important habitats such as permanent grasslands, stone dykes and other small biotopes is today historically low, which may help to explain why species diversity continues to decline. Despite the fact that the arable land has been intensively mapped with a view to the allocation of agricultural support, there are significant shortcomings in our knowledge of biodiversity, which impairs the possibilities of assessing the development of biodiversity. The development of the threatened species is generally assessed by expert judgement, and this also applies to the assessment of most habitats and processes, many of which have an unknown development.

According to the Danish Society for Nature Conservation (2023) kilometres of trees from Denmark's old earth dykes have been cut just as live fences also have been felled on a larger scale. The trees on the earth dykes can be over 200 years old, and they form important habitats for birds, bats and insects in the parts of Denmark consisting of agriculture and many fields - and very little nature. In the past, it was not profitable to remove the vegetation on the earth dykes, but with the "green transition" to biomass fired CHP plants, it has become easier to sell wood chips. This poses a threat to the earth dykes and hedgerows that remain in the landscape. Another motivation for removing the trees is the desire for larger, contiguous fields. If nature on the dykes is already lost, it is easier to remove the dyke completely.

In a biodiversity context the hedgerows are, according to the Danish Society for Nature Conservation, important in the conventional agricultural landscape of monocultures where there hardly is any base for the creation of biodiversity. The agricultural landscape is characterized by homogeneous areas with few biotopes, and it is in this context that the hedgerows both on registered dykes and non-registered hedgerows play a role for biodiversity (Danish society for Nature Conservation about earth dykes and living hedgerows, 2023)

According to DOF Birdlife (2024), the hedgerows provide habitat for e.g. the in Denmark extremely rare and critical threatened and therefore CR-red-listed Little Owl as well as other red-listed species like Common Shelduck (VU), Grey Partridge (VU), Icterine Warbler (VU), Willow Warbler (VU), Yellowhammer (VU) and Corn Bunting NT). Also, the Red-backed Shrike, which is listed in the Annex I of EU-Directive on the conservation of wild birds, is breeding in hedgerows, especially if they are situated in or near grassland. Besides, more common species as Tawny Owl, tits, finches, pipits and thrushes use hedgerows as habitat along with other red-listed species of bats and reptiles of which several are listed in the Annex IV of the habitat's directive. DOF Birdlife (2024) further refer to: Batáry et. al. (2010) who conclude that hedges have a large effect on biodiversity at landscape level in particular in areas with a low content of non-productive nature (the effect diminishes when this content exceeds 17%), Batáry et. al. (2011) who substantiate that fences have a particularly great importance in intensively cultivated areas with a low content of (other) nature and Batáry et. al. (2012), who document that both hedges that are isolated in agricultural land and fences that are connected to forests are of great importance for biodiversity at the landscape level.

In a study on "Botanical Conservation Values in Danish Hedgerows" (Tybirk et. al., 2001), an analysis of ground vegetation in Danish hedgerows is provided. It is discussed if hedgerows contribute to the conservation of prioritized species and habitats at national or international scales. The study concludes on basis of 207

Danish hedgerows, with data from 11 out 14 counties (situation in 2001), that there are no indications that average Danish hedgerows (by 2001) should be considered as important habitat for species of either regional, national, or international conservation interest. Main discussion points were:

- Danish hedgerows appear to be the habitat of a considerable number of widespread and common opportunistic species preferring nutrient rich habitats.
- A further impoverishment of the Danish hedge flora is taking place due to intensified agricultural practice.
- Significant regional differences exist in the flora of hedges, this explained by types of hedges, soil types and regional species pools.
- Most hedgerows are young, either being new or having replaced old hedges. Lack of continuity limit the number of species that have been able to colonize the habitat. Even the category "old multiple row deciduous hedgerows" were young (35-100 years) as compared to British hedges reported up to 600 years.
- The connectivity in the landscape has changed dramatically showing a steady decline in the number of hedgerows.
- Intensive field management is the most likely explanation of the dominance of few competitive species in Danish hedgerow material.
- Danish hedgerows support locally important populations of numerous characteristic plant species from the agrarian landscape. Most of the rare plant species were recorded from old multiple row hedgerows which indicate the relatively high national conservation value of this type.

On basis of the points discussed the study recommends to:

- Identify and conserve remnant old hedgerows.
- Protect existing high-quality hedgerows against further deterioration, e.g., by establishment of a 1 m uncultivated zone a suitable conservation headland along the hedgerow.
- Apply less intensive hedgerow management allowing natural succession, e.g., development of decaying standing deadwood.
- Establish new hedgerows and wildlife plantings with no chemical and mechanical input and leaving parts of hedgerows unplanted and open for spontaneous succession of both herbal and woody species. Avoid planting of exotic species.
- Establish new hedgerows and wildlife plantings in relation to and connection with existing green corridors in the landscape.

The above-mentioned study is quite old (22 years), but it is considered relevant as it depicts the status 22 years ago and as one of the co-authors in 2023 was interviewed about his professional view on hedgerows today.

A phone interview conducted on August 30th, 2023 with a Professor at Department of Ecoscience - Biodiversity, Aarhus University (2023) revealed his up to date view on the importance of hedgerows. According to the professor the biodiversity importance of Danish hedgerows isn´t unique but cannot, however, be overlooked. This because the hedgerows at a national scale provide habitats for red listed species. At a smaller local level, the hedgerows provide habitats for "hedgerow" bird species like Yellow Hammer and Corn Bunting (Danish: gulspurv and bomlærke) which in contrast to the "open arable land" birds species like Skylark and Lapwing (Danish: sanglærke and vibe) need the hedgerow habitat. The professor considers redlisted species and local habitats in hedgerows at risk of negative impact on the aforementioned reasoning.

The considerations by the Professor are supported by the Working Body upon review of the article "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes" by Graham et. al. (2018). In the article the role of hedgerow structure and condition in determining the value of hedgerow habitat for biodiversity conservation within an agricultural context, to inform and evaluate hedgerow management decision and policy is discussed. The article is a

systematic literature review with precedence given to primary research studies published between 2005 and 2017 with a geographical scope of primarily UK, France, Ireland, Germany and the Mediterranean. The Working Body is aware that the study isn´t focused on a purely Danish context. However, the habitat structure and associated species findings related to ground vegetation, mammals, birds, invertebrates are considered identical and therefore directly applicable in a Danish context. The article concludes that hedgerows are of major importance to biodiversity.

Subsidies have also played a role for hedgerows in terms of high conservation values pertaining to biodiversity - both positively and negatively. From the positive perspective, hedgerows have in the last decade been established on basis of subsidies. Grants were given on basis of a range of conditions, e.g., the hedgerow was to remain for 5 years, native species were preferred, and priority was also given to variation in growth rate, structural height/density and species providing berries. Subsidies for the planting of hedgerows were available until 2019 (Ministry of Environment: "Ophørte tilskudsordninger til skov- og natur", 2024). For hedgerows located within the mark block EU legislation for cross compliance states that it is not allowed to prune trees or shrubs on agricultural land in the period from 15 March to 31 July. The ban applies, for example, to hedgerows and permanent grass areas located within field blocks and vegetation on historical monuments and similar. No non-compliance indications have been found for this regulation. From the negative perspective, since January 1st, 2023, new EU regulations under the CAP state that farmers have to make 4% set a side area (unproductive areas). New shelterbelts can be part of this 4% set a side area. Old shelterbelts planted before 2023 cannot be part of the 4%. The Professor mentions that clearing of old hedgerows and replanting new hedgerows as part of a subsidy for leaving arable land untouched (4% rule) is destructive for the conservation values at hand, this consideration is in line with the study by Graham et. al. (2018).

Regarding red listed species. If the Red List 2010 and the Red List 2019 for Denmark is compared, it can be seen that the proportion of endangered species that are classified as critically endangered (CR), endangered (EN) or vulnerable (VU) has fallen from 18.7% to 17.3% of the assessed species. However, this cannot be interpreted as a sign of positive development for the species. Compared to the Red List 2010 more species have in 2019 ended up in the insufficient data (DD) category due to insufficient knowledge. More information of the Danish Redlist can be found here: https://ecos.au.dk/forskningraadgivning/temasider/redlistframe

Conclusion for hedgerows and smaller wood lots: On basis of a study of 8 sample areas across Denmark it is concluded that average field size has grown between 1954 and 2015 and that the edge to field ratio has decreased. It is also found that since 1990 an increase in the small biotopes area has happened, though biologists express the concern that the quality of the new biotopes is not at the same level as the former meadows and pastures. Biodiversity is assessed on basis of a report from Aarhus University, where authors assess the development in biodiversity represented by 171 indicators for species, habitats and processes in 9 Danish ecosystems. The analyses show that there is a steady decline for half of the indicators, while there is only progress or stable development for 12% of the indicators. For the rest, the development is unknown. Concerning the biodiversity importance of hedgerows and smaller woodlots in Denmark it is concluded that hedgerows have national scale importance for red listed species and local importance for important flora and fauna – both hedges that are isolated in agricultural land and hedges that are connected to forests are of great importance for biodiversity at the landscape level. According to the Danish Redlist endangered species that are classified as critically endangered (CR), endangered (EN) or vulnerable (VU) correspond to 17.3% of the assessed species. DOF Birdlife have pinpointed some of the Redlist categorized "threatened" and "vulnerable" bird species which have habitat in hedgerows and small woodlots. On this basis the indicator is assessed as specified risk.

Analysis – landscape areas, Nature conservation.

These areas are widely found in the landscape and can be well described and categorized according to the nature types defined by the Nature Protection Act.

Rules at play

The current rules at play for nature conservation areas are as follows in terms of approvals etc:

- If the site is part of a Nature Protection Act § 3 area or should be considered as such a nature type, it has to be considered if the biomass production will lead to a change in status of the nature type of the area. The municipality defines if the biomass production will lead to a change in status of the nature type considered.
- The Nature Protection Act provides the following size limits according to Guidance on § 3 protected nature types of the Nature Protection Act. (19.12.2019):
  - o Common limits: The size limits for the protected nature types are set to a common minimum limit of 2500 m2 contiguous area for all the protected nature types, except for lakes, where the size limit is 100 m2. The protected watercourses have been designated as protected by the Minister of the Environment following a recommendation from the former county councils or since 2007 from the municipal council.
  - o Mosaic rules: Lakes less than 100 m2 are protected when they are located in one of the protected nature types of a total area of 2500 m2 and above. The lake will be protected as an integral part of the area. In addition, lakes less than 100 m2 are protected when they form part of a protected watercourse.
  - o Small biotopes smaller than 2,500 m2 are also covered by the protection scheme if they are adjacent to or form part of areas with other protected nature types, and the total area is 2,500 m2 or more, cf. the "mosaic provision" in § 3 of the Act, 2 paragraph. The nature type bogs and the like are also protected, even if they do not meet the size requirement of 2500 m2, if they are in connection with a protected lake or a protected watercourse.
  - o Regarding the protection of small biotopes in international protection areas and on areas subject to forest protected by the Forest Act, please also refer to sections 4.3 and 5.1 of the Act.
- According to the Handbook section 6.1.1, the requirement for re-establishment can be waived if there is a written assessment that shows that permanent clearing of the stand is in favour of nature and biodiversity rather than re-establishment.

Findings related to threats and impact

Most areas are registered and protected under the Nature Protection Act, but some are also protected by site conservations, Natura 2000 areas and by the order on the protection of certain animal and plant species and the care of injured game.

Nature conservation areas can both "grow into" and "grow out of" protection according to Section 3 of the Act (Watercourses are subject to special rules and cannot "grow in and out" of protection; they are statically designated unless changes are made by the water authority). The fact that nature types can grow into and out of protection is a recognition of nature's dynamics, as the law protects lakes, marshes, meadows, etc. that have existed at all times and meet the law's definitions thereof. It is therefore the time when intervention is desired in an area that is decisive for the assessment of whether it is a protected area. The protection by the law is not conditional to or dependent on any prior registration, decision or permission. Protection begins immediately when there is, or has arisen, a protected nature type.

The assessment of the character of the area should be based on the municipality's indicative registration, which is continuously maintained. The registration is precisely indicative only. The decisive factor is whether the area at the time of the intervention actually meets the biological criteria for being a protected nature type. In summary, the protection states that no change to the nature type is allowed, unless the landowner has received exemption from the authorities. Exemptions are only given if the change causes an improvement to the nature type.

Protection applies where these natural types occur, and they must meet a minimum area requirement to be protected (Nature Protection Act § 3 section 1 and 2). For example, areas must be at least 2,500 m² for most natural types, while lakes are protected if they are a minimum of 100 m². Areas below the size limits may

as mentioned in 2.1.1 by Ejrnæs et. al., (2021) contain unidentified biotopes.

In order to assess compliance with the Danish Nature Protection Act it has not been possible to find recent statistics. Data has been searched from Nævnenes hus (2024) and Retsinformation (2019) which presents thorough guidelines and court cases to the Nature Protection Act. However, older data from 2016 exists on administration practise of the Nature Protection Act § 3. The following summary exists: The most frequently applied for "change of status" in 2016 is a permit to empty/purify a water hole/lake, which amounts to approx. 31% of dispensation applications, followed by permission to excavate or expand a lake, which makes up 17% of applications. Other frequently requested "change of status" are the establishment of technical facilities, the establishment of road facilities (including both roads, paths and bridges), the establishment of buildings, and nature care measures such as clearing/mowing/pruning.

News feed has been reviewed, the following cases was found: Stort naturområde jævnet med jorden (2023); Hjemsted for flagermus er fældet ulovligt (2023).

Further on 27th of June 2023 an interview with Lars Skovmøller from the Ministry of Environment (authority on EUTR) was conducted.

On basis of the above, it is estimated that about 5-6 cases per year of illegal cuttings in the landscape related to the Nature Protection Act § 3 or the Watercourse Act are handled by the Ministry plus cases handled directly by the municipalities. Further the working body is aware of feedback from stakeholder consultations observed from municipalities during the past years which indicate that cases of damage to nature conservation areas occur for a variety of reasons.

Conclusion for Nature Conservation areas: It is concluded that since nature conservation areas "grow into" and "out of" protection there is risk of wrongly assessing if the harvest of biomass will lead to a change in status on nature conservation and therefore specified risk for threats to and impacts on the key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity is assessed for Nature Conservation areas. Additionally small unidentified biotopes not covered by the Nature Protection Act mentioned in 2.1.1 (Ejrnæs et. al., 2021), are considered at risk and therefore specified risk is also raised on this basis.

Analysis woody residues and primary agricultural production site.

Christmas tree plantations on arable land typically consist of monocultures within a plantation covering an age class distribution from 1 to 12 years. The plantations are typically from 5 hectares and up with the largest professional producers having 500+ hectares distributed amongst several plantations. In general, the plantations are intensively managed and only the occasional existing lake or burial mound is protected inside the plantation. The trees never get very old, and there is a much higher use of chemicals compared to ordinary forest management. In addition, there is no natural ecosystems. Around 80% of Danish Christmas trees are grown on agricultural land and the remaining 20% are grown in forests.

On basis of the above-mentioned, low risk is considered for threats and impacts on HCV´s. This is supported by the Danish Society for Nature Conservation who do not categorize Christmas tree plantations as nature (Danish society for Nature Conservation about Christmas trees, 2023).

Orchards in Denmark are primarily consisting of apple, pear and cherry trees (Danmarks Statistik, 2024). According to The European Forum on Nature Conservation and Pastoralism, the presence of High Nature Values in orchards depends particularly on the presence of large, old trees and a (semi-)permanent unsown understory which may indicate HNV farmland (High Nature Value Farming Indicators (09.04.2024). In a Danish context apple, pear and cherry trees have a rotation age of about 15-30 years (Copenhagen University, 2024): It is considered that this fairly short rotation age does not give the trees a cultural value like for instance old olive trees does in a South European context, and therefore no HNV is considered linked to the age of the trees. However, it has been considered if the orchards could be important as semi-natural habitat with importance for pollinating insects like bumblebees. 24% of European bumblebee species are threatened with extinction according to an IUCN study from 2014 (IUCN, 2014). Contradictory, the use of pesticides leads to the conclusion that orchards do not play a significant

role as a semi-natural habitat, as pollination depends on surrounding habitats and therefore low risk is assessed for threats and impact on HCV´s.

Analysis energy crops

Woody energy crops, short rotation coppice is generally grown on agricultural land with duty to harvest willow at least every 10th year and poplar at least every 15th year according to the Agricultural Act (Bekendtgørelse nr. 1236 (24.11.2017) and Clearing Duty (09.04.2024)). The Danish Energy Agency has assessed that poplar species on agricultural land in Denmark can be considered an energy crop from agricultural areas up to and including the age of 20 years from planting or latest cutting (Danish Energy Agency, 2022a).

The Danish Tax authorities consider the cultivation of energy willow and poplar as agricultural production, and under the Danish Agency for Agriculture there is a requirement that you must keep your lowland forest and perennial energy crops (willow/poplar) in good plantation condition, and you must harvest regularly. Making requirements for the operation of energy willow/poplar in addition to what is stated in the directive/order may be in direct conflict with the requirements and guidelines set for such plantations and must be expected to have a decisive negative effect on the operation (SKAT, 2014).

The mapping of potential and barrier of short rotation willow and poplar was done in a study by Agrotech for the Energy Agency in 2015. In the study it was found that the number of birds and bird species increases on areas planted with willow and poplar compared to areas with conventional agricultural land. The highest bird diversity is found in 2–5-year-old cultures. Finally, it was found that willow and poplar can improve the living conditions for bees. Willow in particular can be an important source of pollen in the early spring. Poplar, on the other hand, is an important source of propolis that bees obtain from shoots and flower buds. Bees use propolis as an antiseptic material in the hive.

According to Reddersen et. al. (2001) the gain for bird fauna by establishing short rotation willow is moderate in terms of species, species richness and densities.

According to Reddersen & Petersen (2004), the bird species diversity is not high and the species composition is not particularly characteristic but is a mixture of some of the most common bird species of the surrounding biotope types, e.g. skylark, pheasant and warbler.

According to an interview with an expert from DOF Birdlife on the 28th of February 2024, the findings of Reddersen et. al. (2001) and Reddersen & Petersen (2004) are correct and there are limited chances of identifying bird species of high conservation value (HCV) pertaining to biodiversity in areas of short rotation energy crops.

It is concluded that the main taxa to consider for identification of existence of HCV in energy crops are bird species. Considering different bird species, it is concluded that species diversity is not high, the species composition is not particularly characteristic but is a mixture of some of the most common bird species of the surrounding biotope types, e.g. skylark, pheasant and warbler, and on this basis, low risk is assessed for identification of HCV´s in energy crop fields.

Enforcement and monitoring

The Danish Energy Agency enforces regulations of the Handbook on Executive Order on sustainable biomass. The municipalities are the authorities on Natura 2000 areas outside the forests, and municipalities are in charge of updating and maintaining the indicative Nature Protection Act § 3 registration. Municipalities further supervise compliance with conservation regulations on protected areas, except for areas owned by the Ministry of Environment. Landowners wishing to make changes to a protected natural area must apply for a dispensation from the municipality.

Risk conclusion and justification

Landscape areas

	Conclusion for hedgerows and smaller wood lots: On basis of a study of 8 sample areas across Denmark it is concluded that average field size has grown between 1954 and 2015 and that the edge to field ratio has decreased. It is also found that since 1990 an increase in the small biotopes area has happened, though biologists express the concern that the quality of the new biotopes is not at the same level as the former meadows and pastures. Biodiversity is assessed on basis of a report from Aarhus University, where authors assess the development in biodiversity represented by 171 indicators for species, habitats and processes in 9 Danish ecosystems. The analyses show that there is a steady decline for half of the indicators, while there is only progress or stable development for 12% of the indicators. For the rest, the development is unknown. Concerning the biodiversity importance of hedgerows and smaller woodlots in Denmark it is concluded that hedgerows have national scale importance for red listed species and local importance for important flora and fauna – both hedges that are isolated in agricultural land and hedges that are connected to forests are of great importance for biodiversity at the landscape level. According to the Danish Redlist endangered species that are classified as critically endangered (CR), endangered (EN) or vulnerable (VU) correspond to 17.3% of the assessed species. DOF Birdlife have pinpointed some of the Redlist categorized "threatened" and "vulnerable" bird species which have habitat in hedgerows and small woodlots. On this basis the indicator for the sub scope is assessed as specified risk. Nature conservation areas it is concluded that since nature conservation areas "grow into" and "out of" protection there is risk of wrongly assessing if the harvest of biomass will lead to a change in status according to the Nature Protection Act and therefore specified risk for threats to and impacts on key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity is assessed for Nature Conservation areas. Additionally small (not covered by the area requirement) unidentified biotopes not covered by the Nature Protection Act mentioned in 2.1.1 (Ejrnæs et. al., 2021), are considered at risk and therefore specified risk is also raised on this basis. Woody residues and primary agricultural production site. On basis of the general use of monocultures, exotics in Christmas tree plantations and use of pesticides on agricultural land in both Christmas tree plantations and fruit orchards the risk is considered to be low for existence and identification of key species, habitats, ecosystems and areas of high conservation value and therefore low risk is assessed for threats to and impacts on key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base. Energy crops It is concluded that the main taxa to consider for identification of existence of HCV in energy crops are bird species. Considering different bird species it is concluded that species diversity is not high, the species composition is not particularly characteristic, but is a mixture of some of the most common bird species of the surrounding biotope types, e.g. skylark, pheasant and warbler, and on this basis there is a low risk of identification of HCV´s in energy crops and therefore low risk is assessed for threats to and impacts on key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base.

Supply Base Verifiers	• Summaries of judgements and appeal board decisions • Publicly available information on the protection of the values identified. • Regional Best Management Practices • Standard Operating Procedures • Codes of Practice • Records of BP field inspections • Monitoring records • Interviews with staff • Regional, publicly available data from credible third parties • The existence of a strong legal framework in the region

Evidence reviewed	• Danish Energy Agency (2022a). Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål) (31.05.2023). • https://ens.dk/sites/ens.dk/files/OlieGas/haandbogen.pdf • Batáry, P, Fischer, J., Báldi, A., Crist, T.O. & Tscharntke, T. (2011) Does habitat heterogeneity increase farmland biodiversity? Frontiers in Ecology and the Environment, 9, 152-153. • Batáry, P., Kovács-Hostyánszki, A., Fischer, C., Tscharntke, T. & Holzs, A. 2012. Contrasting effect of isolation of hedges from forests on farmland vs. woodland birds. Community Ecology, 13, 155-161 • Batáry P, Matthiesen T, Tscharntke T (2010) Landscape-moderated importance of hedges in conserving farmland bird diversity of organic vs. conventional croplands and grasslands. Biological Conservation, 143, 2020-2027 • Bekendtgørelse nr. 1236 (24.11.2017). Om jordressourcens anvendelse til dyrkning og natur (jordressourcebekendtgørelsen) • Clearing Duty (09.04.2024) https://mst.dk/borger/natur-og-fritid/natur-og-biodiversitet/naturplejeguiden/naturplejeguiden-platformen/rydningspligt • Copenhagen University (15.04.2024): Personal communication with Maren Korsgaard, Depart of Plant and Environmental Science. • Vejledning om jordressourcens anvendelse til dyrkning og natur 2023 (01.02.2023) https://www.retsinformation.dk/eli/retsinfo/2023/9266 • Ministry of Environment: "The Digital Nature Map 2021 incl. the Biodiversity map" (De Digitale Naturkort 2021 inkl. Biodiversitetskortet) (30.10.2023). http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk • Danish society for Nature Conservation about earth dykes and living hedgerows 26.10.2023): https://www.dn.dk/vi-arbejder-for/biodiversitet/jorddiger-og-levende-hegn/ • EU's Habitat Directive Annex IV https://mst.dk/natur-vand/natur/national-naturbeskyttelse/naturpleje/naturplejeguiden/bilag-iv-arter/ • Tybirk K. et. al (2001): Botanical conservation values in Danish hedgerows. International Association for Landscape Ecology (IALE(UK)) • Guidance on § 3 protected nature types of the Nature Protection Act (27.10.2023) https://www2.mst.dk/Udgiv/publikationer/2019/12/978-87-7038-139-0.pdf • Stort naturområde jævnet med jorden: 'Det er uden for kategori'. Large nature area razed to the ground: 'It's out of category'https://www.dr.dk/nyheder/regionale/trekanten/stort-naturomraade-jaevnet-med-jorden-det-er-uden-kategori • Hjemsted for flagermus er fældet ulovligt - nu skal der plantes nyt. The home of bats has been felled illegally - now a new one must be planted (13.08.2023) https://www.tv2ostjylland.dk/silkeborg/hjemsted-for-flagermus-er-faeldet-ulovligt-nu-skal-der-plantes-nyt • High Nature Value Farming Indicators European Forum on Nature Conservation and Pastoralism – What we do (efncp.org) • Managing Traditional Orchards… for bumblebees (30.10.2023) https://www.bumblebeeconservation.org/wp-content/uploads/2017/08/BBCT_Land_Factsheet_8_Managing_traditional_orchards.pdf • European Forum on Nature Conservation and Pastoralism European Forum on Nature Conservation and Pastoralism – What we do (efncp.org)

- IUCN (2014). (26.10.2023) Bumblebees threatened in Denmark Bad news for Europe's bumblebees | IUCN https://www.iucn.org/content/bad-news-europes-bumblebees
- Danish society for Nature Conservation about Christmas trees (26.10.2023). https://www.dn.dk/vi-arbejder-for/skov/produktion-af-trae/juletraeer/
- The mapping of potential and barriers of short rotation willow https://ens.dk/sites/ens.dk/files/Bioenergi/pilerapport_til_ens.pdf
- Danish society for Nature Conservation about willow for energy production, Danmarks Naturfredningsforening om energipil (26.10.2023). https://aktiv.dn.dk/media/4796/energipolitik_net.pdf
- Graham, L., Gaulton R., Gerard F., Staley J.T. (2018): "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes". School of Engineering, Newcastle University UK and NERC Centre for Ecology and Hydrology, Maclean Building, Oxfordshire UK. Elsevier, Biological Conservation 220 (2018) 122–131
- Beier, C. (red.), Caspersen, O. H., & Karlsson Nyed, P. (2017). Udvikling i Agerlandet 1954-2025: Kortlægning af Markstørrelse, markveje og småbiotoper. (1 udg.). IGN Rapport Nr. Januar 2017
- Ejrnæs, R., Nygaard, B., Kjær, C., Baattrup-Pedersen, A., Brunbjerg, A. K., Clausen, K., Fløjgaard, C., Hansen, J.L.S., Hansen, M.D.D., Holm, T.E., Johnsen, T.J., Johansson, L.S., Moeslund, J.E., Sterup. J., Hansen R.R., Strandberg, B., Søndergaard, M. & Wiberg-Larsen, P. 2021. Danmarks biodiversitet 2020 – Tilstand og udvikling. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 270 s. - Videnskabelig rapport nr. 465. http://dce2.au.dk/pub/SR465.pdf
- Miljøministeriet, miljøstyrelsen, 2024: (20.03.2024) Link "Ophørte tilskudsordninger": https://mst.dk/erhverv/tilskud-miljoeviden-og-data/tilskudsordninger/tilskud-til-skov-og-naturprojekter/ophoerte-tilskudsordninger
- Ministry of Environment: "Ophørte tilskudsordninger til skov- og natur" 2024. https://mst.dk/natur-vand/natur/tilskud-til-skov-og-naturprojekter/ophoerte-tilskudsordninger-til-skov-og-natur/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Specified risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.1.3	**Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be maintained or enhanced.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis

Analysis – landscape

Hedgerows and smaller woodlots

The assessment of whether, key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base are maintained or enhanced, is done primarily on basis of the following references as discussed in indicator 2.1.2:

- The "Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" from 2021.
- "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes" (Graham et. al., 2018).
- "Botanical Conservation Values in Danish Hedgerows" (Tybirk et. al., 2001),
- Interview with a Professor at Aarhus University, Department of Ecoscience – Biodiversity and Conservation (2023) on August 30th, 2023
- Interview with a bird expert from DOF Birdlife on 28 February 2024
- EU regulations under the CAP.
- Hedgerows and smaller woodlots shall according to the "Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" (2021) section 6.1.1 paragraph 3, be reviewed by an expert of biodiversity and suitable habitats prior to any harvest of biomass. This review shall according to section 6.1.1. paragraph 4 be: "documented in maps and guides that are used by relevant parties and which ensure that the identified values are protected" It is further written in 6.1.1. paragraph 7 that: "If logging areas are of types where it is possible without a field review, though with great certainty, to assess that they will not contain high biodiversity or other of the values mentioned above this can be justified in writing, and the field review can be omitted". Possible sources are mentioned after section 6.1.1. paragraph 7. The Working Body has not been able to gather data on the compliance level of particularly section 6.1.1. paragraph 7, therefore, on basis of the legislation being quite new and thereby law enforcement also in an early stage, low risk cannot be assessed.

For the assessment of maintenance and enhancement inputs in a Danish context the Working Body has studied the article "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes" (Graham et. al.,2018). Below are selected outputs from the article which have been considered for different taxa and for synergies and conflicts between taxa.

Mammals: Bats are known to fly along hedgerows. Linear features do not only function as commuting routes, but also provide benefits to bats independent of this primary function, although the effect of local habitat structural condition is not much studied. Those bats with particular short range echo location calls rely on linear landscape elements for orientation within a landscape. This suggests that connectivity and integrity of hedgerows is important for bats and that complete removal of a hedgerow, through coppice management may be disruptive. Badgers site their sets and latrines in hedgerows (preferring dense basal and shrub vegetation) and use the hedgerows for overground movement around agricultural landscapes. European hedgehogs are in decline in many Western European countries. Their choice of edge habitat may be related to predator avoidance, particularly by badgers. Connectivity and integrity of hedgerows across the landscape is important for the dispersal of this mobile species. Mice: Hedgerow width and length increase the total habitat area indirectly increasing microhabitat complexity and refuge from predators for different species of mice. Small animals avoid hedgerows with large gaps (>3m).

Ground vegetation: Habitat quality will differ considerably according to structural characteristic along a hedge length. Structurally diverse hedgerows are expected to support greater plant species richness. When hedgerows are allowed to mature, native shrubs naturally become established. A well-developed shrub layer can physically shelter the herbaceous understory. Such an effect is likely to favour shade loving perennials typical of woodland. Dense hedgerows may also limit drift of agrichemicals into hedgerow basal flora.

Birds: Seven species are considered hedgerow specialists, including Prunella modularis (dunnock), Sylvia communis (whitethroat), Sylvia curruca (lesser whitethroat), Linaria cannabina (linnet), Carduelis carduelis (goldfinch), Chloris chloris (greenfinch) and Emberiza citrinella (yellow hammer). Although each bird species has its own preferences, many passerine species, which are generally associated with woodland, prefer to nest in large hedgerows. Hedgerows with greater berry abundance will provide better food resources for birds. Species composition and age structure of the hedgerow is also important for bird breeding success. Dead and decaying woody vegetation can provide nesting sites for arboreal nesting species.

Invertebrates: The majority of species which occur within the hedgerow environment are invertebrates, including members of the taxonomic groups Araneae (spiders), Coleoptera (beetles), Diptera (true flies), Hemiptera (true bugs), Lepidoptera (butterflies and moths) and Hymenoptera (bees, wasps, ants). Many invertebrate groups benefit from mature growth hedgerows. They provide a range of flowers and cavity nesting spaces for a variety of pollinators. They also offer a variety of ageing and dead plant material beneficial to detritivores and hole boring invertebrates.

Synergies and conflicts between taxa: Several structural characteristics: height, width, woody biomass, structural complexity and layering, foliar quantity, quality, and gappiness, are all identified in the literature as key condition indicators of the presence, abundance, survival, or fecundity of a range of farmland taxa. When considering the role of hedgerow structural condition in supporting biodiversity, in general, having and maintaining larger hedgerows through rotational cutting (performed less frequently than annually), will benefit wildlife by providing a greater habitat area linked to the presence of small mammals, bats and birds. Despite being able to make some generalizations, species and groups of taxa have heterogeneous requirements for hedgerows with differing structural conditions and responses to management. Hedgerow height is less beneficial to herbaceous plants, sometimes causing a shading effect, similarly tall hedgerows are not the preferred habitat for some farmland birds.

For maintenance and enhancement the Professor mentions that hedgerows could be prioritized according to their biodiversity importance as follows:

1. Major importance hedgerows (something special is needed): Hedgerows or sections of hedgerows with old native tree species with cracks and holes or hedgerows of mainly native species on poor sandy soils (like in Western Jutland) which are important to protect as these provide highly important diversity in a landscape otherwise deserted for biodiversity elements.

2. Medium importance hedgerows: Hedgerows consisting of native tree species evenly distributed in lines in the landscape and
3. Minor importance hedgerows consisting of exotic species.

Regarding point 1) and 2) the Professor mentions that continuity (in time and space) of trees and bushes is of high importance as the coppicing or clear felling of an entire hedgerow completely removes the habitat and, on this basis, he advocates for a strategy where e.g., a minimum of 25% of trees/shrubs in a hedgerow are left untouched.

Interviews with DOF Birdlife and WWF indicated several factors leading to specified risk for maintenance and enhancement of key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity, as follows:

- The continuity of hedgerows isn´t regulated, the organizations support the strategy of leaving 25-50% of hedgerows untouched.
- No regulations exist for protection of very old and older trees and the habitat within a 10m range of particularly very old trees.
- Protection plans are non-existing for field edges

• Conclusion: Hedgerows and smaller woodlots shall according to the "Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" (2021) section 6.1.1 paragraph 3, be reviewed by an expert of biodiversity and suitable habitats prior to any harvest of biomass. It is further stated in 6.1.1. paragraph 7 that: "If logging areas are of types where it is possible without a field review, though with great certainty, to assess that they will not contain high biodiversity or other of the values mentioned above this can be justified in writing, and the field review can be omitted". The Working Body has not been able to gather data on the compliance level of particularly section 6.1.1. paragraph 7, therefore, on basis of the legislation being quite new and thereby law enforcement also in an early stage, low risk cannot be assessed. Additionally stakeholders and researchers raise concerns that maintenance and enhancement of hedgerows and smaller woodlots shall include firm strategies of leaving some percentage or sections untouched, field edges (corridors) shall be protected and very old and older trees must be protected – also leading to specified risk.

<u>Nature conservation areas</u>

Nature conservation areas can both "grow into" and "grow out of" protection according to Section 3 of the Nature Protection Act. The fact that nature types can grow into and out of protection is a recognition of nature's dynamics, as the law protects lakes, marshes, meadows, etc. that have existed at all times and meet the law's definitions thereof. It is therefore the time when intervention is desired in an area that is decisive for the assessment of whether it is a protected area. The protection by the law is not conditional to or dependent on any prior registration, decision, or permission. Protection begins immediately when there is, or has arisen, a protected nature type (Nature Protection Act (28.06.2024)).

The assessment of the character of the area should be based on the municipality's indicative registration, which is continuously maintained. The registration is precisely indicative only. The decisive factor is whether the area at the time of the intervention actually meets the biological criteria for being a protected nature type. In summary, the protection states that no change to the nature type is allowed, unless the landowner has received an exemption from the authorities. Exemptions are only given if the change causes an improvement to the nature type Guidance on § 3 protected nature types of the Nature Protection Act. (19.12.2019).

In order to assess compliance with the Danish Nature Protection Act it has not been possible to find recent statistics. Data has been searched from Nævnenes hus (2024) and Retsinformation (2019) which presents thorough guidelines and court cases to the Nature Protection Act. However, older data from 2016 exists on administration practise of the Nature Protection Act § 3. The following summary exists: The most frequently applied for "change of status" in 2016 is a permit to empty/purify a water hole/lake, which amounts to approx. 31% of dispensation applications, followed by permission to excavate or expand a lake, which makes up 17% of applications. Other frequently requested "change of status" are the establishment of technical facilities, the establishment of road facilities (including both roads, paths and bridges), the establishment of buildings, and nature care measures such as clearing/mowing/pruning. News feed has been reviewed (Stort naturområde jævnet med jorden (2023); Hjemsted for flagermus er fældet ulovligt (2023)). Further, from interview with Lars Skovmøller on 27th of June 2023 from the Ministry of Environment (authority on EUTR) it is assessed that about

5-6 cases per year of illegal cuttings in the landscape related to the Nature Protection Act § 3 or the Watercourse Act are handled by the Ministry plus cases handled directly by the municipalities. Further, the working body is aware of feedback from stakeholder consultations observed from municipalities during the past years which indicate that cases of damage to nature conservation areas occur for a variety of reasons.
Conclusively, the risk of misinterpretation of when an area "grow into" or "grow out of" § 3 protected nature leads to the assessment of specified risk. Additionally, as mentioned in indicator 2.1.1. and 2.1.2 the small unidentified biotopes not covered by the Nature Protection Act, see size limits in 2.1.2 (Ejrnæs et. al., 2021) are considered specified risk.
Specific clarification regarding clearance obligation: The clearance obligation means that in areas with the status of agricultural land, growth of trees and bushes must be cleared at least every 5 years. From 2023, however, small biotopes of up to 1 ha are exempt from the clearing obligation.
Areas subject to the clearing obligation must be maintained by e.g. mowing or grazing as needed. This means that growth of self-sown trees and shrubs that are more than 5 years old must be removed. This does not apply to trees and bushes present before September 1st, 2004. The clearing obligation is intended as a basic and simple care obligation. The clearing must be possible to be carried out using commonly available agricultural machinery for removing trees and bushes. Therefore, there are also certain exceptions to the clearing duty if it will be disproportionately burdensome for the individual lot owner. (Bekendtgørelse nr. 1236 (24.11.2017) and Clearing Duty (09.04.2024)).
Analysis woody residues and primary agricultural production site.
This indicator is assessed as low risk, see 2.1.1 and 2.1.2 as it is assessed that there are no potential species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in general and related to maintaining a diversity of flora and fauna in the landscape and at the stand level which the agricultural origins can provide.
Analysis Wood energy crops
This indicator is assessed as low risk, see 2.1.1 and 2.1.2 as it is assessed that there are no potential species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in general and related to maintaining a diversity of flora and fauna in the landscape and at the stand level which the energy crops origins can provide.

Enforcement and monitoring

The Danish Energy Agency enforces regulations of the Handbook on Executive Order on sustainable biomass. The municipalities are the authorities on Natura 2000 areas outside the forests, and municipalities are in charge of updating and maintaining the indicative Nature Protection Act § 3 registration. Municipalities further supervise compliance with conservation regulations on protected areas, except for areas owned by the Ministry of Environment. Landowners wishing to make changes to a protected natural area must apply for a dispensation from the municipality. Clearance obligation rules are enforced by the Danish Agricultural Agency.

Risk Conclusion and justification

Landscape and smaller wood lots
Hedgerows and smaller woodlots shall according to the "Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" (2021) section 6.1.1 paragraph 3, be reviewed by an expert of biodiversity and suitable habitats prior to any harvest of biomass. This review shall according to section 6.1.1. paragraph 4 be: "documented in maps and guides that are used by relevant parties and which ensure that the identified values are protected" assure protection does not focus on permanent maintenance and enhancement plans for hedgerows and smaller woodlots but is a review of the site at a given point in time. Therefore, a general lack of maintenance and enhancement plans for biodiversity assuring the continuity of hedgerows, the biodiversity in old and

	very old trees + adjacent shrubs/trees, the biodiversity of different taxa in hedgerows and smaller woodlots, the systematic identification of red listed species (not only to be identified before the harvest of biomass) and the existence of protection plans for field edges - lead to the assessment of specified risk. Nature conservation areas The risk of misinterpretation of when an area "grow into" or "grow out of" § 3 protected nature leads to specified risk. Additionally, as mentioned in indicator 2.1.1. and 2.1.2 the small unidentified biotopes not covered by Nature Protection Act, see size limits in 2.1.2 (Ejrnæs et. al., 2021) are considered specified risk. A guideline on clearing obligation on farmlands has been published in 2023. Low risk is considered in relation to this guideline as the farmers are obliged to clear the land at a 5-year interval, which is not considered a sufficient period of time to create habitats which should be protected. Woody residues and primary agricultural production site. This indicator is assessed as low risk, see 2.1.1 and 2.1.2 as it is assessed that there are no potential species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in general and related to maintaining a diversity of flora and fauna in the landscape and at the stand level which the agricultural origins can provide. Woody energy crops This indicator is assessed as low risk, see 2.1.1 and 2.1.2 as it is assessed that there are no potential species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in general and related to maintaining a diversity of flora and fauna in the landscape and at the stand level which the energy crops origins can provide.
Supply Base Verifiers	• Regional Best Management Practices • Supply contracts • Assessment of potential impacts at the operational level and of measures to minimise impacts • Monitoring results • Publicly available information on the protection of the identified values • Applicable legislation and level of enforcement • Regional, publicly available data from a credible third party • Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" (2021) section 6.1.1 paragraph 3

Evidence reviewed	• Danish Energy Agency (2022a). Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål) (31.05.2023). • Danish Energy Agency (2024b). Reporting on reports on sustainability for the consumption of solid biofuels in 2022. (11.09.2024) https://ens.dk/sites/ens.dk/files/Bioenergi/afrapportering_vedr._indberetninger_om_baeredygtighed_for_forbruget_af_faste_biobraendsler_i_2022.pdf • https://ens.dk/sites/ens.dk/files/OlieGas/haandbogen.pdf • Bekendtgørelse nr. 1236 (24.11.2017). Om jordressourcens anvendelse til dyrkning og natur (jordressourcebekendtgørelsen) • Clearing Duty (09.04.2024) https://mst.dk/borger/natur-og-fritid/natur-og-biodiversitet/naturplejeguiden/naturplejeguiden-platformen/rydningspligt • Ministry of Food Agriculture and Fisheries of Denmark: "If you want to prune trees or shrubs" on mark block areas (30.10.2023). • https://lbst.dk/nyheder/nyhed/nyhed/hvis-du-vil-beskaere-traeer-eller-buskads#:~:text=Hvis%20du%20fremover%20vil%20besk%C3%A6re%20tr%C3%A6er%20og%20buskads,til%2031.%20juli%20af%20hensyn%20til%20ynglende%20fugle. • Graham, L., Gaulton R., Gerard F., Staley J.T. (2018): "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes". School of Engineering, Newcastle University UK and NERC Centre for Ecology and Hydrology, Maclean Building, Oxfordshire UK. Elsevier, Biological Conservation 220 (2018) 122–131 • Buttenschøn, R. M., Gottlieb, L., & Byriel, D. B. (2018). Naturplejeportalen - Rapportudgave. Københavns Universitet. IGN Rapport • Forest Act (26.05.2023). https://www.retsinformation.dk/eli/lta/2023/690 • Guidance on § 3 protected nature types of the Nature Protection Act. (19.12.2019). https://www.retsinformation.dk/eli/retsinfo/2019/10226 • Ministry of Environment: "Danmarks Miljøportal" (30.10.2023). http://arealinformation.miljoeportal.dk/distribution/ • Ministry of Food Agriculture and Fisheries of Denmark: "If you want to prune trees or shrubs" on mark block areas (30.10.2023). • Nature Protection Act (28.06.2024). https://www.retsinformation.dk/eli/lta/2024/927 • Danish Environmental Impact Assessment Legislation (lov om miljøvurdering af planer og programmer og af konkrete projekter (VVM). (03.01.2023). https://www.retsinformation.dk/eli/lta/2023/4 • Ministry of Environment: "Kortlægning af naturmæssigt særlig værdifuld skov - § 25 skov" (30.10.2023). https://mst.dk/erhverv/skovbrug/naturmaessigt-saerlig-vaerdifuld-skov-25-skov/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Specified risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

Criterion 2.2 – Ecosystem productivity, functions, and services are maintained or enhanced

2.2.1 **Feedstock shall not be sourced from land that had one of the following statuses in January 2008 and no longer has that status due to land conversion: a. Forests; b. Wetlands; c. Peatlands; d. Highly biodiverse grasslands**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis

Analysis of risk of biomass originating from converted forests

The Forest Act protects about 70% of forests in Denmark from being converted to other uses. Article 6 in the Forest Act defines what needs to be taken into consideration to change the status of an area from being protected by the forest act. In general, it is not possible to withdraw an area from protection by the Forest Act and if granted replacement forests have to be established. By 2021 the Handbook identified the risk that about 30% of Danish forests which aren´t protected by the Forest Act will not be protected by a legal obligation to become replanted if used in any way as biofuel (loss of carbon). Mitigation measures were implemented. However, between 2008 and 2021 - for about 30% of forest not protected by the Forest Act – the only Act which prevented conversion was The Act on Environmental Assessment of plans and programs and of specific projects. This act does not protect conversion on every parcel in all kinds of forests as the Forest Act does. This does not lead to low risk for conversion without further review of data, see below. From the table 8.2 below it can be seen that the total areas of forest + area of forest covered by the forest act has been steadily growing since 2008.

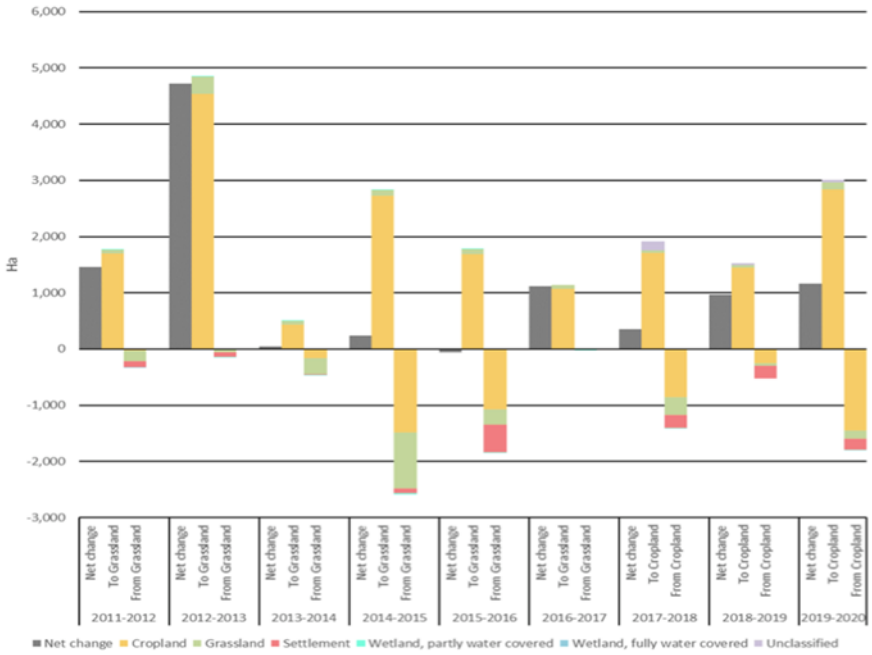
Table 8.2 Forest area data for selected years between 2008 and 2021 (Based on data from NFI from 2008 to 2021)

Year	total forest area (ha)	area protected by forest act (ha)
2021	640.835	445.945
2020	632.711	439.248
2019	633.353	439.945
2018	627.338	436.133
2017	625.603	436.779
2011	600.427	433.082 (first real specific data on size)
2009	579.700	90% estimated to be covered by forest act = 521.730
2008	570.801	

Gregor Levin and Steen Gyldenkærne (2022), did a study as Denmark according to the Kyoto Protocol is obliged to document sequestration and emission of carbon dioxide from land use and land cover and changes in the following categories: Settlement, cropland, grassland, wetland, which is fully water covered, wetland, which is partly water covered, forestland and other land. The results from this study are used in the present risk assessment.

Between 2011 and 2020, annual net-changes for forestland were both positive and negative, see figure 8.1. (example in 2011-12: a gain in forest from cropland and grassland, and some smaller forest area converted to settlement and grassland; example in 2014-15 a gain in forest from cropland and grassland, and some forest area converted to cropland, grassland and settlement). Gains in forestland are mainly due to conversion from cropland and to a minor degree due to conversion from grassland and from unclassified land. Losses in forestland are mainly due to conversion to cropland and to grassland and to a minor degree due to conversion to settlement and to wetland, partly water covered.

Figure 8.1 Forestland dynamics. Annual net-changes, gains and losses from 2011 to 2020, according to Gregor Levin and Steen Gyldenkærne (2022)



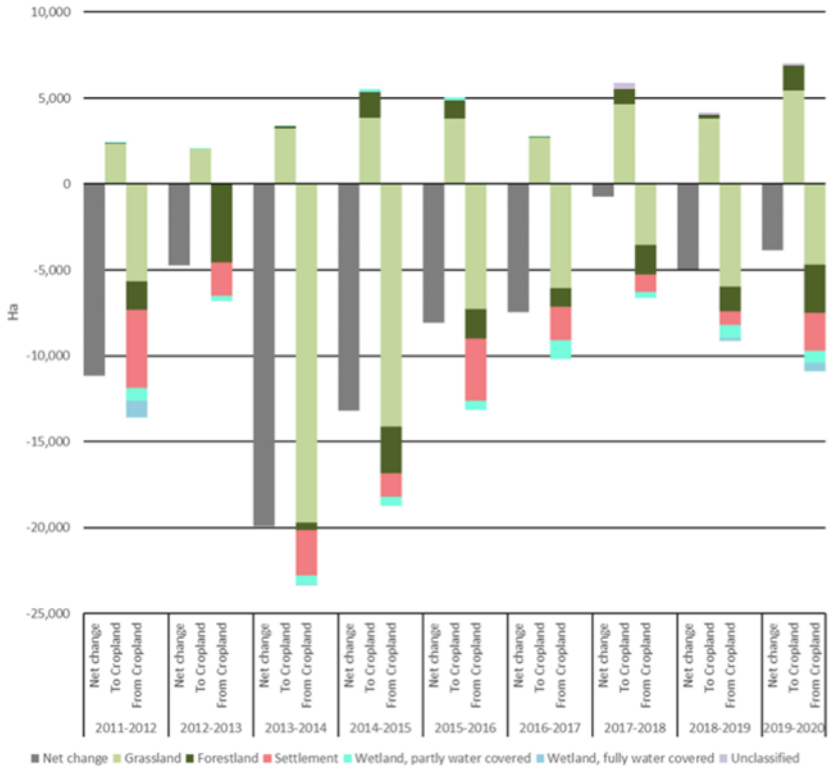
Summaries of the total area and area proportion, which for the period from 2011 to 2020 was mapped as conversion from forestland to either grassland or cropland are as follows. Of the total area of approx. 6,500 hectares, around 4,000 hectares (~62%) were forestland, which was not earlier covered by the field parcel map and thus most probably are the consequence of errors in the forestland layer derived from satellite images. Around 1,100 hectares (~17%) were energy forest (poplar or alder) or Christmas trees while around 2,500 hectares (~38%) were other forestland derived from the field parcel maps. These numbers indicate that, because of the applied data and methodology, the total area of deforestation is substantially overestimated. In order to cover the gap between 2008 and 2011 a study by Gregor Levin et al (2014) was reviewed. Gregor Levin et al (2014) did the first technical documentation for the assessment of land use/cover changes for estimation of carbon dioxide fixation in soil. Due to limited availability of historical spatially explicit information, estimations of change in land use and land cover from 1990 up to 2011 do, to some degree, involve decisions based on expert knowledge. They conclude that deforestation is only taking place in relation to restoration of nature areas (e.g. wetlands) or if new settlements are planned and have to be replaced by afforestation at other locations.

Conclusion: As the conversion of forest to other uses is strictly controlled and as data from Gregor Levin and Steen Gyldenkærne (2022), Gregor Levin et al (2014), NFI and Nord- Larsen et al. (2023) indicate a strong net gain in forest land areas from 2008 to 2020 and the converted forest areas from 2011-2020 (10 years) into crop land or grass land were: i) energy forest (282 ha) ii) Christmas tree areas (848 ha) and iii) other forest land (2.464 ha) it is concluded that in general there is low risk of forest being converted to TOF areas after 2008.

Analysis of risk of biomass originating from converted wetlands

Wetlands in Denmark are in the TOF context protected by the Nature Protection Act § 3, Natura 2000 protections and site conservations and these areas are in general well protected. The conversion of wetlands into any of the TOF areas after 2008 is indirectly analysed by Gregor Levin and Steen Gyldenkærne (2022). Wetland areas have increased on the expense of crop land. However, it can be seen from the figure below that crop land to a minor extend has happened on expense of wetland in 2014/15 and 2015/16.

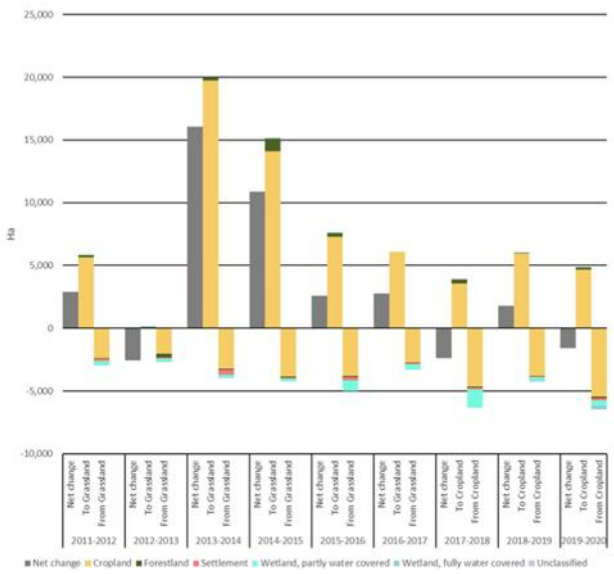
Figure 8.2 Cropland dynamics. Annual net-changes, gains and losses from 2011 to 2020, according to Gregor Levin and Steen Gyldenkærne (2022)



In order to cover the gap between 2008 and 2011 an assessment of land use/cover changes by Gregor Levin et al (2014) was reviewed. There are no indications in the study which lead to the conclusion that wetland areas have been converted to TOF areas. On basis of national legislation and the above-mentioned data the conversion of wetlands into TOF areas after 2008 is considered low risk in Denmark.

Analysis of risk of biomass originating from converted peatlands

	The Climate Council in Denmark estimated by 2018, that Denmark had 170.000 hectare of peatland. According to the Climate Council carbon rich peat soils contribute with more than half of the total emissions related to cultivation of the soil in Denmark, although they only constitute 7 percent of the agricultural area. The climate council further find that the rewetting of the carbon rich soils significantly will reduce Denmark's greenhouse gas emissions. The restoration of and focus on peatlands in Denmark has taken place at least since 2005 when the project "Restoration of raised bogs in Denmark using new methods – a LIFE Nature project" started. Peatlands have been mapped and their extend can be found on area data in Denmark's Environmental portal (Miljøgis) where soils with 6-12% peat and 12+% peat can be found. A source, Koganti et.al (2022), considers that the extend and precision with which peatland have been determined is done with low accuracy in Denmark. Peatlands are however originally formed in wetlands like bogs and wet meadows and since these areas are registered and protected by the Nature Protection Act § 3 since 1992 these are considered low risk in terms of conversion to any of the TOF origins. Analysis of risk of biomass originating from converted highly-biodiverse-grassland Highly biodiverse grassland differs among climatic zones and may include inter alia heaths, pastures, meadows, savannahs, steppes, scrublands, tundra and prairies. For the present TOF context the main conversion to consider is the establishment of hedgerows on highly biodiverse grasslands. The highly biodiverse grassland areas are in Denmark considered as registered as meadow according to the Nature Protection Act, § 3. There is good protection of the areas and in addition the guidelines for hedgerow subsidies clearly states that a buffer zone of 30 meters must be respected. The working group for the TOF RRA have seen examples of highly biodiverse grasslands being planted with smaller woodlots, this is however very rarely happening and therefore does not in itself lead to other than low risk conclusion. According to Gregor Levin and Steen Gyldenkærne (2022), net-changes in grassland were positive over most of the period from 2011 to 2020. Grassland gain was mainly due to conversion from cropland and some conversion from forestland. Grassland loss was mainly due to conversion to cropland and to a minor degree due to conversion to forestland, settlement and wetland, partly water covered. Figure 8.3 Grassland dynamics. Annual net-changes, gains and losses from 2011 to 2020, according to Gregor Levin and Steen Gyldenkærne (2022)



In order to cover the gap between 2008 and 2011 an assessment of land use/cover changes by Gregor Levin et al (2014) was reviewed. There are no indications in the study which lead to a conclusion that grassland has been converted to TOF areas.

On basis of national legislation and the above-mentioned data the conversion of grassland into TOF areas after 2008 is considered low risk in Denmark.

Enforcement and monitoring

The municipalities are the authorities on Natura 2000 areas outside the forests, and municipalities are in charge of updating and maintaining the indicative Nature Protection Act § 3 registration. Municipalities further supervise compliance with conservation regulations on protected areas, except for areas owned by the Ministry of Environment. Landowners wishing to make changes to a protected natural area must apply for a dispensation from the municipality.

Risk conclusion and justification

Based on review of national legislation and analysis of data of annual conversion of forest area, wetland area, peatland area and highly biodiverse grasslands area, the risk of this indicator is assessed as low risk for biomass originating from landscape; woody residues and primary agricultural production site and wood energy crops

Annex 1 Detailed findings for Supply Base Evaluation

Supply Base Verifiers	• National forest inventory • Historical maps • 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 • Expert interviews • Aerial photos are available from 1954, 1995 and later at: http://miljoegis.mim.dk/spatialmap?
Evidence reviewed	• Restoration of raised bogs in Denmark using new methods – a LIFE Nature project Layman's report (27.10.2023) https://naturstyrelsen.dk/media/nst/Attachments/hoejmose_laymans_uk_low1.pdf • Climate Council (26.10.2023): https://klimaraadet.dk/en/analyser/kulstofrige-lavbundsjorder • Mapping Peatlands in Denmark Using Electromagnetic Methods. / Koganti, Triven; Adetsu, Diana Vigah; Andreasen, Frank et al. 2022. Abstract from EGU General Assembly 2022, Vienna, Austria. • FAO. "Definitions Related to Planted Forests" (27.10.2023). http://www.fao.org/docrep/007/ae347e/ae347e02.htm • Forest Act (26.05.2023). https://www.retsinformation.dk/eli/lta/2023/690 • Global Forest Watch. "Country Profile for Denmark" (27.10.2023) https://www.globalforestwatch.org/dashboards/country/DNK/?category=land-cover&map=eyJjYW5Cb3VuZCI6dHJ1ZX0%3D • Nord-Larsen, T., Johannsen, V. K., Riis-Nielsen, T., Thomsen, I. M., Bentsen, N. S., Jørgensen, B. B. (2023). Skovstatistik 2021. Institut for Geovidenskab og Naturforvaltning. 60 s. • Danish Environmental Impact Assessment Legislation (lov om miljøvurdering af planer og programmer og af konkrete projekter (VVM). (03.01.2023). https://www.retsinformation.dk/eli/lta/2023/4 • Nature Protection Act. (28.06.2024). https://www.retsinformation.dk/eli/lta/2024/927 • Danish Energy Agency. Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål). https://ens.dk/sites/ens.dk/files/Bioenergi/db584_haandbog.pdf • Gregor Levin and Steen Gyldenkærne (2022): "Estimating land use/land cover and changes in Denmark" Aarhus University, Department of Environmental Science. https://dce2.au.dk/pub/TR227.pdf • Gregor Levin et al (2014): Estimating land use/land cover and changes in Denmark from 1990 to 2012. Aarhus University, Department of Environmental Science and University of Copenhagen, Department of Geosciences and Natural Resource Management (IGN). https://dce2.au.dk/pub/TR38.pdf • Miljøgis - peatland https://arealdata.miljoeportal.dk/datasets/urn:dmp:ds:tekstur-2014

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.2 **Ecosystems, their health, vitality, functions and services in the Supply Base shall be maintained or enhanced.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Not applicable
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis

Analysis – landscape areas

Hedgerows and smaller woodlots

In general, there is no legal protection nor identification and mapping of key ecosystems and habitats of hedgerows and smaller woodlots and thus assessment of their health, functions, vitality, and services. Some hedgerows and smaller woodlots are however found in Natura 2000 areas, the Natura 2000 designated areas, i.e., key ecosystems and habitats are mapped, protected and/or preserved in their natural state. Area specific conservations are also found broadly in the landscape, and these also sometimes mention the hedgerows and the species/landscape/other services which the managers have to take into account when they plan their intervention in a conservation area. On basis of the general lack of legal protection, identification and mapping of key ecosystems and habitats of hedgerows and smaller woodlots the sourcing of feedstock for biomass may pose a threat to these areas, see also indicator 2.1.2. Thus, these areas can be considered to have a specified risk.

Nature conservation areas

The Danish Nature Protection Act offers provisions for the protection of nature, wild animals and plants and their habitats as well as for the improvement, creation and restoration of wildlife and cultural sites and for providing public access to the wild. It covers all habitats including forests, wetlands, bogs, grasslands, and tree-covered areas. Overall, the Nature Protection Act provides protection and thus helps maintain or enhance the ecosystems, their health, vitality, functions and services, in total 380.400 hectare of protected areas are found in the landscape and 69.100 hectare of protected areas within the forests. The identification and mapping have taken place at least since 1992 where the Nature Protection Act entered into force and happens on a pending basis as areas grow in and out of the different identified nature types. In addition, the Natura 2000 designated areas, i.e., key ecosystems and habitats are mapped, protected and/or preserved in their natural state.

The above analysis suggests that Nature Conservation Areas in the landscape, Natura 2000 areas and individual protected areas – as they are mapped, protected and/or preserved in their natural state - are sufficiently maintained and also enhanced in Denmark. However, this indicator is considered to be strongly coherent with indicator 2.1.2 and therefore specified risk is suggested.

Analysis – woody energy crops, short rotation coppice

These areas typically consist of short rotation coppice in the form of willow or poplar planted or resprouted (in Danish=stævning) with short harvest rotations of less than ten (10) years. In general, there is no legal protection nor identification and mapping of key ecosystems and habitats of areas with woody energy crops/short rotation coppice and thus assessment of their health, functions, vitality, and services. However, in line with the conclusion in 2.1.1 and 2.1.2 the biodiversity and therefore also the ecosystem services provided by these origins are considered low risk.

Enforcement and monitoring

The Municipalities enforce the Nature Protection Act for areas located in the landscape; the area specific conservations in the landscape and Natura 2000 areas in the landscape. Regular monitoring of the enforcement is conducted and reported by the concerned agencies.

Risk conclusion and justification

Hedgerows and smaller woodlots

On basis of the general lack of legal protection, identification and mapping of key ecosystems and habitats of hedgerows and smaller woodlots the sourcing of feedstock for biomass may pose a threat to these areas. This indicator is considered to be strongly coherent with indicator 2.1.2 and therefore specified risk is suggested.

Nature conservation areas

Nature Conservation Areas in the landscape, Natura 2000 areas and individual protected areas – as they are mapped, protected and/or preserved in their natural state - are sufficiently maintained and also enhanced in Denmark. However, this indicator is considered to be strongly coherent with indicator 2.1.2 and therefore specified risk is suggested. Specified risk is suggested on basis that nature conservation areas "grow into" and "out of" protection and therefore there is risk of wrongly assessing if the harvest of biomass will lead to a change in status which maintain or enhance the ecosystem and the services it provides.

	Woody energy crops In line with the conclusion in 2.1.1 and 2.1.2 the biodiversity and therefore also the ecosystem services provided by these origins are considered low risk.
Supply Base Verifiers	• 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 • National forest inventory
Evidence reviewed	• Ny Vraa (03.11.2023) https://nyvraa.dk/vores-pil/energipil/ • Forest Act (26.05.2023). https://www.retsinformation.dk/eli/lta/2023/690 • 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 • 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 • Ministry of Environment: "Danmarks Miljøportal" (30.10.2023). http://arealinformation.miljoeportal.dk/distribution/ • Ministry of Environment: "The Digital Nature Map 2021 incl. the Biodiversity map" (De Digitale Naturkort 2021 inkl. Biodiversitetskortet) (30.10.2023). http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk • Nature Protection Act. (28.06.2024). https://www.retsinformation.dk/eli/lta/2024/927 • Nord-Larsen, T., Johannsen, VK., Riis-Nielsen, T., Thomsen, I. M., & Jørgensen, B. B. (2023). Skovstatistik 2021. Institut for Geovidenskab og Naturforvaltning, Københavns Universitet. • Danish Society for Nature Conservation (26.10.2023). "Interactive map of protected areas". http://www.fredninger.dk/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Specified risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Not applicable
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.3 **Soil quality in the Supply Base shall be maintained or enhanced.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis

Hedgerows and smaller woodlots

Leaves, needles and bark are removed during harvest of feedstock from hedgerows and smaller woodlots. In a Danish context, the trees/shrubs are, due to the narrow width of especially the hedgerows of generally 1-7 rows, considered to have limited impact on soil productivity (nutrients), hydrology, drainage and erosion. The major and dominating impact will originate from the fields on which the hedgerows and smaller woodlots border. On this basis low risk is assessed for hedgerows and smaller woodlots.

Nature conservation areas

The majority of the nature conservation areas are protected by the Nature Protection Act and therefore the monitoring of impacts of harvest operations are taken into consideration by the municipalities. In general, leaves, needles and bark are removed during harvest of feedstock from the different nature types. The Danish nature types differ widely from nutrient rich soils to nutrient poor soils. For the nutrient-poor soil nature types like heaths and high bogs the removal of nutrients may be considered part of the maintenance of the nature type, while the nutrient-rich soil nature types like low bogs may be considered not to suffer a negative impact of nutrient removal due to the richness of these. There are public and private water courses in Denmark. The public water courses are regulated by the Water Course Directive. Regulations (vandløbsregulativer) made by the municipalities (98 in Denmark) describe conditions in the public waterways. In special cases the water course authority can regulate for private streams on specifics like shape and/or flow of water, maintenance, collection of crops. In combination, the Water Course Directive and the Nature Protection Act § 3 regulate water courses. A 3-meter perimeter along the banks of lakes and water courses is protected with the purpose of stabilization and prevention of erosion of sand and soil into the lakes and water courses. The water course regulations implemented by the municipalities differ widely across Denmark and set different protection zones pertaining to water courses. As feedstock is harvested along protection zones these areas are important for downstream protection of hydrology. As the protection zones differ amongst municipalities across Denmark an increasing number of cases have arisen where biomass producers haven´t paid due attention to restrictions and cut areas too close to water courses. However, this matter is assessed to have minor impact on this indicator but is further evaluated in 2.2.5.

Analysis – Woody residues from agricultural land

Producers of Christmas trees and orchards maintain tree cover for many years, typically 8+ years for Christmas trees and 20+ years for orchards and can choose amongst a wide variety of soil for their production. however, for Christmas trees producers prefer well drained meagre soils, while orchards require well drained soils and a near-coastal location with less risk of spring frost. Christmas tree producers drive heavy machinery in their fields several times per year and are forced to drive during harvest period which is October/November/December, typically months with a lot of rain. Large and deep tracks will, depending on the volume of rainfall, be created during harvest. But tracks will also be re-established during spring/summer as flat tracks lead to better production conditions. In all cases producers have a commercial incentive to minimize the area covered by tracks which in general leads to less impact on the majority of the production areas. Flat dry tracks lead to a better production because tractor movement on flat tracks give better spraying distribution and more even distribution of fertilizer. Further, flat dry tracks minimize the problem of muddy trees being transported from the compartments during harvest. Therefore, as producers have a production incentive to maintain good soil condition and as production typically takes place on well drained soils, the risk at producer level is considered low. The harvest of feedstock for biomass will typically take place when producers have end-of-life (trees with no sellable value) production in a compartment. The feedstock harvest will typically be conducted by the same type of machinery as used in forests with limited impact on soils. After harvest the roots are crushed and left in the soil and a new generation of trees is established. On this basis low risk is considered for Christmas tree plantations.

The producers in orchards drive tractors in their fields several times per year but the harvest itself takes place in a typically dry season with minor damage to soil to be expected. Overall, the assessment is that orchards have less machinery driving in the field compared to Christmas tree production, but the same production incentive to maintain good soils and therefore low risk is assessed for the production. Also (as for Christmas tree producers) producers have a commercial incentive to minimize the area covered by tracks which in general lead to less impact on the majority of the production areas. Feedstock sourcing for biomass production typically takes place when a producer has an end-of-life production in a compartment. The feedstock harvest will typically be conducted by the same type of machinery as used in forests with limited impact on soils. After harvest the roots are crushed and left in the soil and a new generation of tress is established. On this basis low risk is considered for orchards.

Analysis – Wood energy crops

The producers of short rotation coppice typically harvest either willow or poplar on a 3-5 or 6-10 year rotation basis. Both willow and poplar which are typical short rotation species can grow on soils which are temporarily flooded. Producers of short rotation coppice may prefer to harvest during wintertime when they are less busy with ordinary agricultural production. As rainfall is typically higher during winter, this practice comes with a risk of impacting soil productivity, hydrology and drainage. However, both the specialized machinery used for harvesting of short rotation willow and the ordinary forest machinery used for harvesting of poplar are both produced and used with the purpose of having the least possible impact on soil structure. On this basis low risk is assessed that soil quality will not be maintained or enhanced for wood energy crops.

Enforcement and monitoring

Municipalities enforce the Water Course Directive and the Nature Protection Act § 3.

Risk conclusion and justification

Landscape:

Hedgerows and smaller woodlots: In a Danish context, the trees/shrubs are, due to the narrow width of especially the hedgerows of 1-7 rows, considered to have limited impact on soil productivity (nutrients), hydrology, drainage and erosion. The major and dominating impact will originate from the fields on which the hedgerows and smaller woodlots border. On this basis low risk is assessed for hedgerows and smaller woodlots.

Nature conservation areas: The majority of the nature conservation areas are protected by the Nature Protection Act and therefore monitoring of impacts of harvest operations are taken into consideration by the municipalities and on this basis low risk is assessed. The Water Course Directive and the Nature Protection Act § 3 regulate watercourses. Even though the water course regulations are implemented differently across the municipalities, this is evaluated to have a minor impact on soil quality. Therefor low risk is assessed.

Woody residues from agricultural land:

Trees are kept for many years, typically 8+ years for Christmas trees and 20+ years for orchards, and producers have a production incentive to increase the land covered by production-trees and to maintain good soil condition, and as production typically takes place on well drained soils, the risk at producer level is considered low. The harvest of feedstock will typically take place when a producer has an end-of-life production in a compartment. The harvest will typically be conducted by the same type of machinery as used for forests with limited impact on soils, and on this basis low risk is assessed.

Wood energy crops:

The producers of short rotation coppice typically harvest either willow or poplar on a 3-5 or 6-10 year rotation basis. As rainfall is typically higher during winter, harvest during wintertime means a higher risk of impacting soil productivity, hydrology and drainage. However, both the specialized machinery used for harvesting of short rotation willow and the ordinary forest machinery used for harvesting of poplar are both produced and used with the purpose of minimizing impact on soil structure as much as possible. On this basis low risk is assessed that soil quality will not be maintained or enhanced for wood energy crops.

Annex 1 Detailed findings for Supply Base Evaluation

Supply Base Verifiers	• Regional Best Management Practices • 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	• Madsen, H. B. (1984). Clay Migration and Podzolization in a Danish Soil. Geografisk Tidsskrift (Danish Journal of Geography), 84:1, 6-9. DOI: 10.1080/00167223.1984.10649190 • Nature Protection Act. (04.10.2022). https://www.retsinformation.dk/eli/lta/2022/1392 • Petersen, L. & Rasmussen, K. (1987). Jordbundsudvikling under ager og nåleskov. Geografisk Tidsskrift 87: 65-67. København, juni 1987.
Risk rating	

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.4 Where the removal of harvest forest residues and / or stumps occurs, this shall not lead to irreversible negative impacts to the ecosystem.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group

Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

It is common practice to remove residues after felling operations in all forests and in TOF areas, either for the production of biomass feedstock or for firewood. Consultation with Experts working at the Danish Energy Agency suggests that residues from Danish forests and TOF areas are removed rather in a higher level than in many countries because of increasing market demand. The experts expressed that the removal is also driven by good infrastructure (e.g. roads) connecting forests and TOF areas, types of machinery used for harvesting and intensive forest management practices. Danish legislation does not prohibit the removal of residues from TOF areas, however, there are regulations relevant to biomass production which is described below.

Stumps

According to the "Order on the Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes" the removal of stumps is regulated as follows from the different TOF origins:

- Landscape: stump removal not allowed
- Woody residues from agricultural land: no regulation.
- Wood energy crops: no regulation.

Stumps from agricultural land (Christmas trees, orchards and woody energy crops) are normally not removed but milled/crushed directly into the ground as part of preparation for next rotation. On some areas, it is advantageous to have a few years of regular agricultural crops before any Christmas trees or perennial energy crops are established again. Crop rotation with perennial crops such as Christmas trees and perennial energy crops achieves an increased content of organic matter, which provides a certain storage of CO2 in the soil.

Deadwood

For a Danish context deadwood is defined according to Aarhus University (2024), summarized as follows:

Dead wood is defined as relatively large pieces of wood. The dead wood is found both as pieces of wood left on the forest floor, fallen branches or fallen and standing dead trees, fallen dead trees with root contact and dead branches on living trunks.

In addition to the dimensions, the degree of decomposition of the dead wood is also defined. For each measured piece of lying and standing dead wood, the most representative degree of decomposition is assessed on a 5-point scale:

1. Recently dead wood, typically dead within the last year
2. The tree still hard (the bark starts to fall off but typically still > 50% bark)
3. The wood is still hard but begins to soften on the surface (often < 50% bark)
4. The wood is soft on the surface and possibly throughout. The tree's original branch/trunk structure begins to disappear.

	5. The wood is completely soft, very broken down and the original branch/trunk structure is strongly dissolved. The Danish National Forest Inventory shows that the amount of dead wood within the Danish forests is increasing despite the increased demand for biomass, there is however no indication neither positive nor negative for TOF areas. It is therefore considered that data are deficit for TOF origins. It has to be mentioned here that due to the technical requirements that the biomass shall fulfil with regards to humidity and density, it is generally not accepted by energy producers that decaying wood is used as input in the chips. Decaying wood is generally not used as input in chip production and only occurs exceptionally in Denmark. Therefore, the risk of removal of decaying dead wood from forest stands or TOF areas for commercial purposes in any increased amount than the current level is low. There are currently no reports or other types of evidence indicating that the process of residue removal from forest stands or TOF areas cause harm to the ecosystems at any notable scale that results in specified risk. It is considered that the risk of negative impact is low since the general level of dead wood is very low today due to the high level of extraction of "residues". However, as a precautionary approach, hopefully increasing the general level of dead wood in hedgerows and smaller woodlots and nature conservation areas, specified risk is considered for the removal of deadwood. However, for the TOF origins "Woody residue from agricultural land" and "Woody Energy crops, short rotation coppice" the feedstock type of these origins is not considered to produce deadwood and therefore low risk for these two origins is assessed. The red listed species mentioned in 2.1.2 are highly depending on dead wood and therefore the risk related to these are assessed as specified risk in 2.1.2. **Enforcement and monitoring** The Danish Energy Agency enforces the relevant legislation. Regular monitoring of the enforcement is conducted and reported by the concerned agency. **Risk conclusion and justification** In summary of the above, it is assessed, that the level of dead wood is considered to be at a low level today. The lack of inventory on dead wood in TOF origins lead to a conclusion that no strong impact assessment on ecosystem can be assessed and this should be considered in the coming years. Therefore, on basis of an anticipated low level of dead wood, lack of inventory of dead wood and lack of assessment on ecosystem, a precautionary assessment of a specified risk for negative impact on the ecosystem in hedgerows and smaller woodlots and nature conservation areas is assessed. However, for the TOF origins "Woody residue from agricultural land" and "Woody Energy crops, short rotation coppice" the feedstock type of these origins is not considered to produce deadwood and therefore there is low risk for these two origins.
Supply Base Verifiers	• Regional Best Management Practices • Supply contracts • Assessment of potential impacts at the 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 Energy Agency (2022a). Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål) (31.05.2023).
- https://ens.dk/sites/ens.dk/files/OlieGas/haandbogen.pdf
- Aarhus University (12.04.2024): Dead wood. https://novana.au.dk/naturtyper/kontrolovervaagning/indikatorer/skovstruktur/doedt-ved
- Ministry of Environment: "Danmarks Miljøportal" (30.10.2023). http://arealinformation.miljoeportal.dk/distribution/
- Nature Protection Act. (04.10.2022). https://www.retsinformation.dk/eli/lta/2022/1392

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Specified risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.5 Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed

Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Introduction

Data on usage of pesticides and nitrogen on a national basis are relevant for assessment of maintenance and enhancement of water quality. Therefore, two references from the Ministry of Environment are presented below to indicate the trend of the Danish use of pesticides and nitrogen. The trends are neutral to positive as can be seen and do not actually lead to specified risks.

Pesticides

The EU Commission decided in May 2019 that moving forward all EU member states were obliged to annually calculate and publish two Harmonized Risk Indicators (HRI´s) for pesticides. For the HRI 1 indicator, the calculation shows that it peaked in 2012 as a result of the hoarding of pesticides in connection with the restructuring of the Danish pesticide tax, which was introduced with effect from July 2013. For 2014, HRI 1 was at the lowest level for the entire period, as sales this year were relatively low as a result of consumption of pesticides from stock purchased in previous years. In the period from 2015 to 2019 HRI 1 was at a stable level, almost 50 percent lower than the baseline (2011-2013). For the HRI 2 indicator, an increase was seen in the period from 2011 to 2015, after which it fell significantly in 2016. For the period 2016-2019, HRI 2 fluctuated annually around an average 26 percent below the baseline. It is essential that, when analysing the development of the HRI 2 indicator, one keeps in mind that the vast majority of exemptions are given to the large group of chemically active substances which are approved in the EU, and which are not candidates for substitution. Only in very few cases have exemptions been granted for pesticides that are not approved in the EU, and then only if a risk assessment has shown safe usage (Miljøstyrelsen 2021)

Nitrogen leaching

Excess nitrogen from agriculture risks being washed into the aquatic environment. Therefore, the excess and leaching of nitrogen is continuously monitored by the Ministry of Environment. The field balance describes the difference between the amount of nitrogen added to the field and the amount of nitrogen removed when the crops are harvested. The field balance is said to be positive when more nitrogen is supplied than removed. The field balance surplus has fallen from approx. 404,000 tonnes of nitrogen in 1990 to approx. 228,000 tonnes of nitrogen in 2020. This corresponds to a reduction of approx. 44%. Since 2004, the calculated annual leaching for the land monitoring catchments has been at a fairly constant level of around 60 kg of nitrogen per hectares, with some variation from year to year (Miljøstyrelsen 2023). Surface and drinking water interests are well protected by the Environmental Protection Act, the Water Sector Act, and the Water Utilities Act.

BNBO areas

BNBO stands for "Borehole Protection Areas" (in Danish: "Boringsnære Beskyttelsesområder"). These areas are designated around water boreholes used for public water supply (Act amending the Act on water supply etc., the Building Act and the Act on products and market surveillance, law nr 412 af 23/04/2024). The municipalities are not at the same stage with implementation in Denmark, but the state has pushed for that work. VEJ nr 9702 (2020)

Operations

The harvesting, collecting, and transport of biomass from landscape, agricultural and wood energy crops origin is firstly analyzed for their impact on BNBO areas. For harvest, collection and transport, the same type of machinery as used within forestry is used, this means low impact tyres and newer lighter machinery. Operations are generally taking place from fields and along hedgerows / smaller woodlots where low impact is a requirement due to the main use of these areas for agriculture. Within BNBO areas, there are specific restrictions aimed at protecting groundwater quality. These restrictions include: Prohibition on establishing

new washing areas for agricultural equipment; Prohibition on mixing and filling pesticides; Prohibition on washing pesticide sprayers and other equipment used for pesticide application. These regulations are part of the Environmental Protection Act and are enforced to prevent any activities that could lead to groundwater contamination. The restrictions within BNBO areas can affect biomass harvesting operations, including those involving landscape, agriculture and wood energy crops origins. Harvesting Limitations: While biomass operations occur, they must comply with the restrictions outlined for BNBO areas. This means that practices that could introduce contaminants, such as pesticide application or improper equipment washing, are not permitted. Local municipalities have the authority to enforce these restrictions and may require assessments or permits for biomass operations within BNBO areas to ensure compliance with environmental standards. The BNBO areas are subject to annual reviews, and municipalities can choose to conduct their own assessments or rely on the Environmental Protection Agency's models. However, discrepancies have been noted in some areas, leading to calls for re-evaluation of BNBO boundaries and compliance measures. The Working body has not found specific cases where biomass harvest from TOF origins has lead to BNBO contamination. Secondly, general erosion risk and the passing of water courses from harvest operation is assessed. It is assessed that though some soil disturbance will occur, the relatively low rainfall (about 600-800mm per year) and generally flat areas will not lead to erosion. Further water courses are well protected from direct damage due to harvest operation (see though further details for in the description below under analysis of landscape – nature conservation areas).

Analysis

Analysis – landscape areas

Landscape areas are considered to have use-levels of pesticides and nitrogen which are far below the levels of the agricultural industry at large and more comparable to the lower levels used in forestry. On this basis low risk is considered pertaining to negative impact on quality and quantity of ground water, surface water and water downstream. The Nature Protection Act has provisions to protect surface water interests in Denmark. The Act states that all natural lakes over 100 m2, along with all watercourses designated for protection by the local municipal authorities, are protected and that their state cannot be altered (Nature Protection Act § 3 section 1 and 2)

The number of lakes and waterholes was decreasing for many years due to the structural development in agriculture and expansion of the cities. Two thirds of the lakes and waterholes have disappeared in the last 50-60 years. In recent years, however, the trend has changed, so that the previous decline has now turned into progress. From 1996 to 2006, approx. 6000 hectares of new lakes and waterholes were created. A large part of the new lakes and waterholes have been excavated for reasons of natural interest.

Hedgerows and smaller woodlots.

The protection of lakes under 100 m2 is relevant for the context of hedgerows and smaller woodlots. Lakes of less than 100 m2 can be permanent or temporary due to their size. Lakes of less than 100 m2 are protected when they are located in one of the protected nature types, if the total area is 2500 m2 and above. In addition, lakes under 100 m2 are protected when they form part of a protected watercourse. There are no data on the number of lakes of less than 100 m2 which aren´t covered by the provisions mentioned above. However, it is anticipated that these small lakes may be found in smaller woodlots. As for the quality and quantity of ground water and surface water of these lakes, it is anticipated that even though there is no direct protection of these they benefit from landowners' general interest in protecting them and in the general protection and therefore low risk is considered for these when found in connection with hedgerows or smaller wood lots.

Nature conservation areas

For nature conservation areas the same consideration as for hedgerows and woodlots is made. The protection of lakes of less than 100 m2 are considered to benefit from the general protection and therefore low risk is suggested. However, see also indicator 2.2.3, it is considered that the water course regulations implemented by the municipalities differ across Denmark and set different protection zones to water courses. BEK nr 919 (2016). As feedstock is harvested along protection zones across Denmark, these areas are important for downstream protection of hydrology. In order to assess compliance with the Danish Nature Protection Act and the Water Course Directive it

has not been possible to find recent statistics. Data has been searched from Nævnenes hus (2024) and Retsinformation (2019) which present thorough guidelines and court cases to the Nature Protection Act. Further, from interview with Lars Skovmøller on 27th of June 2023 from Ministry of Environment (authority on EUTR) it is assessed that about 5-6 cases per year of illegal cuttings in the landscape related to the Nature Protection Act § 3 or the Watercourse Act are handled by the Ministry plus cases handled directly by the municipalities. Further the working body is aware of feedback from stakeholder consultations observed from municipalities during the past years which indicate that cases of damage to areas along streams occur for a variety of reasons. On basis of the above, data are insufficient to settle on low risk, and therefore as a precautionary approach specified risk is suggested for 1) altered/reduced water quality, including but not limited to, sedimentation, turbidity, water temperature; 2) altered/Reduced water quantity, including but not limited to, increased or decreased volume, seasonality, peak-flow, surface run-off and 3) altered/reduced of riparian habitat and function (SBP, 2023)

Analysis - Woody residues from agricultural land including primary agricultural production site.

Christmas tree plantations and orchards are considered to have usage of pesticides and nitrogen which are at the same levels as for the agricultural industry at large. This is supported by calculations on use of pesticides from the Danish Christmas Tree Association with information indicating a slightly lower use than average for the agricultural industry, therefore low risk is assessed for woody residues production. Regarding the protection of lakes under 100 m2 which aren´t protected by the Nature Protection Act, it is considered that there are very few of these and therefore low risk is assessed for woody residues production. Regarding the primary agricultural production, this indicator is interlinked with indicator 2.2.7 where specified risk is raised, therefore specified risk is suggested for primary agricultural production of indicator 2.2.5.

Analysis - Wood energy crops, short rotation coppice

Areas with wood energy crops are considered to have uses of pesticides and nitrogen which are below the levels of the agricultural industry at large, as the usage is only relevant in connection with establishment of crop (info from Ny Vraa). On this basis low risk is considered for negative impact from this factor on quality and quantity of ground water, surface water and water downstream. Regarding the protection of lakes under 100 m2 which aren´t protected by the Nature Protection Act, it is considered that there are few of these and therefore low risk is assessed.

Enforcement and monitoring

The municipalities are the competent authorities for drinking water interests at the local level, and The Danish Environmental Protection Agency is responsible for water management at the national level. The Danish Environmental Protection Agency in collaboration with the Danish Nature Agency – both under the Ministry of Environment – enforces all relevant environmental legislation. Regular monitoring of the enforcement is conducted and reported by the concerned agencies.

Risk conclusion and justification

It is concluded that the risk of negative impacts on ground water, surface water and water downstream leads to the following assessments:

landscape areas

Hedgerows and smaller woodlots:

- Risk is considered low. Landscape areas are considered to have use-levels of pesticides and nitrogen which are far below the levels of the agricultural industry at large and more comparable to the lower levels used in forestry. It is anticipated that even though there is no direct protection for lakes of less than 100 m2 they benefit from landowners' interest in protecting them and from the general protection of larger lakes and therefore low risk is considered for these when found in connection with hedgerows or smaller wood lots.

Nature conservation areas:

	• The water course regulations implemented by the municipalities differ across Denmark and set different protection zones to water courses. BEK nr 919 (2016). As feedstock is harvested along protection zones across Denmark, these areas are important for downstream protection of hydrology. Data are insufficient to settle on low risk, and therefore as a precautionary approach specified risk is suggested for 1) altered/reduced water quality, including but not limited to, sedimentation, turbidity, water temperature; 2) altered/Reduced water quantity, including but not limited to, increased or decreased volume, seasonality, peak-flow, surface run-off and 3) altered/reduced of riparian habitat and function (SBP, 2023) Woody residues from agricultural land including primary agricultural production site • The trends are neutral to positive for the Harmonized Risk Indicators for pesticide use in Denmark. Regarding nitrogen leaching, the surplus in the field balance has fallen approx. 44% between 2004 and 2020 – which is good. Christmas tree plantations and orchards are considered to have usage of pesticides and nitrogen which are at the same levels as for the agricultural industry at large. This is supported by calculations on use of pesticides from the Danish Christmas Tree Association with information indicating a slightly lower use than average for the agricultural industry, therefore low risk is assessed for woody residues production. Regarding the protection of lakes under 100 m2 which aren´t protected by the Nature Protection Act, there is considered small likelihood of these on the typical agricultural land, and therefore low risk. • Regarding the primary agricultural production, this indicator is interlinked with indicator 2.2.7 where specified risk is raised, therefore specified risk is suggested for primary agricultural production of indicator 2.2.5. Wood energy crops, short rotation coppice: low risk • The trends are neutral to positive for the Harmonized Risk Indicators for pesticide use in Denmark. Regarding nitrogen leaching, the surplus in the field balance has fallen approx. 44% between 2004 and 2020 – which is good. Regarding the protection of lakes under 100 m2 which aren´t protected by the Nature Protection Act, there is considered small likelihood of these on the typical land where the energy crops is established and therefore low risk.
Supply Base Verifiers	• 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

- Protected lakes (03.11.2023)

https://mst.dk/natur-vand/natur/national-naturbeskyttelse/3-beskyttede-naturtyper/beskyttelse-af-3-naturtyper/soeer/

- Miljøstyrelsen (2021) The development in pesticide consumption in Denmark measured with the EU's harmonized pesticide indicators 2011-2019 (03.11.2023)

https://www2.mst.dk/Udgiv/publikationer/2021/09/978-87-7038-338-7.pdf

Miljøstyrelsen (2023) Agricultural leaching of nitrogen from the field (11.04.2024) https://miljotilstand.dk/arealanvendelse/landbrugets-udvaskning-af-kvaelstof-fra-marken

- Environmental Protection Agency. (2012). The Agricultural Pesticide Load in Denmark 2007-2010. Copenhagen, Denmark.
- Environmental Damage Act. (25.04.2022). https://www.retsinformation.dk/eli/accn/A20220048229
- Environmental Protection Act. (19.01.2022). https://www.retsinformation.dk/eli/lta/2022/100
- Forest Act (26.05.2023). https://www.retsinformation.dk/eli/lta/2023/690
- Nature Protection Act. (04.10.2022). https://www.retsinformation.dk/eli/lta/2022/1392
- Ochre Act. (10.12.2015). https://www.retsinformation.dk/eli/lta/2015/1581
- Raulund-Rasmussen, K. & Hansen, K. (eds.). (2003). Grundvand fra skove - muligheder og problemer. Skovbrugsserien nr. 34, Skov & Landskab, Hørsholm, 2003. 122 s. ill.
- Water Supply Act. (10.05.2022). https://www.retsinformation.dk/eli/lta/2022/602
- Watercourse Act. (25.11.2019). https://www.retsinformation.dk/eli/lta/2019/1217
- Ny Vraa (03.11.2023) https://nyvraa.dk/vores-pil/energipil/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Specified risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.6	**Air emissions shall comply with national legislation or in the absence of national legislation with industry best practice.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

There is no indication of adverse effects on air emissions and quality of any significance from management of TOF areas in Denmark. All new forest and agricultural equipment are subject to the Danish implementation of the EU Regulation 2016/1628 on requirements relating to gaseous and particulate pollutant emission limits and type approval for internal combustion engines for non-road mobile machinery'. This regulation includes tractors and other types of machinery typically used in forestry and agricultural operations. Furthermore, operations on TOF areas are typically carried out in areas with some distance from towns and cities. There is no significant use of burning practices on any of the TOF origins.

Enforcement and monitoring

The Danish Environmental Protection Agency enforces the relevant legislation in collaboration with local municipalities. Regular monitoring of the enforcement is conducted and reported.

Risk conclusion and justification

Air emissions from operations on TOF areas connected to feedstock sourcing comply with applicable legislation. In fact, there is no evidence of significant emissions from such operations. Therefore, a low-risk class is assigned for this indicator for all TOF origins.

Supply Base Verifiers	• 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 • Website of European Union Law
Evidence reviewed	• Order on limitation of air pollution from mobile non-road machines etc. (Bekendtgørelse om begrænsning af luftforurening fra mobile ikke-vejgående maskiner mv. (07.12.2015)). https://www.retsinformation.dk/Forms/R0710.aspx?id=175847 • REGULATION (EU) 2016/1628 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL - of 14 September 2016 - on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/ 2012 and (EU) No 167/ 2013, and amending and repealing Directive 97/ 68/ EC (europa.eu) https://www.legislation.gov.uk/eur/2016/1628/chapter/XIV/data.pdf
Risk rating	

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.7	**Pesticides shall only be used as part of an Integrated Pest Management (IPM) plan in compliance with national legislation, chemical safety data sheets and industry best practice. Banned pesticides shall not be used.**
Findings	**Scale of assessment**

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Assessed
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

The scale of assessment covers applications of all pesticides in all operations connected to feedstock sourcing.

Analysis

Integrated Pest Management (IPM) is a cornerstone of the EU Directive on the sustainable use of pesticides in Denmark. In Denmark, there is a National Action Plan on Pesticides for 2017-2021, which outlines the country's approach to pesticide use. An IPM decree (Decree on the obligation to apply and register IPM principles when using plant protection products) is in place in Denmark which obliges all professional users to follow IPM principles. Furthermore, owners and users of agricultural enterprises with a total cultivated area of 10 ha. or above, and owners and users of other agricultural businesses such as nurseries, orchards, etc. with an annual taxable turnover of DKK 50,000 or above, are obliged to report the company's consumption of pesticides to the authorities.

Analysis - Woody residues from agricultural land*.

Christmas tree growers are, according to an expert of the Danish Christmas Tree Association, (Consultation, 2023), following the IPM principles which according to the association website entered into force on the 1st of January 2014. Though Christmas tree areas are to be managed by IPM principles, these areas are omitted from the national annual IPM reporting system. This is, however, not considered to influence the implementation of IPM and therefore, the indicator is assessed low risk for woody residues production.

Orchard areas are included in the IPM legislation and obliged to follow IPM principles as of 1st of January 2014. Orchards are, like Christmas tree plantations, omitted from the national annual IPM reporting system. This is, however, not considered to influence the implementation of IPM and therefore the indicator is assessed low risk for woody residues production.

Analysis - Wood energy crops, short rotation coppice

Wood energy crop areas are included in the IPM legislation and obliged to follow IPM principles as of 1st of January 2014. Producers of short rotation coppice like e.g. willow are omitted from the national annul IPM reporting system, this is, however, not considered to have an effect on the implementation of IPM and therefore the indicator is assessed low risk.

Analysis – Primary Production of agriculture

In relation to assessment of primary production of agriculture (not for the woody residues production) the use of banned pesticides has been found relevant to include examining the articles below. In an article from July 2023 published by the Danish Society for Nature Conservation it is found that close to one in five of the Danish Agency for Agriculture's inspection visits to Danish farms, nurseries and forest owners reveal problems in the pesticide cabinets.

The findings are:

- The new figures originate from an inspection (aktindsigt) of documents which Danish Nature Conservation Association has obtained.
- A preliminary estimate from 2022 shows that unapproved pesticides were found in just under 18 percent or 105 of the control visits.
- The insecticide Fastac-50 has been found on Thyholm in Limfjorden, in Ringsted on Zealand and Store Heddinge on Stevns and six other places in the country. Fastac-50 is banned in Denmark as of 1st of January 2022, partly because the product is lethal to bees.
- The checks also revealed lack of security in the areas where the pesticides are mixed on farms and in the storage of the pesticides.
- In other places, sprays were used in the open, although they are only approved for use in closed spaces.

Another source, the Ministry of Environment (2022) also reports findings of pesticides. From an analysis from 2019 to 2021 ground water was checked for 578 chemicals. Over the three years 15 substances above the quality requirement of 0.1 µg/L have been found, originating from pesticides that are not approved in Denmark. Three substances that were found in the screening in 2019 originate from pesticides that have never been approved in Denmark. Fastac-50 (active ingredient Alpha-cypermethrin [ISO]) is listed as "highly hazardous" by Forest Stewardship Council and PAN international. It is listed as "moderately hazardous" by WHO, which is SBP´s reference. Fastac 50 was banned in Denmark by February 2022. The data above does not indicate if the findings of unapproved pesticides relate to illegal storage, handling or use. Further analysis will be needed to assess if there has been an environmental impact or if they are violations with low or no environmental impact.

The article from the Danish Society for Nature Conservation is supported by findings published in an article in the Danish newspaper Politiken in 2024. Politiken gained access to documentation (aktindsigt) showing violation of the law in 40% of the 612 controlled cases in 2023 inspected by the Danish Ministry of Environment.

Enforcement and monitoring

The Danish Environmental Protection Agency enforces the relevant legislation. Regular monitoring of the enforcement is conducted and reported by the concerned agency.

Risk conclusion and justification

Assessment of primary production of the agriculture: The document inspection (aktindsigt) of the Danish Society for Nature Conservation and the report from the Ministry of Environment on challenges with the Danish groundwater are surprising and suggest a risk of use of pesticides no longer legal in Denmark. It may be considered for the assessment that especially Fastac-50 was found in the first year after it was banned in Denmark, and that some producers may not have been aware of the ban. However, the combination of findings from The Danish Society for Nature Conservation and the newspaper Politiken along with the groundwater analysis by the Ministry of Environment´s findings of 15 substances above the quality requirement of 0.1 µg/L leads to the suggestion of specified risk assessment on primary agricultural production. Furthermore, Christmas trees producers with an area of below 10 hectares are not obliged to report their pesticide usage to the authorities. This also support the conclusion of specified risk.

* For woody residues it is particularly important to note that when sourcing woody residues from agricultural production a risk assessment has to be performed both for the production of the biomass (the residues), but also the primary production of agriculture i.e. management of the orchard plantation. (SBP Instruction Document 1A)

Annex 1 Detailed findings for Supply Base Evaluation

Supply Base Verifiers	• Website of Environmental Protection Agency • 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	• Ministry of Environment about IPM (30.10.2023) https://mst.dk/kemi/pesticider/anvendelse-af-pesticider/brugere-professionel-brug/ipm-integreret-plantebeskyttelse/ • Christmas Tree Association – IPM (26.10.2023). https://www.christmastree.dk/dyrkning/plantebeskyttelse • Danish Society for Nature Conservation (26.10.2023) https://www.dn.dk/nyheder/taet-pa-hvert-femte-af-landbrugsstyrelsens-kontrolbesog-afslorer-problemer/ • Miljøministeriet (2022) Kortlægning af udfordringer I forhold til Danmarks grundvand • https://www.ft.dk/samling/20211/almdel/MOF/bilag/613/2600076/index.htm • Environmental Protection Agency. (2012). The Agricultural Pesticide Load in Denmark 2007-2010. Copenhagen, Denmark. • Environmental Damage Act. (25.04.2022). https://www.retsinformation.dk/eli/accn/A20220048229 • Environmental Protection Act. (19.01.2022). https://www.retsinformation.dk/eli/lta/2022/100 • Environmental Protection Agency: "Applications for authorisation" (27.10.23). https://eng.mst.dk/chemicals/pesticides/applications-for-authorisation-after-14-june-2011/ • Environmental Protection Agency: "Professional user of plant protection products" (27.10.2023). https://eng.mst.dk/chemicals/pesticides • Forest Act (26.05.2023). https://www.retsinformation.dk/eli/lta/2023/690 • Middeldatabasen (31.10.2023) - Fastac 50 https://middeldatabasen.dk/product.asp?productID=60909 • Politiken (11.09.2024) Pesticidkontrol afslører et »fuldstændig uacceptabelt« antal overtrædelser • Watercourse Act. (25.11.2019). https://www.retsinformation.dk/eli/lta/2019/1217 • WHO • https://iris.who.int/bitstream/handle/10665/332193/9789240005662-eng.pdf?sequence=1 • FSC® List of "Highly Hazardous" pesticides (30.10.2023) FSC-STD-30-001a EN FSC List of highly hazardous pesticides .pdf

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Specified risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.8 Waste shall be disposed of in an environmentally appropriate manner.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Assessed
Woody residues from agricultural land	
- Woody residues production	Assessed
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed

Analysis

The Danish Environmental Protection Act (article 43-50) regulates waste management in Denmark. In addition, the Nature Protection Act (article 28) states that rubbish or the like may not be thrown or placed on other people's property without the owner's permission. Under these acts, local authorities are responsible for the management of all waste in Denmark. There is on social media, municipalities websites, via general public available pamphlets and on working places a lot of advocacies against waste

	disposal in nature, both towards the public and towards contractors working in the forest and of the TOF areas. Landscape areas: no reports were found suggesting that wastes generated by biomass production or other owner-mandated activities connected to feedstock sourcing are disposed of indiscriminately. Urban, domestic and infrastructure areas: no reports were found suggesting that wastes generated by biomass production or other owner-mandated activities connected to feedstock sourcing are disposed of indiscriminately. Woody residues from agricultural land: no reports were found suggesting that wastes generated by biomass production or other owner-mandated activities connected to feedstock sourcing are disposed of indiscriminately. Wood energy crops (i.e. wood biomass), short rotation coppice: no reports were found suggesting that wastes generated by biomass production or other owner-mandated activities connected to feedstock sourcing are disposed of indiscriminately. **Enforcement and monitoring** The Danish Environmental Protection Agency under the Ministry of Environment enforces the relevant legislation. Regular monitoring of the enforcement is conducted and reported by the concerned agencies. **Risk conclusion and justification** Waste disposal from operations on TOF areas is minimal and so is its impact. Therefore, the risk class for this indicator is assessed to be low for all TOF origins.
Supply Base Verifiers	• Existing legislation • Level of enforcement • Regional Best Management Practices • Operational assessment of potential impacts and of measures to minimise the impact
Evidence reviewed	• Environmental Protection Act. (19.01.2022). https://www.retsinformation.dk/eli/lta/2022/100 • Nature Protection Act. (04.10.2022). https://www.retsinformation.dk/eli/lta/2022/1392
Risk rating	

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

2.2.9	**Harvesting levels shall be justified as to how they can be sustained with reference to inventory and growth data for the Supply Base.**
Findings	**Scale of assessment** Not applicable **Analysis** Not applicable **Enforcement and monitoring** Not applicable **Risk conclusion and justification** Not applicable
Supply Base Verifiers	Not applicable
Evidence reviewed	Not applicable
Risk rating	Not applicable
2.2.10	**Harvested areas shall be regenerated.**
Findings	**Scale of assessment**

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed
- Nature conservation areas	Assessed
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Not applicable
- Primary production of the agriculture	Not applicable

Wood energy crops (i.e. wood biomass), short rotation coppice	Not applicable

SBP guidance (SBP, 2023) for this indicator is as follows: "To ensure sustainable forests, regeneration with either natural or planted seedlings following harvest needs to be prompt and sufficient to meet future needs. Sufficiency is a measure of species selection, seedling distribution and time of establishment. Species selection needs to be consistent with site ecology (i.e. original stand composition, ecosite, and natural disturbance regime) and considerate of future climate change risks. Distribution needs to be sufficient to allow future crop trees to occupy the site in a free growing state and timing needs to be prompt enough to allow early establishment unhindered from competing vegetation."

Analysis

Trees outside forest are not covered by the Danish Forest Act. The legal requirements set by the Handbook enacted in 2021 to implement EU RED II (Danish Energy Agency 2022a) specifiy that biomass must come from legally harvested trees and that felled trees must be replanted. According to Section 6 and 6.1 of the Handbook, biomass from non-forest origin, e.g., hedgerows and other small tree-covered areas in the open country must, as of January 1st, 2022, meet requirements for re-establishment as well as risk assessment and risk minimization in relation to natural values. The requirement for re-establishment is the following: "Re-establishment is considered fulfilled if only pruning, including thinning (tynding and stævning), takes place, or if bushes or trees are actively replanted. The requirement for re-establishment can be waived if there is a written assessment that shows that permanent clearing of the stand serves nature and biodiversity better than re-establishment, or if there is documentation that a similar live fence or other small stand with similar or greater biodiversity scope and value is established elsewhere. Self-regeneration is not sufficient to meet the re-establishment requirement for wood from non-forest areas."

Compliance with the regeneration requirement must be documented according to Section 6.1.2 and 6.1.3. of the Handbook. Biomass coming from a non-re-established area AND coming without a written assessment that shows that permanent clearing of the stand serves nature and biodiversity better than re-establishment cannot be sold for energy generation purposes. The Handbook covers bioenergy producers (Varme- og Kraftvarmeværker) with kettle capacities above 2.5 MW. This means, that biomass from TOF origins being supplied to bioenergy producers (Varme- og Kraftvarmeværker) with kettle capacities of 2.5 MW or below are under no legal obligation to be re-established and thus at risk. The amount of biomass consumed by bioenergy producers with kettles below 2.5 MW is not considered high, 1-3% according to consultation with the Danish Energy Agency. The Handbook recognizes certifications (FSC and PEFC) and considers site specific control systems like "Responsible Biomass Program" (RBP) and WSP as possible aids to the actors' work in documenting compliance with the legislative requirements for verification as regards to regeneration. About 90% of biomass (2022 figures) delivered to CHP´s has certification or site-specific control systems in place to document compliance for bioenergy producers above 2.5 MW (Danish Energy Agency, 2024). However, the above-mentioned certifications (FSC and PEFC) do not apply to TOF areas, hence limiting the means of assuring compliance with Handbook regeneration requirements for biomass of TOF origin to WSP and RBP (or similar systems assuring regeneration). The use of these alternative control systems is voluntary, but when used the systems have proved to assure that regeneration agreements are in place.

Hedgerows and smaller woodlots

According to the Fencing Act, landowners are free to cut down hedgerows as they wish. Hedgerows can be dismantled freely if it does not cause inconvenience to the neighbour.

Nature conservation areas

The Nature Protection Act applies, but this act does not assure regeneration. The Nature Protection Act and site conservations define which changes in state of a particular

	area are allowed, see also 2.1.2, hereby the possible cutting and possible regeneration requirements. The municipality is the authority. Best practice (Preferred by Nature, The Standard for Biomass Producers (2021)) states that the requirement of regeneration can be waived from in relation to clearing of a 'nature conservation project' if the following is met: 1. The nature conservation project shall be approved by the municipality or other competent authority 2. Statement/approval/dispensation from the municipality regarding clearing of a § 3 area shall exist. This must include clearing of 'unwanted' growth on § 3 areas covered by exemption 3. For conservation areas, clearing is classified as a nature conservation project if it can be documented that this procedure fulfils the purpose of the conservation Based on the above, a decision of a municipality or other competent authority to allow for a nature conservation area not to regenerate, based on principles of preservation of the nature type, is not considered to be contradictory to SBP´s regeneration requirement. **Enforcement and monitoring** The Danish Energy Agency enforces regulations related to energy. Regular monitoring of the enforcement is conducted and reported by the concerned agency. Municipalities are in charge of updating and maintaining the indicative § 3 registration. Municipalities further supervise compliance with conservation regulations on protected areas, except for areas owned by the Ministry of Environment. Landowners wishing to make changes to a protected natural area must apply for a dispensation from the municipality. **Risk conclusion and justification** Hedgerows and smaller woodlots TOF origins supplying producers with a capacity of 2.5 MW or below are under no legal obligation to be regenerated, as they do not have to comply with the Handbook. TOF origins supplying producers with a capacity of 2.5 MW or above are not required to use site specific control systems which means that the risk of inadequate or poor-quality documentation of regeneration is not mitigated. Therefore, specified risk is assessed for these origins. Nature conservation areas TOF origins supplying producers with a capacity of 2.5 MW or below are under no legal obligation to be regenerated, as they do not have to comply with the Handbook. TOF origins supplying producers with a capacity of 2.5 MW or above are not required to use site specific control systems which means that the risk of inadequate or poor-quality documentation of regeneration is not mitigated. Further, the Nature Protection Act does not assure regeneration of TOF areas and thus specified risk is assessed.
Supply Base Verifiers	• Relevant webpages of the Danish Nature Agency, Danish Environmental Protection Agency, Danish Environmental Agency, Ministry of Environment, Ministry of Climate, Energy and Utilities, the Danish Parliament • Relevant Danish national acts, laws and regulations

Evidence reviewed

- Danish Energy Agency, Meeting at Danish Energy Agency on 22.08.2023.
- Danish Energy Agency. (2022a). Order on Handbook on the fulfilment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål) (31.05.2023). https://ens.dk/sites/ens.dk/files/OlieGas/haandbogen.pdf
- Danish Energy Agency. (2024). Afrapportering vedr. indberetninger om bæredygtighed for forbruget af faste biobrændsler i 2022 https://ens.dk/media/59/download
- Fencing Act (10.07.2023) https://www.retsinformation.dk/eli/lta/2023/1040
- Political agreement on legal requirements for woody biomass (Opfølgende aftale ifm. Klimaftale for energi og industri mv.) on October 2, 2020 (02.10.2020). https://kefm.dk/Media/C/C/Aftale_om%20b%C3%A6redygtighedskrav%20til%20tr%C3%A6biomasse%20til%20energi.pdf
- Nature Protection Act. (04.10.2022). https://www.retsinformation.dk/eli/lta/2022/1392
- Preferred by Nature (2017). Timber legality assessment Denmark. Version 1.3.
- Preferred by Nature, The Standard for Biomass Producers. https://preferredbynature.org/sites/default/files/PbN%20Biomasseproducent%20standard%20DAN%2009Nov21%20V4.pdf

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Specified risk
- Nature conservation areas	Specified risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Not applicable
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Not applicable

2.2.11 The impacts of natural processes such as fires, pests and diseases shall be managed.

Findings

Scale of assessment

Not applicable

Analysis

Not applicable

	Enforcement and monitoring Not applicable **Risk conclusion and justification** Not applicable
Supply Base Verifiers	Not applicable
Evidence reviewed	Not applicable
Risk rating	Not applicable
2.2.12	**Genetically modified trees shall not be used.**
Findings	**Scale of assessment**

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

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 GMOs (**http://ec.europa.eu/food/dyna/gm_register/index_en.cfm**), and no tree (i.e. wood-producing) species are registered. Several trial releases have occurred for GMOs 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 the illegal use of GMO species in Danish forestry.

Enforcement and monitoring
The Danish Environmental Protection Agency conducts monitoring and risk assessments and manages the process for GMO field trials and commercial cultivation.

Risk conclusion and justification
As there is no evidence of the use of GM trees in Denmark, the risk for this indicator has been assessed as low for all forests.

Supply Base Verifiers

- EU register of authorized GMO (27.10.2023). https://food.ec.europa.eu/plants/genetically-modified-organisms/gmo-register_en
- Global Forest Registry: http://www.globalforestregistry.org/ => Preferred by Nature (27.10.2023) https://www.preferredbynature.org/projects/global-forest-registry

Evidence reviewed

- EU register of authorized GMO (27.10.2023). https://food.ec.europa.eu/plants/genetically-modified-organisms/gmo-register_en

Global Forest Registry: http://www.globalforestregistry.org/ => Preferred by Nature (27.10.2023) https://www.preferredbynature.org/projects/global-forest-registry

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

Principle 3 – Feedstock is only sourced from Supply Bases where the forest carbon stock is stable or increasing in the long term

Criterion 3.1 – Feedstock sourcing is consistent with international requirements for land use, land-use change and forestry (LULUCF) emissions

3.1.1

LULUCF emissions shall be accounted for through one of the following routes:

Route A

Feedstock may be sourced from a country of origin which is party to the Paris Agreement, and which has submitted a Nationally Determined Contribution to the United Nations Framework Convention on Climate Change (UNFCCC) covering carbon emissions and removals from agriculture, forestry and land use which ensure the changes in carbon stock associated with biomass harvest are counted towards the country's commitment to reduce or limit greenhouse gas emissions, or

Route B

Feedstock may be sourced from a country of origin which is party to the Paris Agreement and has national or sub-national laws in place (developed in accordance with Article 5 of the Paris Agreement and applicable in the area of harvest), to conserve and enhance carbon stocks and sinks, and provided there is evidence that reported LULUCF-sector emissions do not exceed removals, or

Route C

Feedstock may be sourced from a Supply Base where an assessment demonstrates that both the carbon stock is stable, and the forests' capacity to act as a carbon sink is stable or increasing over the long term.

Findings

Scale of assessment

The assessment covers Denmark's participation in the Paris agreement in the context of all TOF areas in Denmark. Route A is applied.

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group

	Wood energy crops (i.e. wood biomass), short rotation coppice | Assessed as TOF group

Analysis

Denmark ratified the Paris Climate Agreement in 2016 (UNFCCC: "Denmark") and has submitted a Nationally Determined Contribution as an EU member state to the UNFCCC covering carbon emissions and removals from land use, land use change, and forestry (LULUCF). This ensures that the changes in carbon stock associated with biomass harvest are counted towards the country's commitment to reduce or limit greenhouse gas emissions (European Commission, 2020). Denmark submitted its 7th national communication and 4th biennial report under the UNFCCC in 2018 and 2019, respectively (Rasmussen, 2018, Ministry of Energy, Utilities and Climate, 2019a). For the base year 1990, the historical emissions/removals for the LULUCF sector were 4.9 million tonnes of CO2 equivalents (Rasmussen, 2018). Denmark's climate policy is based on the EU, the UNFCCC, Kyoto Protocol, and the Paris Agreement requirements. Common policies of the EU play a major role in the implementation of international agreements (Rasmussen, 2018). The national emission reduction targets are presented in the National Energy and Climate Plan 2030 (Ministry of Energy, Utilities and Climate, 2019b). For the whole LULUCF sector, Denmark's target is to be at least climate neutral i.e., the emissions do not exceed removals (Ministry of Energy, Utilities and Climate, 2019b).

Enforcement and monitoring

Denmark has thus far done all the required reporting and review related to the Paris Agreement. The reporting is subject to multilateral assessment.

Risk conclusion and justification

In Denmark, LULUCF emissions are accounted for through route A, therefor it is concluded that there is a low risk of non-compliance with the requirement for all TOF categories.

Supply Base Verifiers	• UNFCCC website and NDC registry • UNFCCC national communications and biennial reports • National policies and plans
Evidence reviewed	• European Commission. (2020). Update of the NDC of the European Union and its Member States (27.10.2023). https://unfccc.int/sites/default/files/NDC/2022-06/EU_NDC_Submission_December%202020_0.pdf • Ministry of Energy, Utilities and Climate. (2019a). Denmark's Fourth Biennial Report under the United Nations Framework Convention on Climate Change. Published by the Ministry of Energy, Utilities and Climate. • Ministry of Energy, Utilities and Climate. (2019b). Denmark's Integrated National Energy and Climate Plan under the Regulation of the European Parliament and of the Council on the Governance of the Energy Union and Climate Action. • Rasmussen, E. (ed.) (2018). Denmark's Seventh National Communication and Third Biennial Report under the United Nations Framework Convention on Climate Change. Published by the Ministry of Energy, Utilities and Climate. • UNFCCC: "Denmark" (27.10.2023). https://unfccc.int/node/61052

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

Criterion 3.2 – Carbon stocks in the forest area of the Supply Base are stable or increasing in the long term

3.2.1

All feedstock sourcing shall be consistent with either of these two options:

Option A

Feedstock may be sourced from Supply Bases where an assessment of the Supply Base shows that the forest carbon stocks are stable or increasing, or

Option B

Feedstock may be sourced, if the assessment shows that the forest carbon stocks are declining in the Supply Base, provided that the decline is due to natural processes (fire, pests etc.), and sourcing of feedstock has the aim to recover feedstock that would otherwise be lost or to assist regeneration.

Findings

Scale of assessment

Not applicable

Analysis

Not applicable

Enforcement and monitoring

Not applicable

Risk conclusion and justification

Not applicable

Supply Base Verifiers	Not applicable
Evidence reviewed	Not applicable
Risk rating	Not applicable
3.2.2	**Primary feedstock shall not be sourced from forest areas where site productivity is low and, according to local definitions or norms, the areas are classified as low-productive or difficult to regenerate.**
Findings	**Scale of assessment** Not applicable **Analysis** Not applicable **Enforcement and monitoring** Not applicable **Risk conclusion and justification** Not applicable
Supply Base Verifiers	Not applicable
Evidence reviewed	Not applicable
Risk rating	Not applicable
3.2.3	**Primary feedstock shall not be sourced from forest areas in the Supply Base which, according to local definitions or norms, are classified as having combined attributes of high carbon stocks and high conservation value (HCV).**
Findings	**Scale of assessment** Not applicable **Analysis**

	Not applicable **Enforcement and monitoring** Not applicable **Risk conclusion and justification** Not applicable
Supply Base Verifiers	Not applicable
Evidence reviewed	Not applicable
Risk rating	Not applicable

Criterion 3.3 – Feedstock sourcing shall not compete with wood sourcing for long-lived wood products

3.3.1	**Feedstock sourcing shall be in compliance with the principles of cascading use, high quality stem wood shall not be used as feedstock if it is in substantial demand for long-lived products in the Supply Base.**
Findings	**Scale of assessment** Not applicable **Analysis** Not applicable **Enforcement and monitoring** Not applicable **Risk conclusion and justification** Not applicable
Supply Base Verifiers	Not applicable
Evidence reviewed	Not applicable

Risk rating	Not applicable

Principle 4 – Feedstock sourcing benefits people and communities

Criterion 4.1 – Decent working conditions are provided, and labour rights are safeguarded

4.1.1	**Freedom of association and the right to collective bargaining shall be respected in the workplace.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

The law on freedom of association in the labour market protects workers' freedom of association rights by prohibiting an employer from favouring whether a worker is or is not a union member (Freedom of Association Act 2006). The law protects: in connection with hiring and termination. The law also prohibits so-called exclusivity clauses in collective agreements. This means that collective agreements must not contain provisions that workers must be members of a union or a particular union. Exception: If an employer promotes a certain political, ideological, religious, or cultural viewpoint, and this is central to its business, the employer is exempt from the law's general regulation. The legislation does not apply to the Faroe Islands and Greenland. The Act on Freedom of Association in the Labour Market (2006) and Article 11 of the European Convention on Human Rights stipulate the freedom of association in the labour market. The Act protects the rights of workers in relation to their being members of workers' unions and prohibits any related discrimination in employing or dismissal of workers. In 1951, Denmark also ratified Convention 87 on the Freedom of Association and Protection of the Right to Organise and in 1955 Convention 98 on the Right to Organise and Collective Bargaining. It also respects the ILO reporting procedures. Freedom of association and

	organisation is guaranteed by law in Denmark and in the Universal Declaration of Human Rights which protects human rights and fundamental freedoms. This includes the right to join and form associations and participate in assemblies. **Enforcement and monitoring** Trade unions and individual workers report readily on any restrictions to the freedom of association or collective bargaining. Danish Working Environment Authority – Arbejdstilsynet enforces labour laws. The International Trade Union Confederation (ITUC) assigns Denmark a rating of 1, (on a scale from 1 to 5+, 1 being the highest and 5+ being the lowest) in the ITUC Global Rights Index 2022. This assessment is given for countries where collective labour rights are generally guaranteed, and only sporadic violations occur and are addressed. 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 regularly. Foreign service providers in Denmark shall register in the Registry for Foreign Service Providers (RUT-registeret), or face the risk of a fine of 10 000 kr. When companies have registered in the RUT registry, government authorities gain knowledge of the size of the company and the business area in which the services are provided, and the companies can then be subject to inspection from government authorities. In recent years companies in the forest-related sector have changed to a higher degree of employing people under the Danish union agreement instead of foreign companies under the RUT register. Employers contracting workers that are under the Danish collective agreements shall respect the terms of the agreements e.g., in payments, leaves, working hours and conditions. **Risk conclusion and justification** Danish labour legislation protects the right to association and bargaining. The enforcement of labour laws is good. Foreign companies/contractors shall be officially registered, and they are equally under the enforcement of Danish labour laws. Most employees in Denmark are covered by a collective agreement which specifies additionally the labour rules and engages trade unions in the supervision of their implementation. Based on the available information and the assumption that there is currently little activity relating to feedstock production being carried out by unregistered foreign contractors in Denmark, the risk for this indicator has been assessed as low concerning all TOF categories.
Supply Base Verifiers	• Existing legislation • An international analysis of the legislation • Level of enforcement including registration obligation • Publicly available information

Evidence reviewed

- Danish consitution (foreningsfrihed). https://www.retsinformation.dk/eli/lta/1953/169
- Danish legislation: https://www.retsinformation.dk/
- Danish Working Environment Authority – Arbejdstilsynet and other authorities provide guidance for foreign employers (26.10.2023). https://workplacedenmark.dk/
- Freedom of Association Act https://bm.dk/media/18904/rules-and-rights-when-working-in-denmark.pdf Lov om foreningsfrihed på arbejdsmarkedet: https://www.retsinformation.dk/eli/lta/2006/424
- ILO NATLEX Database (30.10.2023): https://www.ilo.org/dyn/natlex/
- ILO. Overview of ILO conventions ratified by Denmark (30.10.2023): https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609 (15 Jan 2023)
- International Trade Union Confederation https://www.ituc-csi.org/
- ITUC Global Rights Index 2022 (30.10.2023): https://files.mutualcdn.com/ituc/files/2022-ITUC-Rights-Index-Exec-Summ-EN_2022-08-10-062736.pdf
- Ministry of Employment (30.10.2023) https://bm.dk/the-ministry-of-employment/
- Registry for Foreign Service Providers: https://erhvervsstyrelsen.dk/registrering-af-udenlandske-tjenesteydere-rut

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.2 Forced or compulsory labour shall not be used.

Findings

Scale of assessment

Scope includes Danish citizens and immigrants (with working permits) employed to work in Denmark (excluding Greenland and the Faroe Islands). Immigrants without a working permit do not have workers' rights in the country and any work is a breach of the law on their and their employer's part. On the other hand, international and national laws prohibiting forced labour and protecting human rights apply.

TOF origin	Risk

Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Denmark ratified Convention 29 in 1932 and Convention 105 on forced and bonded labour in 1958. Denmark adopted in 2008 the Order on the Protocol against the smuggling of migrants by land, sea, and air, supplementing the United Nations Convention against Transnational Organized Crime. (Bekendtgørelse (2008:35), which also contributes to the control of illegal and potentially forced labour in today's conditions. The Working Environment Act (2010) is a framework act to promote health and safety in workplaces. 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. Indirectly it is also linked to the conditions of potentially involuntary working conditions. Workers who are tied to an employer only through the work contract and who are free to change employer are well protected against any abuse regarding underpayment or excessive working hours which are often characteristics of forced labour. For non-EU immigrant workers whose work permit is linked to a specific employer, there is a slightly higher risk of being forced to work under conditions that do not meet the terms of the collective agreement. Immigrants may also be in debt due to unreasonably high recruitment costs they have paid. This is a universal problem, and it is monitored in Denmark by NGOs and by authorities. Numbers from Statistics Denmark shows that almost twice as many foreigners work on Danish farms as just 10 years ago. The foreigners are often from Ukraine or Rumania. Jakob Vesterlund Olsen, a researcher from University of Copenhagen, states to the Danish Union 3F, that these immigrants are mainly employed in the stables in the milk production industry and the pork industry. Workers working in Denmark but employed by foreign companies may have the status of being posted workers and they are subject to the Act on Posting of Workers and consequently to the following Danish labour laws (examples): The Working Environment Act, The Equal Treatment Act, The Equal Pay Act, The Act Prohibition against Discrimination on the Labour Market, The Salaried Employees Act (paragraph 7, Section 9), and The Consolidation Act concerning Posting of Workers. Danish Working Environment Authority – Arbejdstilsynet – maintains together with other authorities a website "Workplacedenmark.dk" that informs foreign workers on their rights and obligations. It also gives guidance on how to make complaints about possible breaches of the law.

Enforcement and monitoring

The International Trade Union Confederation (ITUC) assigns Denmark a rating of 1, (on a scale from 1 to 5+) in the ITUC Global Rights Index 2022. This assessment is given for countries where collective labour rights are generally guaranteed, and only sporadic violations occur.

Risk conclusion and justification

	In Denmark, there is comprehensive labour legislation and strong traditions for collective labour contracts in different fields. Institutional framework and enforcement support their appropriate implementation. Danish citizens or immigrants with free work permits are well protected against forced labour (working hours or remuneration or other conditions are not respected). There is a minor risk of unfair working conditions for immigrants whose residence and work permit are linked to one specific employer and thus they are not able to look for a better job. Immigrants have not worked typically in larger numbers in the bioenergy sectors. In the agricultural sector, immigrants are mainly employed in the milk production industry and the pork industry. Based on the available information, the risk for this indicator has been assessed as low concerning all TOF categories.
Supply Base Verifiers	• Existing legislation • Level of enforcement • Publicly available information
Evidence reviewed	• Arbejdstilsynet: Description of Working Environment Act: https://at.dk/en/regulations/working-environment-legislation/ • ILO NATLEX Database (30.10.2023): https://www.ilo.org/dyn/natlex/ • ILO. Overview of ILO conventions ratified by Denmark (30.10.2023): https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609 • ITUC Global Rights Index 2022 (30.10.2023): https://files.mutualcdn.com/ituc/files/2022-ITUC-Rights-Index-Exec-Summ-EN_2022-08-10-062736.pdf • Ministry of Employment, Overview of applicable legislation (30.10.2023): https://bm.dk/the-ministry-of-employment/legislation/ • Sprangler, M. & Hvalkof, S. (2021). The Danish model of exploiting migrant workers: https://www.opendemocracy.net/en/beyond-trafficking-and-slavery/the-danish-model-of-exploiting-migrant-workers/ • Workplace Denmark (27.10.2023): "Your rights as a posted worker". https://workplacedenmark.dk/regulations-on-posting/your-rights-as-a-posted-worker/ • "Doubling in 10 years: Every third employee in agriculture is a foreigner" (14.07.2021). https://fagbladet3f.dk/artikel/hver-tredje-ansat-i-landbruget-er-udlaending
Risk rating	

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.3	Child labour shall not be used.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Teenagers may work from the age of 13 onwards, but they must have parental permission if aged under 18. The minimum age for full-time employment is 15, after completing nine years of compulsory education.

Denmark ratified Convention 138 on the minimum age for workers in 1997 and Convention 182 on Worst Forms of Child Labour Convention in 2000 and has corresponding national legislation protecting children (e.g., The Childrens Act (2014). The Working Environment Act (2062/2021) is a framework act to promote health and safety at workplaces. It also gives special provisions for working conditions for persons below 18 years of age. According to the Act on respecting prohibition against discrimination in the labour market etc., salaries and access to certain jobs may be restricted for children below 15 years of age. The National Council for Children and Helplines to Ombudsman and Jobpatruljen are available for teenagers wanting to learn more about their rights.

Enforcement and monitoring

Danish Working Environment Authority – Arbejdstilsynet enforces labour laws. Child labour-related issues are also addressed by the social authorities. The International Trade Union Confederation (ITUC) assigns Denmark a rating of 1 (on a scale from 1 to 5+) in the ITUC Global Rights Index 2022. This assessment is given for countries where collective labour rights are generally guaranteed, and only sporadic violations occur and are addressed.

Risk conclusion and justification

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. Therefore, the risk for this indicator has been assessed as low concerning all TOF categories.

Annex 1 Detailed findings for Supply Base Evaluation

Supply Base Verifiers	• Existing legislation • Level of enforcement • Publicly available information
Evidence reviewed	• Business in Denmark: "Employment and dismissal – Working hours". (26.10.2023): https://businessindenmark.virk.dk/guidance/employment-and-dismissal/working-hours/ • Consolidation Act on the Employment of Young Workers. (06.04.2005). https://www.retsinformation.dk/eli/lta/2005/239 • Danish ratification of ILO Convention No. 138 on the minimum age for access to employment: https://www.retsinformation.dk/eli/ltc/1998/31 • Danish ratification of ILO Convention No. 182 on the prohibition of and immediate efforts to abolish the worst forms of child labour: https://www.retsinformation.dk/eli/ltc/2000/62 • EU Charter of Fundamental Rights (Article 32, Prohibition of child labour and protection of young people at work). https://fra.europa.eu/da/content/charterpedia • ILO NATLEX Database (30.10.2023): https://www.ilo.org/dyn/natlex/ • ILO. Overview of ILO conventions ratified by Denmark (30.10.2023): https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609 • Promulgation of the Act on the implementation of parts of the Working Time Directive (24.08.2004). https://www.retsinformation.dk/eli/lta/2004/896 • Work of young people subject to education (At-vejledning). https://at.dk/regler/at-vejledinger/undervisingspligtige-unges-arbejde-13-0-1/ • Working Environment Act (Chapter 10: Young people under 18) (27.10.2023). https://www.retsinformation.dk/eli/lta/2020/674
Risk rating	

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.4	**Workers shall not be discriminated in hiring, remuneration, access to training, promotion, termination or retirement.**
Findings	**Scale of assessment**

TOF origin	Risk

Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

The Law Prohibiting Discrimination in Labour Market (2017) states that direct and indirect discrimination are prohibited in the Danish labour market during hiring, employment and on termination. This law also applies to foreign businesses and posted workers in Denmark. The regulations prohibit discrimination and harassment on the grounds of race, skin colour or ethnic origin, religion or faith, sexual orientation, national or social origin, political views, age, or disability.

In the private sector, criteria for promotion access to training or remuneration are not public information, therefore information on potential discrimination is not readily available if not disclosed by the employer's procedures or by the employee. In the public sector, more information is available which allows the assessment of potential discrimination. Denmark ratified in 1960 Conventions 100 on Equal Remuneration and C 111 on Discrimination. Act on the Prohibition of Differences of Treatment in the Labour Market prohibits discrimination and harassment on the grounds of race, colour of skin, religion or belief, political affiliation, sexual orientation, age, disability or national, social, or ethnic origin. An employer may not subject workers or applicants for vacant jobs to differences of treatment in their appointment, dismissal, transfer, promotion, or respect of pay and working conditions. The Consolidation Act on Equal Pay to Men and Women ensures that men and women receive equal pay for equal work. This means that men and women must receive the same pay if they perform the same work or if their work has the same value. The authorities also provide online access to file complaints with the Board of Equal Treatment on discrimination perceived as illegal. Filing a complaint is free and can be done on the National Board of Appeals website. The international commitments and national labour laws in Denmark ban discrimination related to work. The law covers a broad range of characteristics that may lead to discrimination. The threshold to report on discrimination is intended to be low. The SBP requirement specifies that there should be procedures to prevent discrimination e.g., in promotion or access to training. In the private sector, these issues are not strongly regulated by laws and thus they are not addressed by enforcement. Collective labour agreements may or may not address these issues.

Enforcement and monitoring

The International Trade Union Confederation (ITUC) assigns Denmark a rating of 1 (on a scale from 1 to 5+) in the ITUC Global Rights Index 2022. This assessment is given for countries where collective labour rights are generally guaranteed, only sporadic violations occur, and they are addressed.

Risk conclusion and justification

Overall, the regulations and collective agreements promote equal rights and non-discrimination in the labour market. There are also complaint mechanisms in place

for authorities or to trade unions, which decrease the risks of discrimination. The risk for this category has therefore been assessed as low concerning all TOF categories.

Supply Base Verifiers

- Existing legislation
- Level of enforcement
- Publicly available information

Evidence reviewed

- Danish model: https://bm.dk/arbejdsomraader/arbejdsvilkaar/den-danske-model/
- ILO. Overview of ILO conventions ratified by Denmark (30.10.2023): https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609
- ITUC Global Rights Index 2022 (30.10.2023): https://www.globalrightsindex.org/en/2022
- Life in Denmark: "Non-discrimination and equal treatment" (30.10.2023). https://lifeindenmark.borger.dk/working/equality-in-the-workspace/non-discrimination-and-equal-treatment
- National Social Appeals Board (Ankestyrelsen). Complaint form (Klageskema – Ligebehandlingsnævnet) (30.10.2023) https://ast.dk/om-ankestyrelsen/blanketter/klageskema/klageskema
- Promulgation of the Act on Prohibition of Discrimination in the Labor Market. (24.08.2017). https://www.retsinformation.dk/eli/lta/2017/1001
- Workplace Denmark (27.10.2023): "Prohibition against discrimination". https://workplacedenmark.dk/en/working-conditions/prohibition-against-discrimination/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.5 Wages paid to workers shall meet or exceed the legal minimum wage or where there is no statutory minimum wage industry norms shall be met or exceeded.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

The labour market is - to a great extent - regulated by the various players in the labour market themselves, in contrast to regulation by legislation. Pay and working conditions are typically laid down by collective agreements concluded between trade unions and employers' organisations. Danish legislation does include minimum requirements for certain aspects e.g., the working environment, holiday, proof of employment, equal treatment, and equal pay. Denmark has not ratified ILO Convention 95 on Protection of Wages or Convention or Convention 131 on Minimum Wage Fixing which stipulates minimum wage. In collective agreements, trade unions and employers' organisations agree at the end of every contract period on remuneration and other employee benefits. Employment conditions, including wages, can either be agreed upon or negotiated between the employee and the employer or negotiated through a collective agreement between unions and employer associations at national or industry levels. Neither Danish nor foreign companies are legally required to comply with or conclude a collective agreement. Overall, the coverage of collective bargaining is high. In bioenergy production, collective agreements are laid down in the wood chips industry. Company-level agreements are becoming more common in the private sector. In the public sector, in contrast, the central agreements between the unions and the three employers (central government, regional government and local government) are crucial in setting pay rates, although since the late 1990s a small part of the pay of public sector employees has also been determined through local bargaining. The Act on Equal Treatment of Men and Women with regards to Employment covers all types of workers in different situations (unemployed, on family leaves, disabled etc.) 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. Workers working in Denmark but employed by foreign companies may have the status of being posted workers and they are subject to the Act on Posting of Workers and consequently to the following Danish labour laws (examples): The Working Environment Act, The Equal Treatment Act, The Equal Pay Act, The Act Prohibition against Discrimination on the Labour Market, The Salaried Employees Act, and The Consolidation Act concerning Posting of Workers. It is a condition of a work-based residence permit that posted, or immigrant workers shall work under the terms of collective labour agreements.

Enforcement and monitoring

Companies hiring contractors or other suppliers are responsible to ensure that the regulations and agreements on labour conditions and remuneration as well as payment of statutory fees are applied in the whole supply chain. Often employers request evidence of the fulfilment of statutory obligations as a contract term. Major organisations (e.g.,

	Skovdyrkerforeningen, HedeDanmark/ HD Silva and Naturstyrelsen) contracting forest work prefer contractors that are registered in the Danish company registry, and they often apply supplier questionnaires to gain confidence that the contractor respects applicable laws and organisation's policies and principles. Collective agreements set the acceptable level of payment. The major trade union is 3F. Foreign service providers in Denmark must register in the Registry for Foreign Service Providers (RUT-registeret). When companies have registered in the RUT registry, government authorities gain knowledge of the size of the company and the business area in which the services are provided, and the companies can then be subject to inspection from government authorities. An increasing share of companies employs people with Danish union agreements and follows the obligations of the agreements. **Risk conclusion and justification** 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 labour agreement and receive wages and benefits at the levels specified in these agreements. There is no legally determined minimum wage in Denmark. It cannot be ruled out that some workers receive average payments that do not meet the minimum requirements as specified in general in collective agreements. 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 do not constitute a specified risk in relation to the supply of feedstock for biomass production. There is currently very little activity relating to feedstock production being carried out by unregistered foreign companies.
Supply Base Verifiers	• Existing legislation • Level of enforcement • Publicly available information
Evidence reviewed	• Arbejdstilsynet: "Description of Working Environment Act". https://at.dk/en/regulations/working-environment-legislation/ • Business in Denmark: "Employment and dismissal - The Danish Labour Market Model".(26.10.2023) https://businessindenmark.virk.dk/guidance/employment-and-dismissal/the-danish-labour-market-model/ • ILO. Overview of ILO conventions ratified by Denmark (30.10.2023): https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609 • Workplace Denmark (27.10.2023): "Your rights as a posted worker". https://workplacedenmark.dk/regulations-on-posting/your-rights-as-a-posted-worker/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.6 Working hours shall comply with legal requirements.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

EU's Working Time Directive defines the framework for regulations on working hours in Denmark. The working time is determined in the employment contract, which may be part of a collective agreement or a local agreement. Generally, working hours are regulated in a collective agreement, and in most areas, standard working hours are 37 hours per week. Special rules apply to workers under the age of 18. According to The Act on Implementation of Parts of the Working Time Directive a daily rest period of a

	minimum of 11 consecutive hours, a break if the working day exceeds 6 hours; one day off per week, which must be preceded by a daily rest period. There must be no more than 6 days between the 2 days off; weekly working hours may not exceed an average of 48 hours, including overtime; A night worker may not work more than an average of 8 hours per 24-hour period. Danish Working Environment Act stipulates that the employee is entitled to 11 hours of rest within a period of 24 hours and that the employee is entitled to a weekly day and nighttime off. For four months, the average working time per week cannot exceed 48 hours (EU Directive). If the employer suggests overtime work with justified reasons and the employee must agree to it if he/she does not have valid reasons to deny it. The Caps for weekly work apply also to overtime work. **Enforcement and monitoring** The salary calculation is based on working time and the employer is responsible to monitor the time worked. Employment law rules and principles are enforced by several government bodies within their respective areas of competence. **Risk conclusion and justification** Legislation on the working environment sets limits to the maximum working hours and stipulates compulsory resting times. The employer is responsible for not exceeding the allowed working time. The institutional framework to enforce the laws on appropriate working conditions is in place. Based on this situation the risk breaching of the regulations on working hours is deemed low concerning TOF categories.
Supply Base Verifiers	• Applicable legislation • Working Environment Authority under the Ministry of Employment • Public information on labour conditions
Evidence reviewed	• Act on Implementation of Parts of the Working Time Directive. (2004). https://www.retsinformation.dk/eli/lta/2004/896 • Business in Denmark: "Employment and dismissal – Working hours" (26.10.2023): https://businessindenmark.virk.dk/guidance/employment-and-dismissal/working-hours/ • Consolidation Act on rest periods and rest days. (23.05.2002). https://www.retsinformation.dk/eli/lta/2002/324 • IDA: "Legal Advice and Security - Working hours - Rules and regulations" (27.10.2023). https://english.ida.dk/working-hours • Working Environment Act. (27.10.2023). https://at.dk/en/regulations/working-environment-act/ • Workplace Denmark (27.10.2023): "Pay and working hours for posted workers". https://workplacedenmark.dk/working-conditions/pay-and-working-hours/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.7 Workers shall have access to health care provisions, sickness benefits, retirement benefits, invalidity benefits, death benefits, and workers' compensation.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Denmark has an extensive public healthcare system that offers free consultation and treatment from a general practitioner. Legal workers in Denmark, are covered by the Danish health insurance system. Most examinations and treatments are free with a health insurance card. Danish regulations require that cooperation on occupational health

	and safety takes place through a Health and Safety Organisation (in Danish AMO). The task of the Health and Safety Organisation is to help ensure a good working environment and prevent occupational health and safety problems. In principle, employees get their health services through public health care, but companies may provide voluntary health insurance and thus give access to faster and possibly improved services offered by private companies. Part of the salary is paid to a pension fund. Employees may also decide to which fund the money is allocated. State pensions (folk pension, senior pension or pre-pension may complement work-based pensions in case the accumulated sums are not sufficient for living. The pension age is 66–68 years. Social security insurance covers work-related health problems and their treatments. It is funded by workers and by employers. The Minister of Employment may lay down regulations requiring medical examinations for the sectors or groups of employees whose work involved a risk to the health. The employer is responsible for the costs (Working Environment Act Part 11). Sickness leaves are in general paid by employers. Social security (social securing, pensions, taxes, etc.) is funded by workers and employees and the fees are deducted from the gross salary. It is important to verify that the employer has registered the workers and pays the fees as appropriate and provides pay slips to the employee. A pension scheme (ATP) is enforced by law. It is funded by both employer (2/3) and the employee (1/3). Labour market insurance (AES) is mandatory for all private and public sector employers. It funds and pays compensation for recognised occupational diseases. AES is funded by employer contributions. Additional social fees include e.g. employer's payments of pension fees to the unemployment fund, maternity/paternity leave fund, occupational injury insurance and the fund securing payment for foreign workers in Denmark (AFU). **Enforcement and monitoring** Danish employers are liable to pay various social costs for their employees and deduct the employee contributions from the gross salary and allocate the money to the statutory funds. The employer shall report regularly on the taxes and labor market contributions paid from the employee's salary and by the employer. Tax agencies, social funds and transparency in companies' accounting systems contribute to the efficient enforcement of the payment of social obligations by employers and employees. **Risk conclusion and justification** The institutional framework is strong in Denmark to collect and ensure social security in the forms of pensions, state social insurance or access to health care (state of occupational) if an employee is registered as appropriate and thus employer is entitled to pay the required fees. The benefits are linked to formal labour relations where all incomes are reported also to authorities. There is no specified risk with biomass producers who are responsible employers and require that contractors in the supply chain obey the law concerning all TOF categories.
Supply Base Verifiers	• Legislation • Description of the pension system, occupational health systems • Enforcing procedures
Evidence reviewed	• Borger.dk: "Om pension" (Danish pension system) (26.10.2023). https://www.borger.dk/pension-og-efterloen/Pensionssystemet-i-Danmark/Om-pension • Danish Tax Agency (Skattestyrelsen) (26.10.2023). https://skat.dk/ • Life in Denmark: "Healthcare when working in Denmark" (30.10.2023). https://lifeindenmark.borger.dk/healthcare/health-insurance/healthcare-when-working-in-denmark • Nordic Co-Operation: "Danish retirement pension". (30.10.2023) https://www.norden.org/en/info-norden/danish-retirement-pension • Working Environment Act. (27.10.2023). https://at.dk/en/regulations/working-environment-act/ • Workplace Denmark (27.10.2023):" Requirements for health and safety cooperation". https://workplacedenmark.dk/health-and-safety/health-and-safety-organisation/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.8 **Training shall be provided for all workers to allow them to implement the conditions set out in all elements of the SBP Standards relevant to their responsibilities.**

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Generally, forest managers, farmers, gardeners, and workers/landscape craftsmen in Denmark have a high level of education. Basic training for a skilled forest worker, farmer or landscaper lasts minimum three years. The curriculum includes mechanisation, ergonomics, health and safety, forestry techniques, biology, and economics.

	There is also an option for acquiring formal recognition as a skilled forest worker through 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 training every year. However, there are no qualification criteria for forest workers, and employers have the responsibility to ensure that workers have adequate competence for the work they are performing. Competence in SBP sourcing standards will require special training. The education system in agriculture, forestry and nature management is good and professionals with a broad understanding of sustainable nature management are available for management and planning operations. Workers educated in Denmark have also training in responsible and sustainable management. It is then the responsibility of biomass producers to ensure that all workers including foreign workers have adequate competence. The policies, commitments and internal control mechanisms in a responsible organisation will address the responsible management through the supply chain. The SBP requirements exceed the statutory requirements for forest and nature management in Denmark, therefore normal enforcement of activities does not ensure compliance with SBP requirements. **Enforcement and monitoring** Supply chain control on the commitments to comply with SBP requirements; second-party and third-party audits and certifications. **Risk conclusion and justification** The level of professional training for workers is high in Denmark and employees are provided with the needed knowledge, skills and abilities they need to perform their jobs effectively and safely. Therefor this indicator is classified as low risk concerning all TOF origins.
Supply Base Verifiers	• Training of forest, agriculture, and landscape professionals • Descriptions of the training program
Evidence reviewed	• University of Copenhagen: "Skov- og naturtekniker (EUD)" (Information about the education, courses and training offered by the forestry school). https://skovskolen.ku.dk/skov-og-naturtekniker/ • Order on agricultural education: https://www.retsinformation.dk/eli/lta/2023/299 • Education guide on agriculture: https://www.ug.dk/uddannelser/erhvervsuddannelser/foedevarerjordbrugogoplevelser/landbrugsuddannelsen • Education guide on landscaping: https://www.ug.dk/uddannelser/erhvervsuddannelser/foedevarerjordbrugogoplevelser/anlaegsgartner

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.9 Mechanisms shall be in place for resolving grievances and disputes in the workplace.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Disputes related to work, payments, benefits and working conditions should be discussed at the workplace with the management of the employer. Workers may elect workers' representatives e.g., for discussing with management on health and security and working condition-related issues, Workers may also elect a trade union representative among the staff. The representative can address issues related to payments and dismissal together with the workers. Trade unions also provide guidance and support in case of grievances, in major cases, they can also participate in the mediation process. The elected workers' representatives are protected from dismissal which allows them to

	bring up and defend issues that are difficult for the employer. If there is likely evidence of illegal activities by the employer or other party at the workplace, a worker may file a formal complaint to National Social Appeals Board and/ or Work Environment Authority (Arbejdstilsynet). Links leading to making formal complaints are available online publicly. **Enforcement and monitoring** The disputes related to work conditions shall be resolved according to administrative procedures and labour legislation. The prevailing practice is to include additional dispute resolution -related statements of clarification in the working agreements. In addition, trade unions can assist in resolving disputes over working conditions and can use their procedures and agreements. For illegal discriminatory treatment, one can file a complaint with the Board of Equal Treatment. Filing a complaint is free. If your claim is upheld one is entitled to compensation. The Board of Equal Treatment is contacted by writing to the National Social Appeals Board at ast@ast.dk. Everyone can complain to Work Environment Authority (Arbejdstilsynet) if they believe or suspect that the working environment regulation has been violated. This also applies if there is a suspicion that a foreign company performing work in Denmark violates the working environment rules. **Risk conclusion and justification** The Danish labour market has robust procedures to address different levels of grievance and disputes in the workplace. Election of workers' representatives with the special mandate and related committees e.g., in working conditions and safety allows open discussion at the workplace. The processes are backed by trade unions and authorities. Individual workers, Danish and foreign, have a low threshold to file a complaint on illegalities. The risk of not addressing the complaints as appropriate is deemed low. Based on the reviewed evidence it is concluded that there is a low risk of non-compliance with the requirement concerning all TOF categories.
Supply Base Verifiers	• Existing legislation • Best Practices to address grievances in the labour market. • Accessibility to file complaints
Evidence reviewed	• Life in Denmark: "Complaint about Violations of the Working Environment Act" (30.10.2023). https://lifeindenmark.borger.dk/working/work-rights/complain-about-violations-of-the-working-environment-act • Work in Denmark: "Unfair Treatment" (Guidance on workers' rights) (30.10.2023). https://www.workindenmark.dk/working-in-denmark/terms-of-employment/unfair-treatment • Working Environment Act. (30.10.2023). https://at.dk/en/regulations/working-environment-act/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.1.10 Safeguards shall be put in place to protect the health and safety of workers by developing, communicating and implementing policies and procedures.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Workers' health and safety are well-regulated in the Danish labour market. The Framework Act on Working Environment aims at creating:

- a safe and healthy physical and psychosocial working environment which is always in accordance with the technical and social development of society, and

	• the basis on which enterprises themselves will be able to solve issues relating to health and safety under the guidance of the employers' and workers' organisations, and the guidance and supervision of the Working Environment Authority. Complementary laws give specified rules to protect the health and safety of workers. The Work Environment 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 must ensure that working conditions are acceptable according to health and safety and must 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 Convention 148 on the working environment and Convention 155 on occupational health and safety. In 2022 the number of reported work accidents increased to the highest level registered, but many of them were due to the COVID-19 pandemic and were not linked to forest work. Not taking COVID into account, the yearly level of work accidents had a 10% increase from 2017 to 2022 with a total of 46.500 incidents. The agriculture, forestry and fishing sectors had 2 death cases in 2022 due to work-related accidents which is 4 fewer than in 2021. The International Trade Union Confederation (ITUC) assigns Denmark a rating of 1 (on a scale from 1 to 5+) in the ITUC Global Rights Index 2022. This assessment is given for countries where collective labour rights are generally guaranteed, and only sporadic violations occur. The health and safety conditions are sufficient to protect workers in relation to the harvest of biomass feedstock in Denmark when this work is carried out by Danish workers or Danish contractors. Mandatory registration of foreign companies operating in Denmark (RUT register) gives relevant government authorities information on their size and operations and they are equally subject to inspections of authorities on the work environment. 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. The risk is also low because employees in Denmark are aware of their rights and of the legislation related to health and safety. **Enforcement and monitoring** Companies are required to evaluate their workplace, but both companies and individual entrepreneurs are subject to health and safety legislation and can be controlled by the Labour Inspectorate. Injuries and safety risks must be reported to authorities by the employer/health care. **Risk conclusion and justification** In Denmark there is high enforcement of regulations relating to the working environment and workers' health and safety, this also includes registered foreign contractors. Based on the available information the risk for this indicator has been assessed as low for all TOF categories.
Supply Base Verifiers	• Existing legislation • Level of enforcement • Publicly available information
Evidence reviewed	• Arbejdstilsynets årsopgørelse 2022: https://at.dk/media/3qmibqzh/arbejdsulykker-aarsopgoerelse-2022.pdf • ILO. Overview of ILO conventions ratified by Denmark (30.10.2023). https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609 • ITUC Global Rights Index 2022 (30.10.2023): https://www.globalrightsindex.org/en/2022 • Registry for Foreign Service Providers: https://virk.dk/myndigheder/stat/ERST/selvbetjening/Register_of_Foreign_Service_Providers_RUT/ • Working Environment Act. (27.10.2023). https://at.dk/en/regulations/working-environment-act/

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

Criterion 4.2 – Feedstock sourcing benefits communities

4.2.1 Negative social and community impacts shall be identified and avoided.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

	Avoidance of negative impacts due to biomass procurement to local communities can be regulated e.g., by environmental legislation and spatial planning. Municipalities are the main spatial planning authorities, and municipal plans are legally binding for authorities and the main central cross-sector planning instruments. Local authorities are responsible for municipal and local planning; implementation of policies, plans and programmes; and issuance of most environmental permits and related inspections. Environmental impact assessment is not required for forestry activities, but they shall be in place in construction projects. Denmark has established legislation and procedures for land use planning. The Danish Environmental Protection Act amended in 2022 sets restrictions for any polluting activity. The Environmental Objectives Act (2017), governs protected areas, including the management of Natura 2000 areas. Denmark has a well-functioning environmental governance and management system characterised by a high level of cooperation and consensus. It applies socio-economic assessments and risk-based inspection systems. **Enforcement and monitoring** Environmental authorities enforce environmental legislation. Municipalities control land use and compliance with the relevant land use plans, that reflect the objectives of local development. **Risk conclusion and justification** The land-use planning and implementation are regulated by relevant legislation and enforcement procedures. For major interventions, an environmental impact assessment with consultations shall be made. Generally, harvest of biomass from TOF areas alone do not require consultations. Based on the current information the risk for negative social impacts is deemed to be low for all TOF categories.
Supply Base Verifiers	• Current legislation on land use planning and environmental impact assessment
Evidence reviewed	• Environmental Protection Act. (19.01.2022). https://www.retsinformation.dk/eli/lta/2022/100 • Environmental Objectives Act. (26.01.2017). https://www.retsinformation.dk/eli/lta/2017/119 • Environmental Protection Agency: "Permits and inspections" (27.10.2023) https://eng.mst.dk/industry/permits-and-inspections • OECD: "OECD Environmental Performance Reviews: Denmark 2019. Chapter 2. Environmental governance and management" (30.10.2023). https://www.oecd-ilibrary.org/sites/3a03e006-en/index.html?itemId=/content/component/3a03e006-en • Spatial Planning Act. (01.07.2020). https://www.retsinformation.dk/eli/lta/2020/1157 • The Biodiversity Information System for Europe: "Green Infrastructure in Denmark". https://biodiversity.europa.eu/countries/denmark/green-infrastructure

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.2.2 Feedstock sourcing shall positively contribute to the local economy, including employment.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Biomass with origin in Denmark is mainly supplied through domestic supply chains to energy plants (kraft- varmeværker) in Denmark. The value of wood and chips produced for energy was EUR 79.4 million in 2019 and the forestry sector provided jobs for 5 590 workers. Biomass production provides work opportunities to landowners, contractors and the transport sector that engage local entrepreneurs. The logging and processing of biomass (wood chips) are carried out mainly by Danish entrepreneurs.

Enforcement and monitoring
Municipalities control land use and compliance with the relevant land use plans, that reflect the objectives of local economy.

Risk conclusion and justification
The biomass industry provides employment and income opportunities to local communities. Based on the reviewed evidence, it is concluded that there is a low risk of non-compliance with the requirement for all TOF categories.

Supply Base Verifiers

- Public information
- Statistics

Evidence reviewed

- Danmarks statistik: "Home page". https://www.dst.dk
- Energy Agency: "Home page". https://ens.dk/en
- Nord-Larsen, T., Johannsen, V. K., Riis-Nielsen, T., Thomsen, I. M., Bentsen, N. S., Jørgensen, B. B. (2023). Skovstatistik 2021. Institut for Geovidenskab og Naturforvaltning. 60 s.
- UNECE/FAO. (2020). Forest sector workforce in the UNECE region: Overview of the social and economic trends with impact on the forest sector (27.10.2023). https://unece.org/DAM/timber/publications/2020/DP-76.pdf

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.2.3 Food, water supply or high conservation values (HCV) that are essential for the fulfilment of basic needs of communities shall be maintained or enhanced.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

Denmark has a high level of environmental protection and social responsibility. Some of the ways that Denmark complies with the following criteria are:

- Water supply: Denmark has abundant water resources, both surface and groundwater, that provide drinking water and irrigation for agriculture. Denmark has a high standard of water quality and management and implements measures to protect water sources from pollution and overexploitation.
- Food: Denmark has a strong agricultural sector that produces a variety of food products, such as dairy, meat, cereals, vegetables, and fruits.
- High conservation values (HCV): Denmark has a diverse and rich natural heritage, with forests, wetlands, grasslands, coastal and marine ecosystems that host many species of plants and animals. Denmark has designated many areas as protected or conserved under national and international laws and conventions, such as the Natura 2000 network. These areas are mapped and available to the public through the website Danmarks Miljøportal (http://arealinformation.miljoeportal.dk/distribution/). By law, HCVs are taken into consideration in land use planning. Different sources of biomass feedstock share properties regarding the presence, mapping, and protection HCVs. (See also SBP Benchmark 2.1.2 for detailed assessment). Denmark is also a signatory to the UN Sustainable Development Goals, the Paris Agreement, and the Global Biodiversity Framework, which aim to achieve a more sustainable and equitable future for all.

Enforcement and monitoring

The Danish Environmental protection Agency is responsible for monitoring and enforcing water quality standards. Municipalities manage water distribution and wastewater treatment. The framework for food security is overseen by the Ministry of Food, Agriculture and Fisheries.

Risk conclusion and justification

There is a low risk of non-compliance with this SBP requirement because the potential negative impacts of biomass procurement on the basic needs of subsistence of local communities are low for all applicable TOF categories.

Supply Base Verifiers

- Existing legislation
- Public information
- See SBP Benchmark 2.1.2.

Evidence reviewed

- Protection of groundwater ressources: Grundvandsbeskyttelse - Miljøstyrelsen (mst.dk)
- Circular on water abstraction and water supply: Cirkulære om vandindvinding og vandforsyning (Til kommunalbestyrelser, amtsråd og hovedstadsrådet) (retsinformation.dk)
- Environmental Protection Act: Miljøbeskyttelsesloven (retsinformation.dk)
- See SBP Benchmark 2.1.2.

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Not applicable
- Nature conservation areas	Not applicable
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.2.4 Legal, customary, and traditional tenure and use rights of Indigenous Peoples and local communities related to the Supply Base shall be identified, documented, and respected.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Not applicable

Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

This Benchmarking assessment covers only Denmark, and it does not apply to Greenland or Faroe Islands. In Denmark, there are no indigenous communities of Inuit people who maintain their traditional livelihoods in Denmark.

Analysis

The issues related to legal, customary, and traditional tenure and use rights of indigenous people do not apply to Denmark. The following addresses access rights for the public, including local communities. According to the Proclamation on the public's access to nature, the public has the right to access uncultivated land by foot (with certain limitations). There is no access within a 150 m radius around houses. Also, the public has the right to enter roads and paths in the landscape with only few limitations.

Enforcement and monitoring

Municipalities deal with cases where there are unreasonable restrictions to free access. According to a 2014 report from the Outdoor Council, there are no indications of systemic conflicts with landowners; with the same report stating that 97% of visitors are happy with their visit to the nature and mainly use the nature for recreational purposes.

Risk conclusion and justification

The risk for violation of local communities' use rights is assessed as low concerning all applicable TOF categories.

Supply Base Verifiers

- Customary use rights are identified and documented.
- Appropriate mechanisms exist to resolve disputes.
- Agreements exist regarding these rights

Evidence reviewed

- Danish Outdoor Council. (2014). Danskernes brug af nature - og omfanget af generende oplevelser i mødet med andre brugere. https://friluftsraadet.dk/om-os/viden-fakta-om-friluftsliv/danskernes-brug-naturen
- Proclamation on the public's access to travel and stay in nature. (27.06.2016). https://www.retsinformation.dk/eli/lta/2016/852
- Nature protection Act (04.10.2022) Naturbeskyttelsesloven (retsinformation.dk)

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.2.5 Mechanisms shall be in place for resolving grievances and disputes relating to tenure and use rights of the forest and other land management practices.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

	Grievances and disputes, including those relating to tenure and usage rights, forest management practices, contracting and work conditions, are regulated by legislation, namely, the Constitution, the Law of Obligations Act, and the Labour Code. The detailed procedures, duties and responsibilities of involved persons are defined in the legislation. The legislation and justice system provides a route for appeal should people be dissatisfied with the outcome of the dispute resolution process. Land use conflicts may be a rising issue in Denmark because people and society have multiple objectives for land use varying from housing, industry, and transport development to agricultural or forest production or nature conservation and recreation. National, regional, and municipal planning outline the land use and each planning level has its own complaints mechanisms. The challenge is that in a densely populated country like Denmark, most land areas could be under some type of development which is not accepted by society. The disputes related to work conditions shall be resolved according to administrative procedures and labour legislation. The prevailing practice is to include additional dispute resolution-related statements of clarification in the working agreements. In addition, trade unions assist in resolving disputes over working conditions and can use their procedures and agreements. **Enforcement and monitoring** Danish Cadastre Office maintains a register on land ownership in Denmark. It has procedures to provide information for any conflict related to land tenure rights. Working Environment Agency, Arbejdstilsynet: Hotline for offensive behaviour or complaints. It carries out inspections at enterprises – including foreign enterprises with employees – to check that their health and safety conditions are in order. It also provides guidance and makes agreements with enterprises to fix problems. **Risk conclusion and justification** Based on the reviewed evidence mechanisms are in place for resolving grievances and disputes, relating to tenure and use rights. Therefore, it is concluded that there is a low risk of non-compliance with the requirement for all TOF categories.
Supply Base Verifiers	• Existing legislation • Level of enforcement • Collective agreements – system
Evidence reviewed	• Danish Board of Technology (26.10.2023). "Citizens' priorities of Denmark's land use in the future". https://tekno.dk/article/citizens-priorities-of-denmarks-land-use-in-the-future/?lang=en • Danish Geodata Agency: "Danish Cadastre Office" (26.10.2023). https://eng.gst.dk/danish-cadastre-office

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.2.6 Where Indigenous Peoples' rights are identified in the Supply Base, and Free Prior and Informed Consent (FPIC) has not been achieved for the proposed and planned activities, a consultation and, if required, accommodation process shall be put in place.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

This RRA covers the territory of Denmark excluding Greenland and the Faroe Islands. The Territory of Denmark does not have any recognized indigenous community.

Enforcement and monitoring

N/A

Risk conclusion and justification
Since the territory of Denmark (excluding Greenland and the Faroe Islands) does not have any recognized indigenous community, the risk is assessed low for all applicable TOF categories.

Supply Base Verifiers

- Public information

Evidence reviewed

- World Directory of Minorities and Indigenous Peoples: Denmark - World Directory of Minorities & Indigenous Peoples (minorityrights.org)

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Not applicable
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Not applicable
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

4.2.7 Designated cultural heritage sites shall be preserved.

Findings

Scale of assessment

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Assessed as TOF group
- Nature conservation areas	Assessed as TOF group
Urban, domestic and infrastructure	Assessed as TOF group
Woody residues from agricultural land	

- Woody residues production	Assessed as TOF group
- Primary production of the agriculture	Assessed as TOF group
Wood energy crops (i.e. wood biomass), short rotation coppice	Assessed as TOF group

Analysis

There are eleven UNESCO World Heritage Sites in Denmark and three in Greenland. All the sites in Denmark are either cultural heritage sites or coastal biospheres. Denmark ratified the convention concerning the protection of the World Cultural and Natural Heritage in 1979. National and regional/local heritage sites are identified and protected by laws and regulations. The Nature Protection Act provides protection, improvement, and restoration of cultural heritage sites within the natural areas. Municipalities also have the responsibility to consider heritage sites in land use planning. According to Statistics Denmark, there are 32,998 listed buildings and ancient monuments in Denmark in 2021. Protected ancient monuments are both inalienable and irreplaceable and constitute a large part of the Danish cultural heritage. Burial mounds constitute by far the largest group of protected ancient monuments, but there are many other types of ancient monuments. There are 34,000 km of stone and earth dykes in Denmark. Stone and earth dykes tell the history of the landscape through 2000 years and are protected because of their cultural-historical, biological and landscape significance. Both dykes and ancient monuments are protected via the Museum Act (§29a and §29e) and are well mapped.

Enforcement and monitoring

National Heritage Agency and the Danish Nature Agency enforce and regularly monitor the relevant legislation.

Risk conclusion and justification

Based on the information that most heritage sites are in cultural, and heavily modified landscapes and that they are well mapped, the risk of damaging them in biomass production is deemed low for all TOF categories.

Supply Base Verifiers

- Existing legislation
- Level of enforcement

Evidence reviewed

- EUI: "Denmark - Danish Cultural Heritage legislation as of July 2010" (27.10.2023). https://www.eui.eu/Projects/InternationalArtHeritageLaw/Denmark
- Nature Protection Act. (04.10.2022). https://www.retsinformation.dk/eli/lta/2022/1392
- UNESCO Heritage Sites: "Denmark - UNESCO World Heritage Convention" (27.10.2023). https://whc.unesco.org/en/statesparties/dk
- Statistics Denmark (27.10.2023). https://www.dst.dk/da/Statistik/emner/kultur-og-fritid/kulturarv/fredede-bygninger-og-fortidsminder
- "Protected dykes" (Beskyttede sten- og jorddiger) https://www.moesgaardmuseum.dk/media/6802/beskyttede-sten-og-jordiger-181215.pdf

Risk rating

TOF origin	Risk
Landscape areas	
- Hedgerows and smaller woodlots	Low risk
- Nature conservation areas	Low risk
Urban, domestic and infrastructure	Low risk
Woody residues from agricultural land	
- Woody residues production	Low risk
- Primary production of the agriculture	Low risk
Wood energy crops (i.e. wood biomass), short rotation coppice	Low risk

Annex 2 List of experts consulted and contacts of Working Body

Expert	Affiliation & role
Ms. Nora Skjernaa Hansen	Expert working at the Danish Energy Agency
Mr. Bo Larsen	Expert working at the Danish Energy Agency
Dr. Rasmus Ejrnæs	Professor at Department of Ecoscience - Biodiversity, University of Aarhus. Research areas: Biodiversity, Natura 2000, Natureprotection, Naturemanagement, and ecology
Ms. Lisbeth Lyck Sevel	Danish biomass expert working at Ørsted
Mr. Ernst Secher Eriksen	Danish biomass expert working at HedeDanmark
Mr. Ondrej Tarabus	Bioenergy, climate, and certification expert working at Preferred by Nature
Mr. Thomas Holst	Chief consultant at the Danish Agriculture and Food Council
Mr. Henrik Wejdling	Expert at DOF Birdlife, Denmark
Mr. Claus Jerram Christensen	Managing Director of the Danish Christmas Tree Association
Ms. Kristina Bodal-Lauridsen	Working Body Member. Danish forestry, nature, and certification expert. Consultant at Skovsøhus Natur ApS and Dansk Skovcertificering ApS.
Mr. Anders Bjørnkjær-Nielsen	Coordinator of the Working Body. Danish forestry, certification, and bioenergy expert. Consultant at B4Trees ApS.

Annex 3 List of publications used

Publications used

- Act on environmental assessment of plans and programs and of specific projects (VVM) https://www.retsinformation.dk/eli/lta/2023/4
- Act on Implementation of Parts of the Working Time Directive (2004). https://www.retsinformation.dk/eli/lta/2004/896 (24.08.2004)
- Act on the Administration of the European Union Regulations on Trade in Timber and Timber Products with a View to Combating Trade in Illegally Logged Timber (Lov om administration af Den Europæiske Unions forordninger om handel med træ og træprodukter med henblik på bekæmpelse af handel med ulovligt fældet træ). (18.12.2012). https://www.retsinformation.dk/Forms/R0710.aspx?id=144423
- Agrotech (2015). Kortlægning af potentiale og barrierer ved energipil, rapport udarbejdet for Energistyrelsen. Agrotech November 2015.
- Aarhus University (12.04.2024): Dead wood. https://novana.au.dk/naturtyper/kontrolovervaagning/indikatorer/skovstruktur/doedt-ved
- Batáry, P, Fischer, J., Báldi, A., Crist, T.O. & Tscharntke, T. (2011) Does habitat heterogeneity increase farmland biodiversity? Frontiers in Ecology and the Environment, 9, 152-153.
- Batáry, P., Kovács-Hostyánszki, A., Fischer, C., Tscharntke, T. & Holzs, A. 2012. Contrasting effect of isolation of hedges from forests on farmland vs. woodland birds. Community Ecology, 13, 155-161
- Batáry P, Matthiesen T, Tscharntke T (2010) Landscape-moderated importance of hedges in conserving farmland bird diversity of organic vs. conventional croplands and grasslands. Biological Conservation, 143, 2020-2027
- Beier, C. (red.), Caspersen, O. H., & Karlsson Nyed, P. (2017). Udvikling i Agerlandet 1954-2025: Kortlægning af Markstørrelse, markveje og småbiotoper. (1 udg.). IGN Rapport Nr. Januar 2017
- Biodiversity map for Denmark (26.10.2023). https://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk
- Bekendtgørelse nr. 1236 (24.11.2017). Om jordressourcens anvendelse til dyrkning og natur (jordressourcebe kendtgørelsen).
- Borger.dk: "Om pension" (Danish pension system) (26.10.2023). https://www.borger.dk/pension-og-efterloen/Pensionssystemet-i-Danmark/Om-pension
- Brown, E., N. Dudley, A. Lindhe, D.R. Muhtaman, C. Stewart, and T. Synnott (eds). (2013). Common Guidance for the Identification of High Conservation Values. HCV Resource Network.
- Brownell II, P. H., Iliev, B. E., and Bentsen, N. S. (2023). Wood flows through the Danish economy. IGN Report, March 2023. Department of Geosciences and Natural Resource Management, University of Copenhagen, Frederiksberg. 69 p. ill.
- Bumblebees threatened in Denmark (26.10.2023) Bad news for Europe's bumblebees | IUCN (26.10.2023). https://www.iucn.org/content/bad-news-europes-bumblebees
- Business in Denmark: "Employment and dismissal - The Danish Labour Market Model" (26.10.2023). https://businessindenmark.virk.dk/guidance/employment-and-dismissal/the-danish-labour-market-model/
- Business in Denmark: "Employment and dismissal – Working hours" (26.10.2023). https://businessindenmark.virk.dk/guidance/employment-and-dismissal/working-hours/
- Buttenschøn, R. M., Gottlieb, L., & Byriel, D. B. (2018). Naturplejeportalen - Rapportudgave. Københavns Universitet. IGN Rapport
- CITES Appendices I, II and III (26.10.2023): https://cites.org/sites/default/files/eng/app/2016/E-Appendices-2016-03-10.pdf
- Climate Council (26.10.2023): https://klimaraadet.dk/en/analyser/kulstofrige-lavbundsjorder
- Consolidation Act on rest periods and rest days. (23.05.2002). https://www.retsinformation.dk/eli/lta/2002/324
- Consolidation Act on the Employment of Young Workers. (06.04.2005). https://www.retsinformation.dk/eli/lta/2005/239
- Copenhagen University (15.04.2024): Personal communication with Maren Korsgaard, Depart of Plant and Environmental Science.
- Christmas Tree Association – IPM (26.10.2023). https://www.christmastree.dk/dyrkning/plantebeskyttelse
- Danish Board of Technology: "Citizens' priorities of Denmark's land use in the future" (26.10.2023). https://tekno.dk/article/citizens-priorities-of-denmarks-land-use-in-the-future/?lang=en
- Danish Business Authority. "Danish Central Company Register" (26.10.2023). https://datacvr.virk.dk/

Annex 3 List of publications used

- Danish Energy Agency. (2020). Biomass Analysis May 2020. Copenhagen.
- Danish Energy Agency (2022a). Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (Bekendtgørelse om Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af drivhusgasemissioner for biomassebrændsler til energiformål) (31.05.2023). https://ens.dk/sites/ens.dk/files/OlieGas/haandbogen.pdf
- Danish Energy Agency. (2022b). Energistatistik 2021. Energistyrelsen.
- Danish Energy Agency. (2024). (03.04.2024). Biomassetype for 2024-forbruget til brug for indberetning jf. Håndbogen om bæredygtighedskrav. https://ens.dk/sites/ens.dk/files/Varme/biomassetyper_overblik_2024_forbrug.pdf
- Danish Energy Agency. (2024b). Reporting on reports on sustainability for the consumption of solid biofuels in 2022. (11.09.2024) https://ens.dk/sites/ens.dk/files/Bioenergi/afrapportering_vedr._indberetninger_om_baeredygtighed_for_forbruget_af_faste_biobraendsler_i_2022.pdf
- DOF Birdlife (2024). Personal communication Henrik Wejdling February 19th 2024. Danish Environmental Impact Assessment Legislation (lov om miljøvurdering af planer og programmer og af konkrete projekter (VVM). (03.01.2023). https://www.retsinformation.dk/eli/lta/2023/4
- Danish Forest Association (Dansk Skovforening). (21.04.2022). Nu begynder kortlægning af værdifuld natur i private skove. https://www.danskskovforening.dk/nyhed/nu-begynder-kortlaegning-af-vaerdifuld-natur-i-private-skove/.
- Danish Forest Association (26.10.2023). "The Danish Forest Association". https://www.danskskovforening.dk/english/
- Danish Geodata Agency, "Home" (26.10.2023). https://gst.dk/
- Danish Geodata Agency: "Danish Cadastre Office" (26.10.2023). https://eng.gst.dk/danish-cadastre-office
- Danish Outdoor Council. (2014). Danskernes brug af nature - og omfanget af generende oplevelser i mødet med andre brugere. https://friluftsraadet.dk/om-os/viden-fakta-om-friluftsliv/danskernes-brug-naturen
- Danish Society for Nature Conservation (26.10.2023). "Interactive map of protected areas". http://www.fredninger.dk/
- Danish society for Nature Conservation about Christmas trees (26.10.2023). https://www.dn.dk/vi-arbejder-for/skov/produktion-af-trae/juletraeer/
- Danish society for Nature Conservation about earth dykes and living hedgerows (26.10.2023): https://www.dn.dk/vi-arbejder-for/biodiversitet/jorddiger-og-levende-hegn/
- Danish society for Nature Conservation about willow for energy production, Danmarks Naturfredningsforening om energipil (26.10.2023). https://aktiv.dn.dk/media/4796/energipolitik_net.pdf
- Danish Tax Agency (Skattestyrelsen) (26.10.2023). https://skat.dk/
- Danish Working Environment Authority – Arbejdstilsynet and other authorities provide guidance for foreign employers (26.10.2023). https://workplacedenmark.dk/
  "Doubling in 10 years: Every third employee in agriculture is a foreigner" (14.07.2021). https://fagbladet3f.dk/artikel/hver-tredje-ansat-i-landbruget-er-udlaending
- Danish Working Environment Authority: "Description of Working Environment Act" (27.10.2023). https://at.dk/en/regulations/working-environment-legislation/
- Danish Working Environment Authority: "Ny opgørelse: Antallet af anmeldte arbejdsulykker er steget igen i 2021 pga. COVID-19" (27.10.2023). https://at.dk/nyheder/2022/04/ny-opgoerelse-antallet-af-anmeldte-arbejdsulykker-er-steget-igen-i-2021-pga-covid-19/
- Danmarks Statistik, 2024 (09.04.2024): Det dyrkede areal efter enhed, område, afgrøde og tid. https://www.statistikbanken.dk/statbank5a/selectvarval/saveselections.asp
- Ejrnæs, R., Nygaard, B., Kjær, C., Baattrup-Pedersen, A., Brunbjerg, A. K., Clausen, K., Fløjgaard, C., Hansen, J.L.S., Hansen, M.D.D., Holm, T.E., Johnsen, T.J., Johansson, L.S., Moeslund, J.E., Sterup. J., Hansen R.R., Strandberg, B., Søndergaard, M. & Wiberg-Larsen, P. 2021. Danmarks biodiversitet 2020 – Tilstand og udvikling. Aarhus Universitet, DCE – Nationalt Center for Miljø og Energi, 270 s. - Videnskabelig rapport nr. 465. http://dce2.au.dk/pub/SR465.pdf
- Environmental Damage Act. (25.04.2022). https://www.retsinformation.dk/eli/accn/A20220048229
- Environmental Objectives Act. (26.01.2017). https://www.retsinformation.dk/eli/lta/2017/119
- Environmental Protection Act. (19.01.2022). https://www.retsinformation.dk/eli/lta/2022/100
- Environmental Protection Agency. (2012). The Agricultural Pesticide Load in Denmark 2007-2010. Copenhagen, Denmark.
- Environmental Protection Agency: "Applications for authorisation" (27.10.2023) https://eng.mst.dk/chemicals/pesticides/applications-for-authorisation-after-14-june-2011/
- Environmental Protection Agency: "Beskyttelse af § 3 Naturtyper" (27.10.2023) https://mst.dk/natur-vand/natur/national-naturbeskyttelse/3-beskyttede-naturtyper/beskyttelse-af-3-naturtyper/
- Environmental Protection Agency: "Permits and inspections" (27.10.2023)

Annex 3 List of publications used

https://eng.mst.dk/industry/permits-and-inspections

- Environmental Protection Agency: "Professional user of plant protection products" (27.10.2023). https://eng.mst.dk/chemicals/pesticides
- EU register of authorized GMO (27.10.2023). https://food.ec.europa.eu/plants/genetically-modified-organisms/gmo-register_en
- EU Renewable Energy Directive (RED) II - DIRECTIVE (EU) 2018/ 2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL - of 11 December 2018 - on the promotion of the use of energy from renewable sources (europa.eu)
- EUI: "Denmark - Danish Cultural Heritage legislation as of July 2010" (27.10.2023). https://www.eui.eu/Projects/InternationalArtHeritageLaw/Denmark
- European Commission. (2020). Update of the NDC of the European Union and its Member States (27.10.2023). https://unfccc.int/sites/default/files/NDC/2022-06/EU_NDC_Submission_December%202020_0.pdf
- FAO. "Definitions Related to Planted Forests" (27.10.2023). http://www.fao.org/docrep/007/ae347e/ae347e02.htm
- Fencing Act (10.07.2023) Hegnsloven (retsinformation.dk)
- Forest Act (26.05.2023) Skovloven
- Forest and Nature Agency. (2005). Handlingsplan for naturnær skovdrift i statsskovene. Udgivet af Miljøministeriet, Skov- og Naturstyrelsen, 2005
- FSC® (2018). FSC National Forest Stewardship Standard of Denmark. Copenhagen.
- FSC® List of "Highly Hazardous" pesticides: FSC-STD-30-001a EN FSC List of highly hazardous pesticides .pdf
- Freedom of Association Act. (26.04.2006). https://www.retsinformation.dk/eli/lta/2006/359
- GEUS map (27.10.2023): https://data.geus.dk/geusmap/?mapname=denmark&lang=en#baslay=baseMapDa&optlay=&extent=43687.868287823454,6059452.038622473,860898.0959970141,6516160.135457306&layers=jordartskort_200000
- Global Forest Registry: http://www.globalforestregistry.org/ => Preferred by Nature (27.10.2023) https://www.preferredbynature.org/projects/global-forest-registry
- Global Forest Watch. "Country Profile for Denmark" (27.10.2023) https://www.globalforestwatch.org/dashboards/country/DNK/?category=land-cover&map=eyJjYW5Cb3VuZCI6dHJ1ZX0%3D
- Irish Agroforestry Forum. (16.04.2024): Hedgerows/Shelterbelts https://www.irishagroforestry.ie/hedgerowsshelterbelts
- Graham L., Gaulton R., Gerard F., Staley J.T. (2018): "The influence of hedgerow structural condition on wildlife habitat provision in farmed landscapes". School of Engineering, Newcastle University UK and NERC Centre for Ecology and Hydrology, Maclean Building, Oxfordshire UK. Elsevier, Biological Conservation 220 (2018) 122–131
- 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.
- Gregor Levin and Steen Gyldenkærne (2022): "Estimating land use/land cover and changes in Denmark" Aarhus University, Department of Environmental Science. https://dce2.au.dk/pub/TR227.pdf
- Gregor Levin et al (2014): Estimating land use/land cover and changes in Denmark from 1990 to 2012. Aarhus University, Department of Environmental Science and University of Copenhagen, Department of Geosciences and Natural Resource Management (IGN). https://dce2.au.dk/pub/TR38.pdf
- Guidance on § 3 protected nature types of the Nature Protection Act. (19.12.2019). https://www.retsinformation.dk/eli/retsinfo/2019/10226
- Guidance on the use of land resources for cultivation and nature 2023. (26.10.2023) https://lbst.dk/landbrug/natur-og-miljoe/rydningspligt#c8660
- Habitatsvejledningen (11.11.2020): https://www.retsinformation.dk/eli/retsinfo/2020/9925
- Hedeselskabet (27.10.2023): https://www.hedeselskabet.dk/historien-om-hedeselskabet
- High Nature Value Farming Indicators (27.10.2023) European Forum on Nature Conservation and Pastoralism – What we do (efncp.org)
- Hjemsted for flagermus er fældet ulovligt - nu skal der plantes nyt. The home of bats has been felled illegally - now a new one must be planted (13.08.2023): https://www.tv2ostjylland.dk/silkeborg/hjemsted-for-flagermus-er-faeldet-ulovligt-nu-skal-der-plantes-nyt
- IDA: "Legal Advice and Security - Working hours - Rules and regulations" (27.10.2023). https://english.ida.dk/working-hours
- ILO NATLEX Database (30.10.2023): https://www.ilo.org/dyn/natlex/
- ILO. Overview of ILO conventions ratified by Denmark (30.10.2023). https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102609

Annex 3 List of publications used

- ITUC Global Rights Index 2022 (30.10.2023): https://files.mutualcdn.com/ituc/files/2022-ITUC-Rights-Index-Exec-Summ-EN_2022-08-10-062736.pdf
- IUCN (2014). (26.10.2023) Bumblebees threatened in Denmark Bad news for Europe's bumblebees | IUCN https://www.iucn.org/content/bad-news-europes-bumblebees
- Johansen V. K., and Nord-Larsen T. (2017): "Sagsnotat vedrørende skovbevoksede moser". Københavns Universitet, Institut for Geovidenskab og Naturforvaltning.
- Johannsen, V. K., Dippel, T., Friis Møller, P., Heilmann-Clausen, J., Ejrnæs, R., Larsen, J. B., Raulund-Rasmussen, K., Kepfer Rojas, S., Jørgensen, B. B., Riis-Nielsen, T., Bruun, H. H., Thomsen, P. F., Eskildsen, A., Fredshavn, J. R., Kjær, E. D., Nord-Larsen, T., Caspersen, O. H., & 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
- Johannsen, V. K., Nord-Larsen, T. B., Niclas S. & Vesterdal, L. (2019). Danish National Forest Accounting Plan 2021-2030. IGN report. Department of Geosciences and Resource Management, University of Copenhagen, Frederiksberg. 79 p. ill.
- Johannsen, V.K., Rojas,S.K., Brunbjerg, A.K., Schumacher, Bladt, J., Nyed, Moeslund, J.E., Nord-Larsen, T. & 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
- Kēniņa L, Jaunslaviete I, Liepa L, Zute D, Jansons Ā. (2019). Carbon Pools in Old-Growth Scots Pine Stands in Hemiboreal Latvia. Forests. 10. https://doi.org/10.3390/f10100911
- Land Registration Law (30.09.2014). https://www.retsinformation.dk/eli/lta/2014/1075
- Landbrug & Fødevarer (25.08.2023). Data provided by Thomas Holst, Chief consultant, EU & Frø. Copenhagen.
- Larsen, J. B. (2005). Katalog over skovudviklingstyper i Danmark. Udgivet af Miljøministeriet, Skov- og Naturstyrelsen 2005.
- Lex.dk: Den Store Danske: Weichsel-Istid (30.10.2023) https://denstoredanske.lex.dk/Weichsel-istid
- Life in Denmark: "Complain about violations of the Working Environment Act" (30.10.2023). https://lifeindenmark.borger.dk/working/work-rights/complain-about-violations-of-the-working-environment-act
- Life in Denmark: "Healthcare when working in Denmark" (30.10.2023). https://lifeindenmark.borger.dk/healthcare/health-insurance/healthcare-when-working-in-denmark
- Life in Denmark: "Non-discrimination and equal treatment" (30.10.2023). https://lifeindenmark.borger.dk/working/equality-in-the-workspace/non-discrimination-and-equal-treatment
- Luyssaert, S., Schulze, E. D., Börner, A., Knohl, A., Hessenmöller, D., Law, B., Ciais, P., Grace, J. (2008). Old-growth forests as global carbon sinks. Nature. 455: 213-215. 10.1038/nature07276
- Læhegn: Vejledning om tilskud til etablering af læhegn og småbeplantninger (30.10.2023) https://slks.dk/fileadmin/user_upload/SLKS/Omraader/Kulturarv/Arkaeologi__Fortidsminder_og_diger/Arkaeologi_paa_land/Arkaeologisk_vejledning/vejledning-om-tilskud-til-laehegn-og-smaabeplantninger-2018.pdf
- Madsen, H. B. (1984). Clay Migration and Podzolization in a Danish Soil. Geografisk Tidsskrift (Danish Journal of Geography), 84:1, 6-9. DOI: 10.1080/00167223.1984.10649190
- Managing Traditional Orchards… for bumblebees (30.10.2023) https://www.bumblebeeconservation.org/wp-content/uploads/2017/08/BBCT_Land_Factsheet_8_Managing_traditional_orchards.pdf
- Mapping Peatlands in Denmark Using Electromagnetic Methods. / Koganti, Triven; Adetsu, Diana Vigah; Andreasen, Frank et al. 2022. Abstract from EGU General Assembly 2022, Vienna, Austria.
- Middeldatabasen (31.10.2023) - Fastac-50 https://middeldatabasen.dk/product.asp?productID=60909
- Miljøstyrelsen (2021) The development in pesticide consumption in Denmark measured with the EU's harmonized pesticide indicators 2011-2019 (03.11.2023) https://www2.mst.dk/Udgiv/publikationer/2021/09/978-87-7038-338-7.pdf
- Miljøstyrelsen (2023) Agricultural leaching of nitrogen from the field (11.04.202403.11.2023) https://xn--miljtilstand-yjb.nu/temaer/arealanvendelse/landbrugets-udvaskning-af-kvaelstof-fra-marken/ https://miljotilstand.dk/arealanvendelse/landbrugets-udvaskning-af-kvaelstof-fra-marken
- Ministry of Employment, Overview of applicable legislation (30.10.2023) https://bm.dk/the-ministry-of-employment/legislation/
- Ministry of Energy, Utilities and Climate. (2019a). Denmark's Fourth Biennial Report under the United Nations Framework Convention on Climate Change. Published by the Ministry of Energy, Utilities and Climate.
- Ministry of Energy, Utilities and Climate (2019b). Denmark's Integrated National Energy and Climate Plan under the Regulation of the European Parliament and of the Council on the Governance of the Energy Union and Climate Action.
- Ministry of Environment and Food (2016). "Guidance for Danish Forest Owners on the EUTR" (Vejledning til danske skovejere om EU´s Tømmerforordning (EUTR).
- Ministry of Environment: "Danmarks Miljøportal". http://arealinformation.miljoeportal.dk/distribution/

Annex 3 List of publications used

- Ministry of Environment: "Kortlægning af naturmæssigt særlig værdifuld skov - § 25 skov". https://mst.dk/erhverv/skovbrug/naturmaessigt-saerlig-vaerdifuld-skov-25-skov/
- Ministry of Environment: "Ophørte tilskudsordninger til skov- og natur" 2024. https://mst.dk/natur-vand/natur/tilskud-til-skov-og-naturprojekter/ophoerte-tilskudsordninger-til-skov-og-natur/
- Ministry of Environment: "The Digital Nature Map 2021 incl. the Biodiversity map" (De Digitale Naturkort 2021 inkl. Biodiversitetskortet) (30.10.2023). http://miljoegis.mim.dk/cbkort?profile=miljoegis-plangroendk
- Ministry of Food Agriculture and Fisheries of Denmark, High Nature Value map (30.10.2023) https://lbst.dk/landbrug/natur-og-miljoe/pleje-af-graes-og-naturarealer/hnv-kortet-high-nature-value
- Ministry of Food Agriculture and Fisheries of Denmark: "If you want to prune trees or shrubs" on mark block areas (30.10.2023) https://lbst.dk/nyheder/nyhed/nyhed/hvis-du-vil-beskaere-traeer-eller-buskads#:~:text=Hvis%20du%20fremover%20vil%20besk%C3%A6re%20tr%C3%A6er%20og%20buskads,til%2031.%20juli%20af%20hensyn%20til%20ynglende%20fugle.
- Molina-Valero, J. A., Camarero, J. J., Álvarez-González, J. G., Cerioni, M., Hevia, A., Sánchez-Salguero, R., Martin-Benito, D., Pérez-Cruzado, C. (2021). Mature forests hold maximum live biomass stocks. Forest Ecology and Management. 480. https://doi.org/10.1016/j.foreco.2020.118635.
- National Social Appeals Board (Ankestyrelsen). Complaint form (Klageskema – Ligebehandlingsnævnet) (30.10.2023). https://ast.dk/om-ankestyrelsen/blanketter/klageskema/klageskema
- Naturbasen – private app (03.11.2023) https://www.naturbasen.dk/
- Nature Protection Act. (28.06.2024). https://www.retsinformation.dk/eli/lta/2024/927
- National Forest Inventory (NFI) (30.10.2023): https://ign.ku.dk/samarbejde-med-ign/forskningsbaseret-raadgivning/skovovervaagning/danmarks-skovstatistik/
- Nielsen, O.-K., Plejdrup, M.S., Winther, M., Nielsen, M., Gyldenkærne, S., Mikkelsen, M.H., Albrektsen, R., Thomsen, M., Hjelgaard, K., Fauser, P., Bruun, H.G., Johannsen, V.K., Nord-Larsen, T., Vesterdal, L., Stupak, I., Scott-Bentsen, N., Rasmussen, E., Petersen, S.B., Baunbæk, L., & Hansen, M.G. (2022). Denmark's National Inventory Report 2022. Emission Inventories 1990-2020 - Submitted under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. Aarhus University, DCE – Danish Centre for Environment and Energy, 969 pp. Scientific Report No. 494 http://dce2.au.dk/pub/SR494.pdf
- Nævnenes hus (2024): (03.04.2024) https://mfkn.naevneneshus.dk/
- Nordic Co-Operation: "Danish retirement pension" (30.10.2023). https://www.norden.org/en/info-norden/danish-retirement-pension
- Nord-Larsen, T., Johannsen, V. K., Riis-Nielsen, T., Thomsen, I. M., Bentsen, N. S., Jørgensen, B. B. (2023). Skovstatistik 2021. Institut for Geovidenskab og Naturforvaltning. 60 s.
- Nord-Larsen, T., Riis-Nielsen, T. & Ottosen, M. B. (2017). Forest resource map of Denmark – Mapping of Danish forest resources using ALS from 2014-2015. Department of Geosciences and Natural Resource Management, University of Copenhagen, Frederiksberg. 25 pp.
- Ny Vraa (03.11.2023) https://nyvraa.dk/vores-pil/energipil/
- Ochre Act (10.12.2015). https://www.retsinformation.dk/eli/lta/2015/1581
- OECD: "OECD Environmental Performance Reviews: Denmark 2019. Chapter 2. Environmental governance and management" (30.10.2023). https://www.oecd-ilibrary.org/sites/3a03e006-en/index.html?itemId=/content/component/3a03e006-en
- Order on designation and administration of international nature conservation areas and protection of certain species: https://www.retsinformation.dk/eli/lta/2023/1098
- Order on limitation of air pollution from mobile non-road machines etc. Bekendtgørelse om begrænsning af luftforurening fra mobile ikke-vejgående maskiner mv. (07.12.2015). https://www.retsinformation.dk/Forms/R0710.aspx?id=175847
- Order on Cross-Compliance (krydsoverensstemmelse) (21.12.2022) https://www.retsinformation.dk/eli/lta/2022/1601
- Petersen, L. & Rasmussen, K. (1987). Jordbundsudvikling under ager og nåleskov. Geografisk Tidsskrift 87: 65-67. København, juni 1987.
- Political agreement on legal requirements for woody biomass (Opfølgende aftale ifm. Klimaftale for energi og industri mv.) on October 2, 2020 (02.10.2020). https://kefm.dk/Media/C/C/Aftale_om%20b%C3%A6redygtighedskrav%20til%20tr%C3%A6biomasse%20til%20energi.pdf
- Preferred by Nature (2017). Timber legality assessment Denmark. Version 1.3.
- Preferred by Nature, The Standard for Biomass Producers (09.11.2021). https://preferredbynature.org/sites/default/files/PbN%20Biomasseproducent%20standard%20DAN%2009Nov21%20V4.pdf
- Proclamation on the public's access to travel and stay in nature. (27.06.2016). https://www.retsinformation.dk/eli/lta/2016/852

Annex 3 List of publications used

- Promulgation of the Act on Prohibition of Discrimination in the Labor Market. (24.08.2017). https://www.retsinformation.dk/eli/lta/2017/1001
- Promulgation of the Act on the implementation of parts of the Working Time Directive (24.08.2004). https://www.retsinformation.dk/eli/lta/2004/896
- "Protected dykes" (Beskyttede sten- og jorddiger) (30.10.2023) https://www.moesgaardmuseum.dk/media/6802/beskyttede-sten-og-jordiger-181215.pdf
- Protected lakes (03.11.2023) https://mst.dk/natur-vand/natur/national-naturbeskyttelse/3-beskyttede-naturtyper/beskyttelse-af-3-naturtyper/soeer/
- Rasmussen, E. (ed.) (2018). Denmark's Seventh National Communication and Third Biennial Report under the United Nations Framework Convention on Climate Change. Published by the Ministry of Energy, Utilities and Climate.
- Raulund-Rasmussen, K. & Hansen, K. (eds.). (2003). Grundvand fra skove - muligheder og problemer. Skovbrugsserien nr. 34, Skov & Landskab, Hørsholm, 2003. 122 s. ill.
- Ravn, H. P. (2020). Typografsituationen i 2020. Institut for Geovidenskab og Naturforvaltning, Københavns Universitet.
- Registry for Foreign Service Providers: (27.10.2023) https://virk.dk/myndigheder/stat/ERST/selvbetjening/Register_of_Foreign_Service_Providers_RUT/
- REGULATION (EU) 2016/1628 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL - of 14 September 2016 - on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/ 2012 and (EU) No 167/ 2013, and amending and repealing Directive 97/ 68/ EC (europa.eu) (27.10.2023) https://www.legislation.gov.uk/eur/2016/1628/chapter/XIV/data.pdf
- Restoration of raised bogs in Denmark using new methods – a LIFE Nature project Layman's report (27.10.2023) https://naturstyrelsen.dk/media/nst/Attachments/hoejmose_laymans_uk_low1.pdf
- Retsinformation (2019): (03.04.2024): Vejledning om naturbeskyttelseslovens § 3-beskyttede naturtyper. VEJ nr 10226 af 19/12/2019 (Gældende). https://www.retsinformation.dk/api/pdf/212358https://www.retsinformation.dk/api/pdf/212358
- SBP (2023): Guidance for SBP Standard 1: Feedstock Compliance. https://sbpcert.wpenginepowered.com/wp-content/uploads/2023/05/SBP_Guidance_Standard_1_v2.0_final.pdfSBP Instruction Document 1A (03.04.2024) : https://sbpcert.wpenginepowered.com/wp-content/uploads/2023/05/SBP_Instruction-Document-1A_v2.0_final.pdf
- SBP Instruction Document 5E (03.04.2024): https://sbpcert.wpenginepowered.com/wp-content/uploads/2023/12/SBP_Instruction-Document-5E_v2.1_final.pdf
- SBP Instruction Document REDII : Bridging Requirements for Meeting REDII version 1.1 published 25 January 2024 (03.04.2024): https://sbpcert.wpenginepowered.com/wp-content/uploads/2024/01/SBP_Instruction-Document-REDII_v1.1_final.pdf
- SEGES 2021: (16.04.2024): Pil. https://projekter.seges.dk/-/media/projectreport/projectdocuments/Promilleafgiftsfonden%20for%20landbrug/Promilleafgiftsfonden%20for%20landbrug%20-%202017/3735/pl_17_3735_dv_pil.ashx
- SKAT, 2024: Den juridiske vejledning (16.04.2024) https://info.skat.dk/data.aspx?oid=2386996&chk=219250
- Spatial Planning Act (27.10.2023). https://www.retsinformation.dk/eli/lta/2020/1157
- Sprangler, M. & Hvalkof, S. (2021). The Danish model of exploiting migrant workers: (27.10.2023) https://www.opendemocracy.net/en/beyond-trafficking-and-slavery/the-danish-model-of-exploiting-migrant-workers/
- Statistics Denmark (11.04.2024a): https://www.dst.dk/en/Statistik/emner/miljoe-og-energi/areal/arealopgoerelser
- Statistics Denmark (11.04.2024b): https://www.dst.dk/da/Statistik/emner/erhvervsliv/landbrug-gartneri-og-skovbrug/det-dyrkede-areal
- Statistics Denmark: "Frugtplantager 2017. Nyt fra Danmarks Statistik nr. 26, 25 januar 2018. (27.10.2023) https://www.dst.dk/Site/Dst/Udgivelser/nyt/GetPdf.aspx?cid=18796
- Statistics Denmark, statistikbanken (27.10.2023) https://www.statistikbanken.dk/statbank5a/default.asp?w=1536
- Stort naturområde jævnet med jorden: 'Det er uden for kategori' (27.10.2023). Large nature area razed to the ground: 'It's out of category' https://www.dr.dk/nyheder/regionale/trekanten/stort-naturomraade-jaevnet-med-jorden-det-er-uden-kategori
- The Biodiversity Information System for Europe: "Green Infrastructure in Denmark". (27.10.2023) https://biodiversity.europa.eu/countries/denmark/green-infrastructure
- The Culture Committee of the Danish Parliament: (27.10.2023) https://www.ft.dk/samling/20201/almdel/kuu/spm/302/svar/1792149/2412227.pdf
- The Land Registry. "The Land Book". (27.10.2023) https://www.tinglysning.dk/tinglysning/landingpage/landingpage.xhtml
- The mapping of potential and barriers of short rotation willow (27.10.2023) https://ens.dk/sites/ens.dk/files/Bioenergi/pilerapport_til_ens.pdf
- Transparency International: "Corruption Perceptions Index 2022" (27.10.2023). https://www.transparency.org/en/cpi/2022
- Transparency International: "Denmark" (27.10.2023). https://www.transparency.org/en/countries/denmark
- Tybirk K. et. al (2001): Botanical conservation values in Danish hedgerows. International Association for Landscape Ecology (IALE(UK))

Annex 3 List of publications used

- UNECE/FAO. (2020). Forest sector workforce in the UNECE region: Overview of the social and economic trends with impact on the forest sector (27.10.2023). https://unece.org/DAM/timber/publications/2020/DP-76.pdf
- UNESCO Heritage Sites: "Denmark - UNESCO World Heritage Convention" (27.10.2023). https://whc.unesco.org/en/statesparties/dk
- UNFCCC: "Denmark" (27.10.2023). https://unfccc.int/node/61052
- University of Copenhagen: "Skov- og naturtekniker (EUD)" (27.10.2023) (Information about the education, courses and training offered by the forestry school). https://skovskolen.ku.dk/skov-og-naturtekniker/
- University of Copenhagen. "Damage to forests (Skader på skov.)" (27.10.2023) https://videntjenesten.ku.dk/skov_og_natur/skader_paa_skov/
- University of Copenhagen: "Results from the National Forest Vitality monitoring program." (27.10.2023) https://ign.ku.dk/samarbejde-med-ign/forskningsbaseret-raadgivning/skovsundhed/
- VAT Law (Momsbekendtgørelsen) (30.11.2021). https://www.retsinformation.dk/eli/lta/2021/2246
- VEJ nr 9702 (2020): (03/06/2020), Vejledning om boringsnære beskyttelsesområder (BNBO). https://www.retsinformation.dk/eli/retsinfo/2020/9702
- Vejledning om jordressourcens anvendelse til dyrkning og natur 2023 (01.02.2023) https://www.retsinformation.dk/eli/retsinfo/2023/9266
- Water Supply Act. (10.05.2022). https://www.retsinformation.dk/eli/lta/2022/602
- Watercourse Act. (25.11.2019). https://www.retsinformation.dk/eli/lta/2019/1217
- Work in Denmark: "Unfair Treatment" (Guidance on workers' rights) (30.10.2023). https://www.workindenmark.dk/working-in-denmark/terms-of-employment/unfair-treatment
- Working Environment Act. (27.10.2023). https://at.dk/en/regulations/working-environment-act/
- Workplace Denmark: "Pay and working hours for posted workers" (27.10.2023). https://workplacedenmark.dk/working-conditions/pay-and-working-hours/
- Workplace Denmark: "Prohibition against discrimination" (27.10.2023). https://workplacedenmark.dk/en/working-conditions/prohibition-against-discrimination/
- Workplace Denmark: "Your rights as a posted worker" (27.10.2023). https://workplacedenmark.dk/regulations-on-posting/your-rights-as-a-posted-worker/
- Workplace Denmark:" Requirements for health and safety cooperation" (27.10.2023). https://workplacedenmark.dk/health-and-safety/health-and-safety-organisation/
- World Bank. "Worldwide Governance Indicators" (27.10.2023). https://databank.worldbank.org/source/worldwide-governance-indicators.
- WHO recommended classification of pesticides by hazard (27.10.23): https://iris.who.int/bitstream/handle/10665/332193/9789240005662-eng.pdf?sequence=1

Annex 4 List of Stakeholders

No	Organisation	Type of organisation
1	3F (Fagligt Fælles Forbund)	Labour Union
2	92 Gruppen	Environmental NGO coalition
3	Arbejdstilsynet	Danish authority in the field of working environment
4	BAT Kartellet	Trade Union organization
5	Biodiversitetsrådet	Independent expert body whose task is to advise the government and parliament on measures that can turn the loss of biodiversity into progress
6	Concito	Climate think tank
7	Copenhagen University	Research and education
8	Danish District Heating Association (Dansk Fjernvarme)	Association of CHP´s
9	Danish Forest Association (Dansk Skovforening)	The Danish Forest Association is the forestry trade association
10	Danish Society for Nature Conservation (Danmarks Naturfredsningsforeninge)	Nature conservation and environmental organisation
11	Dansk Gartneri	Danish Horticulture - The Fruit and Vegetable Committee. Interest organization for the horticulture industry
12	Dansk Gartneri	Danish Horticulture - Danish Nurseries. Interest organization for the horticulture industry
13	Dansk Industri	Dansk Industri is Denmark's largest business organization and employers' association
14	Danske Juletræer	Danish Christmas Tree Association, is a nation-wide industry association that addresses approx. 2,500 businesses in Denmark related to the production of Christmas trees and greenery.
15	Dansk Ornitologisk Forening	Danish association for protection of birds and environment
16	DM&E (Dansk Skoventreprenørforening)	Forest entrepreneurs association

Annex 4 List of Stakeholders

17	DSHwood	An international wood trading company established in 1967 with operations spanning across Europe & Asia
18	Energistyrelsen	Danish Energy Agency
19	Friluftsrådet	The Outdoor Council is an umbrella organization for organizations interested in outdoor life, nature and the environment
20	FSC Denmark	Forest Stewardship Council - certification for the promotion of sustainable forestry
21	Gartneri-, Land- og Skovbrugets Arbejdsgivere	Employer association for horticulture, agriculturs and forestry
22	Green Power Denmark	Green Power Denmark, an interest organisation, works for a green transition through electrification
23	Green Transition Denmark	Danish NGO working to further a green and sustainable transition of society
24	HedeDanmark	HedeDanmark is an international trade and service company within the green area.
25	Hofor	Danish utility company that supplies several municipalities in the capital area
26	INBIOM	helps companies accelerate innovation and sustainable development
27	Kommunernes Landsforening	Danish private interest organization that organizes the country's 98 municipalities
28	Landbrug & Fødevarer F.m.b.A.	Danish Agriculture and Food Council, a Danish business organization that takes care of common tasks and business interests for agriculture, the food and agro industry
29	Naturstyrelsen	The Nature Agency is an agency in the Ministry of the Environment that handles tasks in forests, natural areas and along the coasts in Denmark
30	NOAH	Danish environmental organization and movement founded in 1969. The Danish member of the worldwide grassroots network Friends of the Earth International
31	PEFC Denmark	Programme for the Endorsement of Forest Certification, an international, non-profit, non-governmental organization that promotes sustainable forest management
32	Preferred by Nature	Certification body
33	Skovdyrkerforeningen	Forestgrowers Association. Skovdyrkerne is Denmark's largest member-owned company within forests and landscapes. Skovdyrkerne is an offer for anyone who wants help with work with forests, Christmas trees, game and nature.
34	Vedvarende Energi	Since 1975, Vedvarende Energi has worked for green and sustainable solutions. Vedvarende Energi believe that everyone should be involved in the green transition

Annex 4 List of Stakeholders

35	Verdens Skove	Verdens Skove is a Danish environmental organization that works for a world that is rich in forests with biological diversity.
36	WSP Denmark A/S	Certification Body Agent/Affiliate
37	WWF Denmark	The World Wide Fund for Nature is an international NGO that works to preserve nature and the environment
38	Ørsted	Denmark's largest energy company, and one of Northern Europe's leading energy groups with headquarters in Denmark
39	Århus University, Institut for Ecoscience - Biodiversitet	Århus University, Institut for Ecoscience - Biodiversity, teaches, advises and researches life, from bacteria to whales, from genes to ecosystems, and from basic research to applied biology in nature management and biotechnology.
40	Miljøstyrelsen	Ministry of Environment of Denmark, Environmental Protection Agency
41	SLS	Large Danish Forest Administration, also active PEFC member

Annex 4 List of Stakeholders

The draft SBP RRA for TOF in Denmark, including a cover letter, was sent by email to 41 stakeholders (see Annex 4) on January 10, 2024. The cover letter can be seen below. A reminder email was sent to the stakeholders on February 12, 2024.

The cover letter used for requesting feedback from the stakeholders

Kære Interessent (English below)

Hilsner fra B4Trees Aps og Skovsøhus Natur Aps

B4Trees Aps og Skovsø Natur Aps er danske konsulentvirksomheder, der arbejder med certificering af skovbrug. Certificeringsordningen, The Sustainable Biomass Programm (SBP), har udpeget de to virksomheder til at udarbejde den første version af SBP´s Regionale Risikovurdering (RRA) for biomasse med oprindelse fra træer udenfor skov i Danmark.

SBP´s procedurer for udarbejdelse af en Regional Risikovurdering kræver en høringsproces med relevante interessenter af dette første udkast, som B4Trees og Skovsøhus Natur har udarbejdet under SBP´s vejledning. Vi rækker ud til jer med ønske om, at I vil give jeres input til de vurderinger af risici, som vi har vurderet der er ved at biomasse bliver produceret fra konkrete areal typer udenfor skov.

Træer udenfor skov opdeles overordnet som følger:

1. Biomasse fra landskab herunder bl.a. fra læhegn og fra naturpleje projekter
2. Biomasse fra urbane områder, bolig områder og infrastruktur projekter
3. Biomasse fra landbrugsjord herunder bl.a. fra juletræsbevoksninger og frugtplantager
4. Biomasse fra energiafgrøder (dvs. træagtig biomasse), herunder bl.a. energipil og -poppel.

Vi beder jer også om input til risikovurdering af EU´s vedvarende energidirektiv (REDII) for så vidt angår træbaseret biomasse dyrket på landbrugsjord i Danmark, se venligst separat vedhæftet fil. Information om SBP, baggrund for de regionale risikovurderinger og omfanget af denne Regionale Risikovurdering for biomasse fra træer med oprindelse udenfor skov kan I læse yderligere om nedenfor.

Vi anmoder jer om at give feedback vedrørende det vedhæftede udkast til SBP regionale risikovurdering for træer uden for skov for Danmark senest den 16. februar 2024. Efter fristens udløb behandles de indkomne kommentarer i henhold til SBP´s RRA procedurer og vi estimerer at RRAén vil blive behandlet og offentliggjort af SBP i løbet af andet kvartal 2024.

Feedbacken kan gives til nedenstående personer. Bemærk venligst, at kommentarer vil blive offentliggjort, medmindre der anmodes om fortrolighed.

Kristina Bodal-Lauridsen - kbl@skovsoehusnatur.dk / +45 28 70 27 82

Anders Bjørnkjær-Nielsen – abn@b4trees.dk / +45 22 22 00 15

Tak

Med venlig hilsen,

Kristina Bodal-Lauridsen

Anders Bjørnkjær-Nielsen

Sustainable Biomass Program (SBP)

Sustainable Biomass Program (SBP) er en certificeringsordning designet til træagtig biomasse, der anvendes i industriel storskala energiproduktion. SBP har udviklet en certificeringsordning for at give sikkerhed for, at træagtig biomasse er fremskaffet både lovligt og bæredygtigt, hvilket som minimum giver virksomheder i biomassesektoren mulighed for at demonstrere overholdelse af lovkrav. SBP-certificeringsordningen er designet ved at bruge en risikobaseret tilgang. Dette kræver, at SBP-certifikatindehavere fokuserer deres

indsats på indikatorerne i SBP Standard 1, der er blevet identificeret som havende en specificeret risiko (specified risk) i deres forsyningsbase. Det er altså indikatorer med "specified risk" der særligt kræver handling.

Baggrund for SBP´s Regionale Risikovurdering

SBP-systemet tillader to veje til at udføre risikovurderingen. Enten udvikler hver certifikatindehaver sin egen vurdering (kaldet Supply Base Evaluation – SBE) eller også udvikler eksperter en regional risikovurdering (RRA), der skal bruges af alle certifikatindehavere. I dette tilfælde skal alle certifikatindehavere, der er aktive i den geografiske region, designe deres SBP-certificeringsstyringssystem baseret på den godkendte RRA.

Alle SBP-standarder (Standarderne 1-6) er blevet opdateret den 16. marts 2023 efter en omfattende gennemgangsproces. Ligesom andre standarder er kriterierne og indikatorerne for SBP Standard 1: Feedstock Compliance Standard opdateret til version 2.0 (v2.0) den 16. marts 2023. De opdaterede standarder blev publicerede og trådte i kraft den 10. august 2023.

B4Trees Aps og Skovsøhus Natur er udpeget af SBP som arbejdsorgan til at udvikle den regionale risikovurdering for træer udenfor skov for Danmark. I foråret 2023 opdaterede SBP deres regionale risikovurdering for skov, og i forlængelse heraf ønsker SBP at udarbejde en regional risikovurdering for biomasse fra træer med oprindelse udenfor skov. Det geografiske omfang af denne regionale risikovurdering dækker hele Danmarks territorium (eksklusive Grønland og Færøerne) Denne SBP regional risikovurdering vedrører kun træbaseret primært feedstock fra træer og buske. Rester fra træforarbejdningsindustrien, herunder alle andre forarbejdningsrester samt importerede råvarer, er udelukket fra denne RRA for Danmark. RRA-processen som B4Trees og Skovsøhus følger er tilpasset SBP´s RRA-procedure.

ENGLISH TEXT

SUBJECT: Requesting Feedback - Sustainable Biomass Program (SBP) draft risk assessment for biomass originating from trees outside the forest + REDII

Dear stakeholder

Greetings from B4Trees Aps and Skovsøhus Natur Aps

B4Trees Aps and Skovsø Natur Aps are Danish consulting companies that work with forestry certification. The certification scheme, The Sustainable Biomass Program (SBP), has appointed the two companies to prepare the first version of SBP's Regional Risk Assessment (RRA) for biomass originating from Trees Outside Forests in Denmark.

SBP's procedures for preparing a Regional Risk Assessment require a consultation process with relevant stakeholders of this first draft, which B4Trees and Skovsøhus Natur have prepared under SBP's guidance. We are reaching out to you with the hope that you will give your input to the assessments of risks that we have assessed, which are caused by biomass being produced from specific types of origin outside the forest

Trees Outside Forest is broadly divided as follows:

1. Biomass from landscape, including i.a. from windbreaks and nature conservation projects
2. Biomass from urban areas, residential areas and infrastructure projects
3. Biomass from agricultural land including i.a. from Christmas tree stands and orchards
4. Biomass from energy crops (i.e. woody biomass), including i.a. energy willow and poplar.

We are also asking for input into the risk assessment of the EU's renewable energy directive (REDII) as regards wood-based biomass grown on agricultural land in Denmark, please see separate attached file for this.

You can read more about SBP, background for the regional risk assessments and the extent of this Regional Risk Assessment for biomass from trees originating outside the forest below.

Annex 4 List of Stakeholders

We request that you provide your feedback regarding the attached draft of the SBP regional risk assessment for Trees Outside Forests for Denmark no later than 16 February 2024. After the deadline, the comments received will be processed in accordance with SBP's RRA procedures and we estimate that the RRA will be processed and published by SBP during the second quarter of 2024.
The feedback can be given to the below mentioned persons. Please note that comments will be published unless confidentiality is requested.
Kristina Bodal-Lauridsen - kbl@skovsoehusnatur.dk / +45 28 70 27 82
Anders Bjørnkjær-Nielsen – abn@b4trees.dk / +45 22 22 00 15
Thank you
With best regards,
Kristina Bodal-Lauridsen
Anders Bjørnkjær-Nielsen

Sustainable Biomass Program (SBP)
The Sustainable Biomass Program (SBP) is a certification scheme designed for woody biomass used in large-scale industrial energy production. SBP has developed a certification scheme to provide assurance that woody biomass has been sourced both legally and sustainably, which at a minimum allows companies in the biomass sector to demonstrate compliance with legal requirements The SBP certification scheme is designed using a risk-based approach. This requires SBP certificate holders to focus their efforts on the indicators in SBP Standard 1 that have been identified as having a specified risk (specified risk) in their supply base. It is therefore indicators with "specified risk" that particularly require action.

Background for SBP's Regional Risk Assessment
The SBP system allows two ways to perform the risk assessment. Either each certificate holder develops its own assessment (called Supply Base Evaluation – SBE) or experts develop a regional risk assessment (RRA) to be used by all certificate holders. In this case, all certificate holders active in the geographic region must design their SBP certification management system based on the approved RRA.
All SBP standards (Standards 1-6) have been updated on March 16, 2023 after an extensive review process. Like other standards, the criteria and indicators for SBP Standard 1: Feedstock Compliance Standard have been updated to version 2.0 (v2.0) on March 16 2023. The updated standards were published and entered into force on 10 August 2023.
B4Trees Aps and Skovsøhus Natur have been appointed by SBP as a working body to develop the regional risk assessment for trees outside forests for Denmark. In the spring of 2023, SBP updated their regional risk assessment for forests, and as an extension of this, SBP wants to prepare a regional risk assessment for biomass from trees originating outside forests. The geographical scope of this regional risk assessment covers the entire territory of Denmark (excluding Greenland and the Faroe Islands). This SBP regional risk assessment only concerns wood-based primary feedstock from trees and shrubs. Residues from the wood processing industry, including all other processing residues and imported raw materials, are excluded from this RRA for Denmark. The RRA process followed by B4Trees and Skovsøhus is adapted to the SBP RRA procedure.

Annex 4 List of Stakeholders

Stakeholder consultation report continued

The report contains an overview of stakeholder consultation process and a summary of outcomes of stakeholder consultation process for Sustainable Biomass Program (SBP) risk assessment for Denmark.

Risk assessment was conducted as part of Sustainable Biomass Program risk assessment process in accordance with SBP Regional Risk Assessment Procedure (v1.2). The Stakeholder consultation report was prepared in accordance with the SBP Regional Risk Assessment Procedure (v1.0) clause 4.13.

Stakeholder type	**Stakeholders notified # of individuals (# of institutions represented)**	**Stakeholders consulted directly or provided input (#)**
Economic interest	15	9
Social interest	5	1
Environmental interest	10	2
Certification Bodies that are actively involved in forest certifications within the country	2	2
National and state forest agencies	2	1
Experts in Controlled Wood and other relevant feedstock categories	2	2
Research institutions and universities	5	1
Official representatives of forestry certification schemes (for example, FSC, PEFC) from offices in the region	2	2

Table 1: Stakeholders involved in SBP risk assessment stakeholder consultation process.

The stakeholder consultation was carried out during the period 10 January to February 16, 2024. During the process SBP received information about the stakeholder meeting and received first draft risk assessment for review prior to the public consultation. The second draft risk assessment was submitted to SBP in April

Annex 5 Stakeholder consultation report

Stakeholder	Comment	Response
Jointly by Green Power Denmark, Ørsted, HOFOR and Dansk Fjernvarme	From the work together with the PfAt group it has become clear that SBP should provide more guidance in relation to how this document is developed. This specifically has to do with the in-tension in the TOF Instruction Document. For instance, it is not clear which kind of biomass in-side the TOF scope that SBP will declare SBP-compliant material – meaning how high (or low) should SBP set the bar. Overall, we strongly suggest that you go back to SBP and ask for clarification on the examples mentioned beneath, and any other matters you have come across during the work. We believe that SBP needs to develop a guidance document to this instruction document based on this pilot work done in Denmark. Examples are: • Indicator 2.2.10 in the DK TOF RRA – Regeneration indicator. Can SBP allow that in some instances, onsite regeneration does not take place? This could happen legally in Denmark if new areas of similar size are planted at another site as compensation. However it is our opinion that this contradicts the intention of the TOF standard. On the other hand, there could be situation where you could argue that it is okay (i.e. shelterbelts of non-native tree species) • Primary biomass form ag. land, e.g. SRC willow. In our view it is difficult to figure out whether this kind of crop should be seen from an agricultural perspective (i.e. adhering to the agricultural regulation in the country) or if it should be seen from a forestry perspective – which would raise the bar for this kind of crops. What is the intention in SBP? We also believe that it is important that you as the Working Body use the feedback you have received during public consultation and the experience gained developing the document to give overall feedback to SBP on the SBP TOF ID. This could involve inconsistencies or other issues that needs to be clarified before other regions start working with the document.	Thank you for your input. SBP has been consulted and has indicated that the standards and guidelines, as new as they are, should be followed to the extent possible and that since this is the first TOF RRA then the Working Body is encouraged to do this. SBP did not indicate that regeneration only shall be onsite. Indicator 2.2.10: The Working Body has with reference to Guidance for SBP Standard 1, updated the risk assessment. Short rotation willow: the risk has been changed to low risk particularly upon discussion with DOF Birdlife and review of 2 additional references.
DOF	2.1.1: Scale of assessment: Men trævegetation i byer (og langs veje og jernbaner) er af høj betydning for tætheden af fugle. Dog enig i, at der formentlig kun i begrænset omfang vil kunne påvises deciderede HCV-arealer	Good point, however an assessment of indicator 2.1.1 for urban, domestic and infrastructure is not part of the TOF scope. DOF database has been added to text.

	(når bortses for byparkernes hultræer, der kan være raste- og ynglested for flagermus, der vist stort set alle er rødlistede - men uden for vores gebet). Analysis: DOF-basen rummer en del georefererede fund (rødlistede kan udsorteres i søgefunktionen), men eftersom langt de fleste af de levende hegn m.v., standarden omhandler, ikke er offentligt tilgængelige, vil der være tale om meget sparsomme og i bedste fald ikke retvisende data. Særligt hvad angår 0-data! Risk conclusion and justification: enig	
	2.1.1: analysis: - Husk at tjekke op imod de nye regler efter CAP-plan 2023-2027, som jo tillader tilgroning i et vist omfang!!! - Kan ikke mindes at have set dette argument i regelsættet (kun det efterfølgende, nemlig at jorden til enhver tid skal kunne genopdyrkes) - tjek og angiv evt. kilde (hvis andre skulle falde over dette) - Menes hermed fredninger ved kendelse? - Hvis ikke, bør det tilføjes. Bemærk, at også landskabsfredninger kan indeholder bestemmelser om levende hegn, uden at det er rettet specifikt mod de enkelte hegn, men de vil alligevel skulle respekteres, og fredningsnævnet vil i så fald formentlig skulle give tilladelse til høst af biomassen - 'night owl' må være Tawny Owl og 'burrowing duck' må være Common Shelduck. Ingen af dem opfylder sjældenhedskriterierne i f.t. rødlisten, hvilket derimod er tilfældet for den meget sjældne, kritisk truede Kirkeugle (Little Owl), der er rødlistet med CR og i visse egne af landet yngler i huller i stynede popler. Gravand (Common Shelduck) er rødlistet som VU. Partridge (Agerhøne hedder i virkeligheden 'Grey Partridge' på engelsk) er også rødlistet som VU, ligesom både Gulspurv ('yellow sparrow' må være Gulspurv, som på engelsk hedder Yellowhammer) og Skylark er rødlistede (hhv. VU og NT), men Sanglærke må være en misforståelse her, da den undgår levende hegn. Det må være Bomlærke (Corn Bunting), der menes - og også den er rødlistet (som NT). Ud over disse arter er der i rødlisten to arter mere, der er levestedskategoriseret som knyttet til 'Tørt krat' (som vel er det, der kommer nærmest levende hegn), nemlig Gulbug (Icterine Warbler, VU) og Løvsanger (Willow Warbler, VU). Afsnittet er derfor lidt inkonsekvent i f.t. rødlistning m.v.,	CAP info has been confirmed. The Biomass Handbook, has been used as reference for rules at play. Birdspecies has been corrected according to DOF´s input. Lyndsay et al reference corrected to Graham et al. Section on findings from Batáry has been added.

	og kunne i stedet affattes således: "The hedgerows provide habitat for e.g. the in Denmark extremely rare and critical threatened and therefor CR-red-listed Little Owl as well as other red-listed species like Common Shelduck (VU), Grey Partridge (VU), Icterine Warbler (VU), Willow Warbler (VU), Yellowhammer (VU) and Corn Bunting NT). Also the Red-backed Shrike which is listed in the Annex I of EU-Directive on the conservation of wild birds are breeding i hedgerows, especially if they are situated in og near grassland. Besides more common species as Tawny Owl, tits, finches, pipits and thrushes use hedgerows as habitat along with other red-listed species of bats and reptiles of which several are listed in the Anex IV of the habitat's directive." - Gulspurv hedder Yellowhammer og Bomlærke Corn Bunting på engelsk og de to åbentlandsarter må være Skylark (Sanglærke) og Lapwing (Vibe), som begge undviger levende hegn. - OBS! Lyndsey er hendes fornavn! Korrekt reference er 'Graham et al. (2016), og kilden er også opført alfabetisk korrekt i litteraturlisten, men her kunne for- og efternavn for hovedforfatteren med fordel byttes rundt. BEMÆRK at review'et IKKE medtager tre faktisk overordentligt interessant studier med Batáry som hovedforfatter, således Batáry et al. 2010 (som konkluderer, at hegn har en stor effekt på biodiversitet på landskabsniveau i især områder med lavt indhold af ikke-produktiv natur (effekten aftager, når dette indhold overstiger 17%), 2011 (som underbygger, at hegn har speciel stor betydning i intensivt dyrkede områder med lavt indhold af (anden) natur) og 2012 (som dokumenterer, at både hegn, der ligger isoleret i landbrugsland og hegn, som er forbundet med skov, har stor betydning for biodiversiteten på landskabsniveau). Referencerne er indsat umiddelbart efter referencelisten og de tre artikler vedhæftes, idet hovedkonklusionerne foreslås inddraget i teksten her, eftersom de underbygger behovet for 'Specified risk'. Conclusion for nature conservation areas: enig	
	2.1.3: analysis: - Men hvis hegnet er f.eks. 1 km langt, vil effekten af 250 meter efterladt hegn i den ene ende ikke hjælpe stort på genindvandringen i den anden ende. Derfor må det være et krav pr. f.eks. Hver 100 meter. - For hver 100 meter (jf. ovenfor) - Også NT vil være relevant!	Inputs are brought forward to mitigation measure process at SBP.

	- Og 10 meter til hver side! (et enligtstående hultræ midt på en mark vil næppe være interessant for hulrugere og flagermus) - Feedstock with origin around lakes: Enig - men ved den konkrete vurdering vil det jo ofte kunne tillægges betydning, at -specielt mindre - søer bliver 'lysnet op', hvilket normalt har en meget stor, positiv betydning for biodiversiteten. - Specific clarification regarding clearance obligation: Gælder vel alene arealer omfattet af landbrugspligt??? - og igen: Jeg mindes ikke at have set noget sted, at rydningspligten OGSÅ skyldes hensynet til lysåben natur - alene hensynet til, at arealet kan genopdyrkes. Risk rating: enig	
Landbrug og Fødevarer	Generelle bemærkninger Det er overraskende at der ved landbrugsafgrøder vurderes andet end "low risk", da der er tale om produktionsarealer med krav om høst og fjernelse af biomasse fra arealet. Hvordan risikoprofilen kan være anderledes, er vanskeligt at forstå. Her tænkes særligt på vurderingerne af flerårige energiafgrøder og f.eks. udtjente juletræsarealer på landbrugsjord. Anvendelse af næringsstoffer og bekæmpelsesmidler på arealer er under striks regulering, med risiko for høj straf ved selv små overtrædelser. Det burde underbygge low risk også af de parametre. Konsekvensen ved at en lovligt dyrket landbrugsafgrøde ikke vurderes som low risk til det formål den er etableret til, kan skabe nogle helt nye udfordringer for erhvervet. I tilfældet med flerårige energiafgrøder, er størstedelen af arealet tilplantet med tilskud og statslig tilskyndelse til etablering af arealet, som del af den grønne omstilling. Hvordan skal landbruget i fremtiden tro på værdien af at være foregangsmand og gøre som staten og samfundet ønsker, hvis der få år senere stilles skærpede krav til produktionen. Og at de skærpede krav følger af, at man f.eks. har øget biodiversiteten på sine marker. Hvordan tager vi de skridt næste gang? Det er nok ikke opgaven at forholde sig til i denne risikoanalyse, men der er afledte effekter ved det meste arbejde. Der anvendes en del kildehenvisning i materialet. Og selvom vi godt kan se der er benyttet rigtig mange, så er der fremhævet kilder i materialet som ikke	Thank you for input. SBP certification scheme is developed to provide assurance that woody biomass is sourced both legally and sustainably. Therefore, there are requirements exceeding the legal use of the land e.g. the right to dismantle hedgerows. On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk.

	virker uvildige i anvendelsen. Skal de anvendes bør der i samme afsnit fremhæves flere kilder. Det er meget overraskende at sager fra medierne anvendes som kilder, det må kunne gøre bedre. Selvom der kan være begrænsede faglige kilder, så anser vi ikke artikler i medierne som anvendelige kilder i denne sammenhæng.	
	Princip 1: Overordnet set, er princip 1 nødvendigt, da det giver mening at loven skal overholdes – naturligvis. Mange af de love som skal overholdes, er med til at sikre beskyttelse af mennesker og miljø. Det virker til at det glemmes flere steder. For gennem risikoanalysen kommes ind på emner, hvor der er anden regulering som rigtig fint styrer den udfordring som ønskes håndteret. Generelt er der low risk i princip 1, hvilket virker som en rigtig vurdering i et land som Danmark, hvor vi har godt styr på reglerne. 1.1.2: Respekt for ejerskab af jorden og lovlig anvendelse af den, bør fremgå tydeligere. Det ser ud til at blive glemt at se på hvad må man på de ejede arealer og hvilke forpligtelser er der på arealerne. Der kan være forpligtelser til vedligehold af læhegn og der er en ret til at nedlægge, flytte og vedlige læhegn (LBK nr 26 af 04/01/2017 §5 og §6). Det virker som om der ikke er respekt for disse muligheder og særligt forpligtelserne. Er man forpligtet til at vedligeholde et hegn, bør man vel kunne sælge flisen til energi, efter en vurdering af hegnet for særlige naturværdier.	Thank you for input. 1.1.2: SBP certification scheme is developed to provide assurance that woody biomass is sourced both legally and sustainably. Therefor there are requirements exceeding the legal use of the land e.g. the right to dismantle hedgerows.
	2.1.1 Der beskrives at der mangler systematisk identifikation af HCV i åbent land. Der er Biomassehåndboge (BEK. 649 af 31/05/2023) krav om risikovurdering inden f.eks. rydning af læhegn. Det mener vi giver en tilstrækkelige beskyttelse af biotoperne. Det er en forudsætning af personalet som fortager vurderingerne er uddannet til det. Derfor bør risikoen ligge på low. Her er rating endt på specified risk for energiafgrøder, hvilket vi mener bør ændres til low risk. Grundlæggende ser vi ikke at der er fornuftige argumenter for, at energitræ på landbrugsarealer skal være andet end low risk. VE direktiv og national bekendtgørelse stiller ikke krav om risikovurdering m.m. ifm. energitræ fra landbrugsarealer.	Thank you for input. Section about SKATs consideration has been added to findings. On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk.

	Skat betragter dyrkning af energipil og poppel som landbrugsproduktion og under Landbrugs-styrelsen er der krav om at man skal holde sin lavskov og flerårige energiafgrøder (pil/poppel) til energi i god plantagemæssig stand og har regelmæssig høst. At stille krav til driften af energipil/poppel udover, hvad der angives i direktiv/bekendtgørelse, kan være i direkte strid med de krav og retningslinjer der stilles til sådanne plantager og må forventes at have en afgørende negativ effekt på driften. At risikoen er den samme som på f.eks. § 3 arealer virker underlig.	
	2.1.2 Diger er etableret af forskellige årsager og er gennem tiden vokset til, på grund af manglende vedligehold. Der er i Vejledning om beskyttede sten- og jorddiger fra Kulturministeriet, Kulturarvsstyrelsen 2009 beskrevet at "Digets evt. bevoksning med træer og buske er ikke beskyttet. Derfor er der heller ikke et forbud mod indgreb i beplantning eller bevoksning på et dige i form af traditionel beskæring af træer og buske. Fældning af træer eller buske på diget ved afsavning ved roden betragtes heller ikke som en tilstandsændring. Eksisterende levende hegn på et dige kan også udbedres ved indplantning af enkelte træer eller buske uden tilladelse". Inden den lovlige beskæring eller afsavning foretages, mener vi der skal foretages en vurdering af bevoksningen (levende hegn, dige bevoksning, remise m.fl.) som habitat. Her beskrives også at ønsket om effektivisering i landbruget med større marker. Det er rigtigt at effektivisering på markdriften bl.a. kan opnås ved at tilpasse størrelserne af marker. Det er lovligt at fjerne et levende hegn, der er at sammenligne med en teknisk installation på landbrugsarealet. Nogle habitater er beskyttet og må ikke fjernes uanset om flis fra hegnet anvendes til energi på energianlæg eller ej. Hvor bevoksning ryddes helt, skal dette gøres skånsomt, der kan skeles til regler for fjernelse af hule træer og træer med spættehuller eller hvor der gives dispensation til fældning af træer med flagermus, som ofte skal ske i bestemte perioder (aug.-okt. eller apr.-jun.). Husk igen der er krav om vedligehold af læhegn. Det beskrives at "If nature on the dikes is already lost, it is easier later to remove the dike completley". Her må forventes at gældende lovgivning	Thank you for input. SBP certification scheme is developed to provide assurance that woody biomass is sourced both legally and sustainably. Therefor there are requirements exceeding the legal use of the land e.g. the right to dismantle hedgerows. Input well noted with thanks. Text in introduction and in indicator 2.1.2 updated with input from 2 studies from Aarhus University. Focus is on biodiversity; it is considered by the Working Body that the references document specified risk even in the context where landowners comply with legislation. Dykes and the Museum Act has been added to regional background.

	overholdes. Så er der et beskyttet habitat i et dige, må den ikke fjernes, heller ikke ad to omgange. I konklusion for levende hegn og små træ biotoper, ender de med på national skala at være vigtige for rødlistearter og lokalvigtighed for flora og fauna. Det er ikke samme konklusion vi kommer frem til ud fra det beskrevne i afsnittet. Og foretages der risikovurdering inden arealet skæres ned og anvendes til flis, så er risikoen efter vores vurdering lav. I konklusionen om flerårige energiafgrøder konkluderes at der er specified risk, på grund af der er højere biodiversitet i denne type afgrøder end i en hvedemark. Det er på ingen måde forkert der er højere biodiversitet. Men herfra så at ende ud i der er risiko ved at høste en afgrøde og høste hele marken på en gang, virker lidt ude af proportion. I jeres kilde fra DN om "Fremtidens energiforsyning i Danmark", anbefaler DN flerårige energiafgrøder som landbrugsafgrøde til energi. Samtidig pålægger den danske implementering af CAP-reglerne, at en landmand skal opdele marken i sin indberetning til Landbrugsstyrelsen efter høstår af f.eks. pil. Det vil sige der skal laves ekstra papirarbejde, med risiko for fejl og efterfølgende træk i den samlede enkeltbetaling. Og med nuværende årlig 100 pct. arealkontrol via satellit, er der ikke plads til at tegne høstområder forkert på et kort, i det materiale som indsendes til Landbrugsstyrelsen. Og som vi har skrevet tidligere, så er der tale om en landbrugsafgrøde i omdrift på et landbrugsareal så vurderingen bør være low risk.	
	2.1.3 Konklusionen om flerårige energiafgrøder mener vi igen bør revurderes og ligge på low. Det er landbrugsarealer. Se tidligere bemærkninger om flerårige energiafgrøder.	Thank you for input. On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk.
	2.2.2 Der konkluderes at levende hegn og små træbiotoper skal have specified risk. Det på grund af der ikke er regulering der beskytter dem og at de ikke er kortlagte. At de ikke er blevet kortlagt og beskyttet, ligger fint i tråd med jeres kilde fra tidligere (Tybirk et. Al., 2001), som viser at der generelt ikke er megen	Thank you for your input. The indicator has been reviewed and updated but the risk assessment remains specified for landscape origin.

	naturværdi i den type områder. Så har der ikke været årsag til at kortlægge og beskytte. Så foretages en risikovurdering inden beskæring af området, bør det være low risk.	
	2.2.4 Her er igen eksempel på specified risk på landbrugsarealer med f.eks. juletræer og flerårige energiafgrøder. Da det er landbrugsarealer i omdrift, er det en integreret del af sædskiftet at rodfræse arealet efter sidste høst med flerårige energiafgrøder og juletræer. På nogle arealer er det fordelagtigt at have nogle år med almindelige landbrugsafgrøder, inden der evt. etableres juletræer eller flerårige energiafgrøder igen. Sædskifter med flerårige afgrøder som juletræer og flerårige energiafgrøder opnår øget indhold af organisk materiale, der giver en vis lagring af CO2 i jorden. I forhold til udtagning af dødt ved, er det ikke dokumenteret ved en udtalelse fra Energistyrelsen, at der udtages mere plantrester fra TOF-arealer i Danmark fremfor andre lande. Hvis dødt ved er gammelt, er brændværdien ringe og det ønskes ikke til energiflis. Der er generelt behov for tydeligere at definere, hvad der forstås med "dead wood". Vi forstår dødt ved, som naturligt dødt træ, der er under nedbrydning/omsætning. I nuværende tekst kan det tolkes som, at dødt ved defineres som hugstrester, hvilket for os er noget andet. Der kan med fordel laves en definition, der indgår i "Glossary". Samtidigt vurderer vi at værdien af at efterlade ved fra f.eks. pil på et landbrugsareal, er lav. Pil høstes om beskrevet hvert 2-3 år og pileskud af den alder, har lav værdi for biodiversiteten. Både flerårige energiafgrøder og træbiomasse fra landbrugsareal (juletræer) vurderer vi bør være lav risiko.	Thank you for input Definition of deadwood for Danish context added. Definiton from Aarhus University used, though context of definiton is from forest. For the TOF origins "Woody residue from agricultural land" and "Woody Energy crops, short rotation coppice" the feedstock type of these origins is not considered to produce deadwood and therefore there is low risk for these two origins. Paragraph on crop rotation on agricultural land added to findings.
	2.2.5 Der skal tages hensyn til risikoen for forringet vandkvalitet ved fældning langs søer og vandløb, hvis det påvirker f.eks. brinkerosion. Her er behov for noget bedre dokumentation, end henvisning til "increasing number of cases". Hvad er det for stigende antal sager, har de betydet forringet vandkvalitet, hvilken forringelse, er der miljøskader og så videre. Vurderingen kan være rigtigt, men den er ikke understøttet, hvilket er nødvendigt i sådan et stykke arbejde.	Thank you for input. Indicator has been developed further, conclusion remain specified. Conclusion: Data are insufficient to settle on low risk, and therefore as a precautionary approach specified risk is suggested for 1) altered/reduced water quality, including but not limited to, sedimentation, turbidity, water temperature; 2) altered/Reduced water quantity, including but not limited to,

	Her er det samtidig overraskende at Nature conservation areas ender på specified risk. Som vi læser det, skyldes det udelukkende risiko for overtrædelser af beskyttelseszoner. Ved landbrugsarealer langs vandløb er der f.eks. tre meter bræmmer der skal overholdes (som fejlagtigt står som to meter i 2.2.3 – de er ændret i CAP 2023), og når der gødes ved markkanter og vandløb, anvendes kantspredeudstyr. Landmænd har ikke interesse i at købe gødning og sprede i åer eller på anden vis ikke selv få glæde af det. Der er gødningsnormer til alle afgrøder og de er ikke lavet så der er basis for at forære gødning væk. Der arbejdes i landbruget meget med teknik til at sikre gødningen placeres så præcist som muligt til afgrøden, også juletræer og flerårige energiafgrøder. Til beskyttelse af grundvand, arbejdes med BNBO områder, hvor der etableres zoner rundt om vandboringer til beskyttelse af indvindingen af drikkevand. Det er rigtigt at kommunerne ikke er lige langt i Danmark, men der er fra statens side skubbet på for det arbejde. Hvis der er behov for yderligere beskyttelse, er der behov for fagligt materiale der viser dette. Generelt har vi i Danmark ikke problemer med nitrat i drikkevandet.	increased or decreased volume, seasonality, peak-flow, surface run-off and 3) altered/reduced of riparian habitat and function. SBP guidance reference: https://sbpcert.wpenginepowered.com/wp-content/uploads/2023/05/SBP_Guidance_Standard_1_v2.0_final.pdf Description altered from 2 to 3 m protection zone along streams, thank you.
	2.2.7 Se første punkt i jeres risikoanalyse. Alle regler skal overholdes. Så ulovlig brug af pesticider eller brug af ulovlige pesticider er ikke acceptabelt. Så burde den ikke være meget længere. Men forstås det rigtigt at anvendelse af pesticider, handler om anvendelse til fremme af biomasseproduktionen? For der anvendes ikke pesticider i f.eks. juletræer til at øge biomasseproduktionen, men til at holde ukrudt væk og behandle mod skadedyr som påvirker nålene, så der kan laves flotte juletræer. Der anvendes ikke pesticider til produktion af rest biomasse til flis. Så er det vigtigt at bemærke at risikoen for forurening med pesticider håndteres strikt i de Europæiske- og efterfølgende i det danske godkendelsessystem. Det er i den henseende vigtigt at bide mærke i, at grænseværdien for nedsivning af pesticidrester til grundvandet er fastsat ud fra en nultolerance. Den tilgang er et udtryk for et meget strengt forsigtighedsprincip. Når det handler om pesticidrester på fødevarer, må der være en rest, som afspejler en korrekt anvendelse af et pesticid, som samtidig ikke må overstige den sundhedsmæssige grænseværdi for det konkrete	Thank you for input. The specified risk assessment is related to the primary production of the agriculture not the production of woody residues – this has been highlightened and clarified in the text. Findings have been updated and the following also added: The data above does not indicate if the findings related unapproved pesticide relate to illegal storage, handling or use. Further analysis will be needed to assess if there has been an environmental impact or if there are violations with low or no environmental impact

	middel. Det betyder typisk, at tærsklen for pesticidrester for fødevarer kan være en faktor 1.000 højere end for drikkevand, uden det har nogen sundhedsmæssige risici. Desuden kommer over 99,9 pct. af pesticidindtag fra fødevarer – og ikke fra drikkevand. Der er i godkendelserne af pesticider indsat grænser for hvor tæt på vandløb og natur man må anvende midlerne. Så med de danske regler for pesticider, er risiko for forurening lav. Så en kort bemærkning om afsnittet om fund af overtrædelser af pesticidreglerne. Kilden kan vel ikke anses for uvildig. Men samtidig viser materialet der er søgt aktindsigt i, at der følges op på de meget restriktive regler der er i Danmark for anvendelse af pesticider. For arbejdet med denne risikoanalyse, bør det vurderes nærmere hvor alvorlige de nævnte overtrædelser har overfor miljø og natur. Har der været anledning til miljøpåvirkning, eller er der tale om overtrædelser med lav eller ingen miljømæssig påvirkning. I Danmark er alle der anvender pesticider i landbruget uddannet til at håndtere pesticider og kender til risici for miljø, natur og personer.	
	2.2.10 Her er det vores vurdering at reglerne i Biomassehåndbogen (BEK 649) kan anvendes her også. Det betyder at nedlægges et hegn eller småbeplantning, skal der etableres erstatningsbeplantning på samme ejendom. Det er vores opfordring at følge reglerne i håndbogen. Skulle regler i håndbogen blive strammet, er det en selvfølge at så følges de nye regler. Det er vigtigt igen at huske på, at f.eks. levende hegn for landbruget er en teknisk installation, det skal bidrage til f.eks. reduktion af sandflugt. Er der ikke behov for den ydelse, er det lovligt at fjerne hegnet. Pragmatisk set giver det bedst mening, at ønskes f.eks. et læhegn at skulle flyttes, så kan biomassen anvendes til energi. Alternativt vil det ikke blive nyttiggjort. Med kravet om nyetablering af tilsvarende areal, fastholdes arealstørrelsen med ”natur”.	SBP certification scheme is developed to provide assurance that woody biomass is sourced both legally and sustainably. Therefor there are requirements exceeding the legal use of the land e.g. the right to dismantle hedgerows. Regarding: We propose the following addition in the RRA "If the requirements in the Danish legislation (the Biomass Handbook) are changed and tightened, the RRA is also changed in line with the legislation's new and stricter rules automatically and immediately at the time when the amended legislation comes into force". SBP Regional Risk Assessment Procedure, version 1.2 section 7, contain descriptions of procedures for updating the RRA.
	4.1.8 Det er vigtigt der sikres den rette uddannelse af personer som skal arbejde med sikring af overholdelse af disse regler. Der er forskellige grader af ansvar	Biomass producers shall take risk mitigation measures relevant to the specific supply chain to ensure that workers in the supply chain have adequate competence in sustainable management practices that conform to the SBP requirements.

	den enkelte har og derfor børe træning/uddannelse også kunne tilpasses den enkeltes behov	
Local expert	TOF-vurderingen: Det er overordnet set en god ide at bygge bro mellem SBP-kategorier og biomassekategorier/typer i den danske lovgivning om bæredygtighedskrav til biomasse til energi. Det bliver dog meget detaljeret i dokumentet at gengive al vejledningstekst. Måske kunne et "oversættelses-skema" med ligheder og forskelle hjælpe læseren? Måske kan det også være en ide på et tidspunkt at tage et møde om hvordan kategoriseringen skal forstås i en sammenhæng mellem de to systemer. Måske kan der ved små ændringer eller forklaringer i et af systemerne eller begge opnås en ensartet klassificering? - Der er ikke umiddelbart overensstemmelse mellem engelsk og dansk mht. de fire TOF-oprindelser. Jeg foreslår at tilføje "rester" i nr. 3 samt tilføje "fra landbrugsjord" i nr. 4. - Kortet i kapitel 4 kan risikere at forvirre mere end oplyse eftersom skov jo ikke er omfattet af vurderingen og det er til gengæld træ fra landbrugsarealer, som ikke er vist på kortet. Det kan overvejes at slette kortet. - 5.1: Bør det fremgå hvilke eksperter som er blevet konsulteret? - Tabel 5.1: De to punkter under wood residues from agriculture kunne godt behøve en intro i teksten inden tabellen. - 6: Håndbogen regulerer også varmeværker samt forbrug i fremstillingsindustri samt fx brænde i husholdninger. Ikke kun kraftvarmeværker. - 6 – Landscape: Eg kan også nævnes som ofte anvendt art i levende hegn. - 6 – Landscape: Der kunne tilføjes noget om udviklingen i levende hegn og småbeplantninger fra 2001-2021, hvor forbruget af træbiomasse i den moderne bioenergisektor voksede drastisk. Jeg mener, at Århus Universitet har lavet en undersøgelse af udviklingen i "småbiotoper" i det åbne land. Afsnittet henviser både til km og ha. Læseren kan evt. hjælpes ved at en kilometer levende hegn af 10 meters bredde svarer til en ha.	Categorization in separate section, await SBP Have added 3. Residues and 4. Agricultural land. MAP: forest layer removed from map. Data available have been used to produce the map, we agree that it would have been better to show all TOF origins but data aren´t available. 5.1: specialists consulted are listed in annex 2. Annex 2 addded. 5.1 Introduction to risk assessment of Woody residues from agricultural land has been added both in 5.1 and in table 8.1 6. Handbook, additional text added. 6. Oak added, comment correct. Species in italic font. 6. To be added, section on smaller biotopes. 6. Have added: (app. 1 km of hedgerow with a width of 10 meters correspond to 1 hectare) 6. Wild life refuge areas description extended. 6. Nature conservation fellings added. 6. Olive and oilpalms deleted. 6. Reference for data for short rotation coppice added. 7. Coherence between woodlfow analysis and biomass reporting for 2022, added. 8. Introduction added.

	- 6 – beskrivelsen af vildtremiser og småbevoksninger kan evt. udbygges en smule med at førstnævnte i høj grad også er en del af aktiv vildtforvaltning og at sidstnævnte også kan have karakter af relativt ung men urørt skov i meget forskellig grad af biodiversitetsværdi. - 6 – læseren kan behøve hjælp til at forstå hvorfor de nævnte beskyttede naturområder er relevante for emnet – det handler vel primært om naturplejefældninger? Og søer behøver evt. ikke at nævnes? - 6 – wood residue from agricultural land: Eftersom scope her udelukkende er Danmark behøver oliven og oliepalmer evt. ikke nævnes. - 6 – hvad er kilden til arealerne med pil og poppel i hurtig omdrift (på landbr- 7 – Det er lidt svært at forstå sammenhængen mellem de to opgørelser (træstrømsanalyse og biomasseindberetninger). Den ene er set fra skovsiden? Og den anden fra energisektoren. Men modsiger deres tal nødvendigvis hinanden? - 8 – når man kun læser denne første del af rapporten (altså uden bilag), så har man brug for en lille intro til og fortolkning af tabel 8.1. Hvad er det overordnede resultat, som tabellen viser? RED II – vurderingen - Kravet i artikel 29 stk. 2 gælder kun for affald og rester fra landbrug, ikke primær produktion som fx energitræ fra landbrugsarealer. Sådan tolker ENS det i hvert fald. - Ang. teksten om artikel 29 stk. 4 b (skovdækkede arealer), så er det svært at forstå konklusionen af studiet Levin og Gyldenkærne 2022. Det er også svært at forstå om studiet Levin et al 2014 også har set på ikke-fredskov? Kan det passe, at der ikke er sket forandringer af arealanvendelse fra skov, som ikke er fredskov, til landbrugsjord?ugsjord?)?	
Jointly by Danish Forest Association, HedeDanmark og Skovdyrkerne, Danske Maskinstationer og Entreprenører, Dansk	General comments Overordnet mener vi, at store dele af risikoanalysen bygger på upræcise og ukonkrete henvisninger til lovgivninger og litteratur. Vi har forståelse for, at der findes begrænset litteratur og afgørelser på dele af områderne, hvilket gør det vanskeligt at analysere og vurdere visse kriterier.	More references and where possible precise references have been added.

Fjernvarme, HOFOR and Ørsted	Da analysen er sin første af sin slags og skal fungere som reference for andre lande, vil vi opfordre til at analysen gennemgås med henblik at angive præcise henvisninger, således grundlaget for analysen er så korrekt som muligt. Fx giver det ikke mening at henvise til et direktiv som lovgrundlag (habitatdirektivet). Der bør i stedet henvises til den danske lovgivning, som implementerer direktivet. Der henvises ligeledes flere steder til "sager" (cases) uden, at der er angivet konkrete afgørelser. Ligesom der også henvises til sager i medierne, hvilket vi ikke mener i tilstrækkelig grad underbygger en vurdering. På trods af, at der for en del af kriterierne er vurderet "low risk", afspejles det ikke tydeligt i de forklarende tekster eller analyser. Her kan man let få indtryk af, at visse aktiviteter er problematiske på trods af "low risk"-vurdering. Det kan give et overordnet indtryk af, at det generelt er problematisk at høste træbiomasse fra TOF. For nogle af kriterierne er argumenterne ikke konsistente, hvilket gør det svært at navigere i analysen. Fx er argumentationen for energiafgrøder direkte modstridende flere steder, hvilket vi har kommenteret i de konkrete bemærkninger nedenfor. Det bør ligeledes fremgå tydeligt, hvilket opdrag analysen har. Samtidig er der tilfælde, hvor engelske udtryk bærer præg af ikke at være oversat til korrekte fagtermer, hvilket stedvist påvirker forståelsen i risikovurderingen	
	Kategorisering af arealerne Vi ser gerne, at kategoriseringer forklares bedre og fremgår tydeligere i RRA'en, så der ikke opstår tvivl hos entreprenører eller producenter, hvilke arealer de arbejder med, og dermed hvilken kategori, der skal vurderes ud fra. Vi ønsker, at RRA'en indeholder klare grænser, og er så operationel praktisk anvendelig som muligt. 2 Kategoriseringen kunne fx stå under eget afsnit, fremfor være en del "Regional background". I forlængelse af kategoriseringen, mener vi, at kortet på s. 3 ikke bidrager med megen værdi grundet detaljeringsgraden. Kategoriseringen er for detaljeret til at indsætte i et lille kort.	Table 4.1 with SBP´s definitions has been added. Also table 4.2 with allignment between SBP TOF origins and the Danish Energy Agency definitions has been added.

	Da nærværende RRA også anses som en pilot-proces for fremtidig RRA i andre lande, opfordrer vi til, at SBP udarbejder en generel vejledning for kategorisering, så der i andre lande også kan foretages en sikker risikovurdering. Vi har følgende forslag til kategorisering 1. Urban, domestic and infrastructure, defined as: a. Land inside the limits of a city, town or village. Though, any land inside the limits, that fulfills the definition of forest shall be defined as forest - if the design, structure, management, etc. of the land to a reasonable extend is similar to local forest practice. b. Land outside a., being close to a single building, industrial production site, infrastructure (road, rail, power, etc.) The outer boundary of this land is settled where the design, structure, management, etc. is (still) dominated by the purpose it serves for/impact it has from the building, site, road etc. 2. Woody residues from agricultural land (Orchards, vineyards, nuts and other wood crops, agroforestry), defined as: The land, where the crop in respect is grown - and not any other wooded land physically connected to it shelter belt, etc. 3. Wood energy crops (i.e. wood biomass), short rotation coppice, defined as: The land, where the crop in respect is grown - and not any other wooded land physically connected to it - shelter belt, etc. 4. Landscape, defined as: Land that cannot be defined as "Forest", "Agricultural" or "Urban, domestic and infrastructure".	
	2.1.1 Nøglearter, habitater, økosystemer og områder med høj bevaringsværdi (HCV) skal identificeres Der mangler generelt systematisk identifikation af HCV i åbent land. NBL § 3 er kun vejledende, og derfor er der fortsat behov for at vurdere de enkelte arealers naturværdier inden fældning. Men vi mener overordnet, at særligt juletræsarealer og arealer med energipil/poppel skal betragtes som landbrugsafgrøder i omdrift, og at arealer med HCV er yderst begrænsede. Det understøttes ligeledes af " Håndbog om opfyldelse af bæredygtighedskrav og krav til besparelse af	On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk.

	drivhusgasemissioner for biomassebrændsler til energiformål", der for nyligt har vurderet lav risiko for landbrugsbrugsafgrøder. Derfor mener vi, at " Woody residues from agricultural land" og " Wood energy crops" bør ændres til "low risk".	
	2.1.2 Trusler mod og indvirkning på de identificerede nøglearter, habitater, økosystemer og områder med høj bevaringsværdi (HCV) skal identificeres og evalueres. Nature conservation areas: Vi bakker op om, at trusler skal identificeres, samt at kommunen bør kontaktes mhp. Vurdering af § 3-arealer forud for høst af biomasse. Wood energy crops: Det er uklart i analysen, om det er hensigtsmæssigt eller ej at høste fra landbrugsarealer med energipil/poppel. Særligt når analysen sammenholdes med analyserne fra 2.1.1 og 2.2.2. Det efterlader et indtryk af inkonsistent argumentation, og vi mener derfor ikke, at risikoen for høst af biomasse på disse er tilstrækkeligt godtgjort. Overordnet mener vi, at analysen bør afspejle, at landbrugsjord med energipil eller poppel er klassificeret som landbrugsarealer med energiafgrøder med pligt til, ifølge Landbrugsloven, at høste hvert 10. år for energipil og hvert 15. år for poppel. Samtidig bør analysen også inddrage, at rotation af høst på enkeltarealer ikke er hensigtsmæssigt ift. EU's hektarstøtte, hvor landmænd skal sikre rigtige høstår på de forskellige dele. Ved inddeling af delarealer indenfor samme areal øges risikoen for fejl, hvorved landmænd risikerer at indrapportere fejlagtigt. Med ovenstående begrundelse er vi derfor ikke enige i analysens konklusion om "specified risk" for arealer med energipil/poppel, og den bør ændres til "low risk".	On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk. Paragraph about the Agricultural Act and legislative requirements regarding cuttting interval of short rortaton coppice has been added.
	2.1.3 Nøglearter, habitater, økosystemer og områder med høj bevaringsværdi (HCV) skal opretholdes eller forbedres Landscape/hedgerows: Vi bakker op om, at der stilles forslag til tiltag, der kan afbøde/mitigere risici. Forslagene bør dog underbygges bedre af studier og litteratur for at sikre høj validitet. Vi foreslår som mitigation, at ved pleje af hegn, bør aldrende hjemmehørende træarter med synlige tegn på naturlig nedbrydning og henfald (døde partier, hulheder mv.) bibeholdes og ikke anvendes til energiformål.	On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk. Mitigation measures has been omitted from the present draft and will be explored at a later stage with SBP.

	Med henvisning til nordtysk praktisk og erfaringer med hegnspleje, kan der med fordel dannes et grundlag for en dansk best management practice. Dette best management practice omfatter ikke, at man f.eks. skal efterlade en bestemt andel træer i et hegn, eller at begrænsninger, som de nævnte i analysen, for vestjyske hegn om, at kun ammetræer eller ikke-hjemmehørende arter må fældes. Wood energy crops: se kommentar i 2.1.2. Vi opfordrer til, at denne klassificeres som "low risk".	
	2.2.2 Økosystemer, deres sundhed, vitalitet, funktioner og tjenester skal opretholdes eller forbedres. Wood energy crops: Der er ikke konsistens mellem analysen (specified risk) og tabel med "risk rating" (low risk). Der argumenteres overordnet for, at vedligeholdelse med stævning kan forbedre økosystemer med energipil/poppel. Derfor virker det ulogisk, at kategorien er sat som "specified risk". Der savnes i øvrigt anden relevant dokumentation, da en udtalelse alene fra Ny Vraa er for ensidig. Se yderligere kommentarer om ændring til "low risk" i 2.1.2	On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk.
	2.2.3 Jordkvaliteten skal opretholdes eller forbedres Nature conservation areas: Det fremgår af analysen, at risikoen for erosion langs søer og vandløb øges ved fældning af træer langs brinken. Vi er enige i, at risikoen for erosion øges ved fældning langs søer og vandløb, men det bør understøttes af dokumentation og konkrete afgørelser fremfor udtalelser som "then an increasing number of cases has arisen where biomass producers haven´t paid due attention to restrictions and cut areas to close to water courses leading to risk of soil erosion and damage to downstream hydrology". Det fremgår ikke hvilke sager, og om der forelægger afgørelser i sagerne. Derfor er det også svært at vurdere, om sagerne rent faktisk omhandler erosion eller ændrede sol/skygge-forhold, som ofte ses i forbindelse med fældning langs søer og vandløb. Erfaringen på området siger, at der ikke generelt kan henvises til problemer med erosion efter arbejde omkring vandløb og søer. Derfor mener vi, at indikatoren bør være low risk.	Thank you for the input. On basis of stakeholder inputs, the risk rating for nature conservation areas has been changed

	2.2.4. Hvor fjernelse af skovrester og/eller stubbe finder sted, må dette ikke føre til irreversible negative påvirkninger af økosystemet I forhold til udtag af dødt ved, mener vi ikke, at det er tilstrækkeligt dokumenteret alene med en udtalelse fra Energistyrelsen, at der udtages mere residues fra TOF-arealer i Danmark fremfor andre lande. For skovenes vedkommende stiger mængden af dødt ved overordnet (Skovstatikken). Der er generelt behov for tydeligere at forklare eller definere, hvad der forstås med "dead wood". Vi forstår dødt ved, som naturligt dødt træ, der er under nedbrydning/omsætning. Den nuværende tekst kan tolkes som, at dødt ved defineres som hugstrester, hvilket vi finder problematisk, da hugstrester gerne må fjernes. Der kan med fordel laves en definition, der indgår i "Glossary". Vi støtter overordnet, at SPB læner sig op ad lovgivningen. Således bør risikovurderingen ændres, hvis lovgivningen strammes. Vi bakker dog op om, at der bør sikres tiltag, der opretholder vigtige levesteder for biodiversiteten (se 2.1.3), og dermed specified risk. Woody residues from agricultural land: For arealer med juletræer, mener vi ikke, at det vil have stor biologisk værdi at efterlade juletræsarter som dødt ved. I øvrigt betragtes juletræsarealer som landbrugsarealer i omdrift, hvorved der ikke dannes dødt ved. Derfor bør det ændres til "low risk" Wood energy crops: Vi mener helt overordnet, at arealer med energipil/poppel bør betragtes som arealer med afgrøder. Arealerne modtager som regel hektarstøtte med pligt til at høste. Dermed mener vi ikke, at det er hensigtsmæssigt, at der skal efterlades store mængder dødt ved, og at arealerne kategoriseres som "specified risk". Derfor bør det ændres til "low risk"	Thank you for input. Definition of deadwood for Danish context added. Definiton from Aarhus University used, though context of definiton is from forest. For the TOF origins "Woody residue from agricultural land" and "Woody Energy crops, short rotation coppice" the feedstock type of these origins is not considered to produce deadwood and therefore there is low risk for these two origins. Regarding: "We generally support that SPB leans on the legislation. Thus, the risk assessment should be changed if the legislation is tightened". SBP Regional Risk Assessment Procedure, version 1.2 section 7, contain descriptions of procedures for updating the RRA.
	2.2.5 Kvaliteten og mængden af grundvand, overfladevand og nedstrømsvand skal opretholdes eller forbedres Nature conservation areas: Det fremgår af analysen, at risikoen for forringet vandkvalitet i søer og vandløb øges ved fældning af træer langs brinken. Vi er enige i, at risikoen for forringet vandkvalitet øges ved fældning langs søer og vandløb, men det bør understøttes af dokumentation og konkrete afgørelser fremfor udtalelser som " then an increasing number of cases has arisen where biomass producers haven´t paid due attention to restrictions and cut areas to close to water courses.".	Thank you for input. Indicator has been developed further, conclusion remain specified. Conclusion: Data are insufficient to settle on low risk, and therefore as a precautionary approach specified risk is suggested for 1) altered/reduced water quality, including but not limited to, sedimentation, turbidity, water temperature; 2) altered/Reduced water quantity, including but not limited to, increased or decreased volume, seasonality, peak-flow, surface run-off and 3) altered/reduced of riparian habitat and function.

	Det fremgår ikke hvilke sager, og om der forelægger afgørelser i sagerne. Derfor er det også svært at vurdere, om sagerne rent faktisk omhandler forringelse af vandkvalitet.	SBP guidance reference: https://sbpcert.wpenginepowered.com/wp-content/uploads/2023/05/SBP_Guidance_Standard_1_v2.0_final.pdf
	2.2.7 Pesticides shall only be used as part of an Integrated Pest Management (IPM) plan in compliance with national legislation, chemical safety data sheets and industry best management practice. Banned pesticides shall not be used. Woody residues from agricultural land: Vi bakker fuldt op om, at der ikke må anvendes ulovlige pesticider. Vi mener dog ikke, at analysen fuldt belyser, om der er tale om ulovlig opbevaring eller ulovlig anvendelse af pesticider. Den omtalte anvendelse af ulovlige pesticider fremført af DN vedrører alle jordbrugsanvendelser, herunder landbrug, juletræer, klippegrønt og skov. Vi undrer os derfor over vurderingen "specified risk" alene for woody residues from agricultural land, som vi i øvrigt mener bør ændres til "low risk". Ulovlige pesticider har ikke til formål at forbedre eller øge mængden af restprodukter til energiformål. Derfor forstår vi ikke, hvor der vurderes "specified risk" særligt for juletræsarealer.	Thank you for the input The following has been highlightened in the introduction and indicator 2.2.7: For woody residues it is particulary important to note that when sourcing woody residues from agricultural production a risk assessment has to be performed both for the production of the biomass (the residues), but also the primary production of agriculture i.e. management of the orchard plantation. The findings concerning banned pesticides are considered relevant for the primary production. Data do not indicate if the 18 percent unapproved pesticides were found on farms producing e.g. christmas tree or other farms, therefore no conclusion can be made for this. However, 18 percent is surprising and considered so high that the combination with the findings from the Ministry of Environment (2022) cannot justify low risk. Following also added: The data above does not indicate if the findings related unapproved pesticide relate to illegal storage, handling or use. Further analysis will be needed to assess if there has been an environmental impact or if there are violations with low or no environmental impact
	2.2.10 Høstede arealer skal regenereres/genplantes Landscape/hedgerows: I analysen henvises der eksplicit til dansk lovgivning. I RRA tages der udgangspunkt i den danske lovgivning, hvorved der gives accept til, at et læhegn/småbeplantninger kan nedlægges og flyttes under specielle omstændigheder, hvis der etableres et erstatningslæhegn eller beplantning på samme ejendom. Vi foreslår følgende tilføjelse i RRA "Hvis kravene i den danske lovgivning (Biomassehåndbogen) ændres og strammes, ændres RRA ligeledes på linje med lovgivningens nye og strammere regler automatisk og øjeblikkeligt på det tidspunkt, hvor den ændrede lovgivning træder i kraft"	Thank you for your input. Regarding: We propose the following addition in the RRA "If the requirements in the Danish legislation (the Biomass Handbook) are changed and tightened, the RRA is also changed in line with the legislation's new and stricter rules automatically and immediately at the time when the amended legislation comes into force". SBP Regional Risk Assessment Procedure, version 1.2 section 7, contain descriptions of procedures for updating the RRA.

	4.1.8 Der skal gives uddannelse til alle arbejdstagere for at give dem mulighed for at implementere de betingelser, der er fastsat i alle elementer i SBP-standarderne, der er relevante for deres ansvar. Vi er enige i, at kravet bør være individuelt, og at virksomhederne er ansvarlige for overholdelse af kriterierne. Det er op til den enkelte certifikatholder at designe kravene, da virksomhederne er forskellige. Dette er med til at sikre fleksibilitet.	Thank you for your input. Biomass producers shall take risk mitigation measures relevant to the specific supply chain to ensure that workers in the supply chain have adequate competence in sustainable management practices that conform to the SBP requirements.
Preferred by Nature	2.1.3 Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be maintained or enhanced. 'It has damaging effect on corridors and locally important bird, bats, mammals etc. with specific habitat in hedgerows if these are cut down completely. Therefore, as a pragmatic consideration, minimum 25 % of all trees/shrubs in a hedgerow shall be left untouched after any thinning/coppicing operation. The 25% requirement is not relevant for exotic species.' 1) Det er uklart, hvordan en auditor skal auditere målprocenten for læhegn bestående af både hjemmehørende og eksotiske plantearter. Fx i en kulturmodel med sitka, (indført)poppel og hassel (https://www.proviido.dk/laehegnstyper/laehegn-med-poppel-sitkagran-og-buske/), Er kravet her: • at 25% af kun hasselbuskene (de hjemmehørende) står tilbage? • at alle hassel-buskene skal stå tilbage for at nå så langt op imod de 25% som muligt? • eller at 25% af hele hegnet står tilbage? Samme tvivl vil opstå for andre blandingskulturer. Fx https://www.proviido.dk/laehegnstyper/syrenogeg/ 2) Det er uklart om kravet om 25% urørt refererer til 25% af den samlede biomasse eller 25% af antallet af buske og træer. Nogle buske har mange små-stammer og forgreninger tæt på jorden, mens træarterne typisk har blot én relativt tyk stamme. Hvordan forventes auditor at auditere et læhegn der fx er omdannet til et herregårdshegn (som antageligt har skabt nye biotoper)?	The input has been recognized and will be taken into account in the further process. Development of mitigation measures for securing low risk is not a part of the RRA but will be handled later in the process.

	(https://www.hededanmark.dk/nyheder/klassisk-laehegn-forvandlet-til-unikt-herregaardshegn) Vil der her være en afvigelse, hvis mere en 75% af biomassen er forsvundet eller en afvigelse når mere end 75 af beplantningen er stævnet? 3) Det er uklart hvordan fordelingen af de 25% (eventuelt) skal auditeres. Skal auditor auditere at de naturmæssigt mest værdifulde (bestands)træer står tilbage og/eller at de 25% urørte træer er fordelt jævnt i hegnets fulde længde, så nulstilling alle steder undgås? Eller er det nok at fx de første 25 meter af et 100 meter langt læhegn ikke er stævnet? (fx hvis denne side af læhegnet har den mest interessante type beplantning og er tættere på andre bevoksninger/grønne korridorer). Uanset de gode intentioner, så vil auditering af kravefterlevelse være svært i praksis.	
	2.2.4 Where the removal of harvest forest residues and/or stumps occurs, this shall not lead to irreversible negative impacts to the ecosystem. Konklusionerne er ikke i logisk forlængelse af teksten i afsnittet, som er svær at læse og forstå. Det antages her at auditor kan auditere på kriteriet ved at besigtige ikke-flishuggede stakke og kontrollere om de indeholder mørnet og dødt ved og hule stammer. Ud fra et auditorperspektiv ønskes der dog klarhed omkring følgende 1) Vil mørnede døde træer og højstubbe der er væltet/trillet ud over marken, kunne lægges i flisningsstakken? 2) Vil mørnede døde træer og højstubbe der i fare for at vælte ud over marken, kunne lægges i flisningsstakken? 3) Vil mørnede døde træer og højstubbe der er væltet ud over veje og stier, kunne lægges i flisningsstakken? 4) Vil mørnede døde træer og højstubbe der i fare for at vælte ud over veje og stier, kunne lægges i flisningsstakken?	Thank you for input Definition of deadwood for Danish context added. Definiton from Aarhus University used, though context of definiton is from forest. For the TOF origins "Woody residue from agricultural land" and "Woody Energy crops, short rotation coppice" the feedstock type of these origins is not considered to produce deadwood and therefore there is low risk for these two origins.
Danish Christmas Tree Association	Definitionen omkring aktiv drift på juletræsarealer på landbrugsjord betyder reelt, at en juletræsproducent skal afhænde biomassen inden for to år efter endt juletræsrotation, hvis han skal undgå at det kategoriseres som skov med	Thank you for your input. The input relates to indicator 2.2.10.

	deraf følgende krav om gentilplantning (hvis biomassen udnyttes til energi). Dette underbygges af jeres beskrivelse af klippegrønt som altid værende et skovprodukt. Reelt betyder det, at en juletræsproducent på markjord, der lader sine juletræer gro til klippegrønt og siden skov (tager længere end to år efter endt juletræsrotation) reelt ikke kan afsætte biomassen til energi, da der så er krav om gentilplantning.	SBP does not require an assessment of the regeneraton on agricultural areas – please refer to document SBP ID1A. The input is relevant for forest origin.
WWF	Tlf samtale med Sofie Tind Nielsen: Ad 2.1.3 - Du nævner at de 25% af læhegn skal være fordelt jævnt over læhegnets længde. Sofie/WWF mener at procentsatsen bør være højere, måske 50%, for at sikre at læhegnets naturbevarende funktion i landskabet bevares. Der er ikke meget vegetation i landskabet og vi skal passe på det der er. - Gamle træer af naturmæssig værdi kan defineres/erkendes ud fra katalog om mikrohabitater, jf. FSC skovstandard. Add. Pil/poppel rydning bør kun kunne foregå udenfor ynglesæson. Læhegn: Sikring af redetræer i ynglesæson, det skal være helt klart! Ref.: 3. Introduction I introduktionen gives fire (4) TOF-oprindelser: 1) Landscape 2) Urban, domestic and infrastructure 3) Woody residues from agricultural land (Orchards, vineyards, nuts and other wood forestry) 4) Wood energy crops (i.e. wood biomass), short rotation coppice Det er ikke helt klart hvordan disse fire relaterer til hhv. SBPs ID REDII, ID1A og ID5E og Energistyrelsens Håndbog. Det ville være gavnligt hvis der laves en tydelig krydshenvisning eller oversigt, som linker SBP's definitioner af TOFs og definitionerne i Energistyrelsens håndbog, så de forstås i en dansk kontekst.	Table 4.1 with SBP´s definitions has been added. Also table 4.2 with allignment between SBP TOF origins and the Danish Energy Agency definitions has been added. Definitions has been removed from section 6 regional background.

Ref.: SBP definitioner I ID5E: Collection and Communication of Energy and Carbon Data:

Trees outside forest (TOF) – Urban and landscape feedstock	2A	Feedstock from urban areas, parks, gardens, landscape, infrastructure outside forest agricultural lands.
Trees outside forest (TOF) – Agricultural land feedstock	3A	Feedstock from agricultural lands, including short rotation coppice, energy crops, orcha

Ref.: SBPs definitioner I ID1A: SBP Requirements for Primary Feedstock from Trees Outside Forests (TOF)

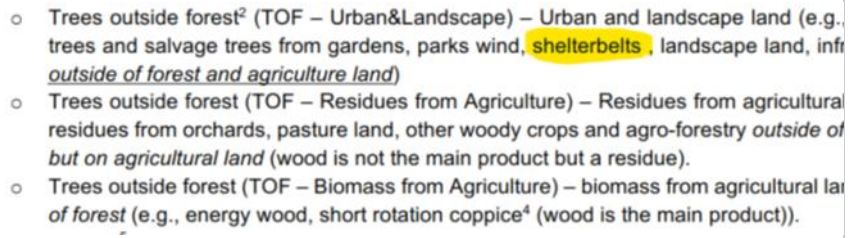
Trees outside forests (TOF) – Urban and landscape feedstock	Landscape	Low grade *stemwo*
	Urban, domestic and infrastructure	*Tree residues* with *Tree residues* witho *End-of-life trees* *Salvage trees* Trees removed for conservation
Trees outside forests (TOF) – Agricultural land feedstock	Woody residues from agricultural land (Orchards, vineyards, nuts and other woody crops, agro-forestry)	Product and co-pr *End-of-life trees* *Salvage trees*
	Woody energy crops (i.e. woody biomass), *short rotation* coppice	

Ref.: SBP definitioner I ID REDII: Bridging Requirements for Meeting REDII:

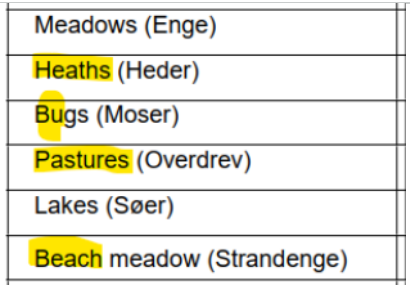
- Trees outside forest[2] (TOF – Urban&Landscape) – Urban and landscape land (e.g., trees and salvage trees from gardens, parks wind, shelterbelts , landscape land, infr *outside of forest and agriculture land*)
- Trees outside forest (TOF – Residues from Agriculture) – Residues from agricultural residues from orchards, pasture land, other woody crops and agro-forestry *outside of but on agricultural land* (wood is not the main product but a residue).
- Trees outside forest (TOF – Biomass from Agriculture) – biomass from agricultural la *of forest* (e.g., energy wood, short rotation coppice[4] (wood is the main product)).

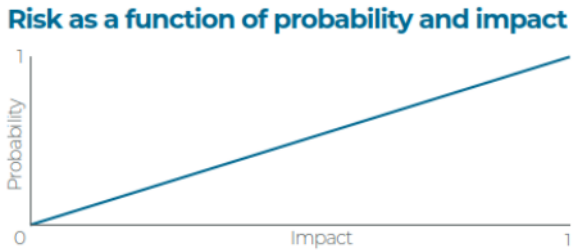
Ref.: Energistyrelsens definitioner i håndbogen/oversigten over biomassetyper: Træbiomasse fra ikkeskov:

	Restprodukter fra ikkeskov: Alle trædele undtagen stubbe og rødder. Herunder træ fra diverse naturpleje udenfor skov og by (fra levende hegn og andre småbevoksninger, som ikke er skov, landbrug, haver og parker, og som ikke er fra arealer, som ryddes til ny infrastruktur eller ny bebyggelse). Træaffald og kommunalt fast affald: Have-/parkaffald: træ fra rydninger til ny infrastruktur, råstofgravning og ny bebyggelse, samt biologisk materiale fra beskæringer m.m., der opretholder funktionen af veje, jernbaner, elledninger og lignende, herunder lovpligtig beskæring langs vandløb. Biomasse fra landbrug: Energitræ fra landbrugsarealer i 10 års omdrift(stævningsinterval (Energistyrelsen vurderer, at poppel-arter på landbrugsjord i Danmark eller tilsvarende klimazone kan betragtes som energitræ fra landbrugsarealer til og med en alder på 20 år fra plantning eller stævning). Resttræ fra landbrugsarealer, i.e. juletræer (Undtaget fra kravet til andre restprodukter fra landbrugsarealer om kulstofindhold i jorden. Juletræer er statistiskt set skovareal, men det giver ikke mening at kræve genetablering udenfor fredskov). Dernæst i samme afsnit henvises korrekt til at: Residues from wood processing industries including all other secondary or tertiary feedstoc imported feedstock are excluded from this RRA. Også her kunne det være gavnligt at bruge samme formulering som i: Ref.: SBPs ID REDII: Processing residues from forest and agriculture related industries (secondary) Woody post-consumer waste feedstock (tertiary). Ref.: SBPs ID5E:	

	 Ref.: Energistyrelsens Håndbog: Sekundært træaffald fra produktion og bearbejdning af træ, som indeholder tilsætningsstoffer. Tertiært træaffald i kommunalt fast affald.	
	Figure 4.1: Map of Denmark showing potential biomass origins: Det indsatte kort har en lav opløsning og fremstår utydeligt. Teksten under figuren er lidt uklart i forhold til om de viste typer er inkl. landbrugsarealer indeholdt i "landscape", eller om arealerne slet ikke fremgår. Desuden viser kortet også skov, som ikke er indeholdt i TOF RRA'en, så det er lidt uklart hvad dette kort skal vise læse-ren.	Thank you for the input. The map has been updated. Forest has been removed
	Table 5.1. Risk assessment scheme used for all indicators: Det engelske ord: "Hedgerows" er brugt, hvormed vi går ud fra at der menes læhegn. Hedgerow bruges oftest om hække, mens engelske termer for læhegn nok snarere er "shelterbelts" eller "Windbreaks". SBP bruger i hvert fald ordet: "Shelterbelts" i Ref: ID REDII:  Under tabel 5.1 er det utydeligt hvad der menes med at "… where SBP in the Instruction Document 1A does not want an assessment….". Måske ville det være nyttigt at forklare dette lidt bedre.	Thank you for the input. Hedgerows has been used through the entire document as international literature use this term. Reference to other definitions (shelterbelts and windbreaks) has been made.
	Ref.: 6. Regional Background Afsnittet starter med en reference til Energistyrelsens håndbog fra 2021. Siden da har Energistyrelsen publiceret en årlig opdateret version, senest i 2023:	Hedgerows are used throughout the document as this terms is used in international litterature.

	Igen i dette afsnit refereres til "hedgerows", mens dette oftest forståes som "hække" og ikke læhegn. Læhegn i dansk sammenhæng forstås nok bedre som "shelterbelts" eller "windbreaks" på engelsk. Der er angivet "roan" i parentes efter "Sorbus spp.". Dette er nok blot en stavefejl. Sorbus spp. er på engelsk: Rowan eller Whitebeam. Hvis der er tale om Sorbus intermedia, så vil den korrekte engelske term være Whitebeam, mens hvis der er tale om Sorbus aucuparia, vil denne være kendt som: rowan på engelsk. Latinske navne bør sættes i kursiv. Afsnittet kunne i øvrigt have gavn af en engelsk/gramatisk korrektur (fx der står står "were" hvor der menes "where". I afsnittet omtales "earth dikes" som er registreret i "the indicative registration" uden at det er beskrevet at disse typer er cultural heritage og er beskyttet i henhold til museumsloven. Det er uklart hvad der menes med "the indicative registration". Den engelske ordlyd giver en lidt mysisk forståelse af hvad jorddiger og andre kulturminder er for noget. Stendiger og jorddiger, som klassificeres som kulturminder og er beskyttede som fortidsminder under Museumsloven og deres særlige beskyttelse er ikke umiddelbart forståeligt i afsnittet. Det bør fremstå meget skarpt at denne type af kulturminder er fredede i Danmark og dækket af dansk lovgivning. Afsnittet der starter med "The smaller woodlots" er beskrevet uden forklaring af hvad der menes med "smaller woodlots". Dette er vigtigt for at forstå den danske kontekst i en international sammenhæng.	
	Table 6.1 Nature conservation areas……. Under afsnittet der begynder med "Nature conservation areas" er der fejl og forbedringspotentiale i forhold til de valgte engelske oversættelser af dansk terminologi. De engelske termer antyder noget andet end det er:	English translations have been updated.

	 Med bla. reference til danske Natura 2000 naturtyper og de equivalente engelske termer, vil de mere korrekte engelske termer være: Healthlands: Heder Bogs and peatlands: moser Grasslands: overdrev Coastal meadows: strandenge. Der er ikke en naturtype, som hedder "beach meadows" eller "healths" på engelsk. Under tabellen angives igen subscope 1 som Hedgerows. Hedgerows betyder hække, mens der nok mere er tale som shelterbelts eller windbreaks (=læhegn). De engelske termer, som er anvendt for de danske typer, bruges herefter gennemgående i hele risikovurderingen. Hvor termerne anvendes, bør det tjekkes og oversættelsen forbedres igennem hele risikovurderingen.	
	Wood Energy crops, short rotation coppice I dette afsnit angives det at denne type har en harvest rotation of less than eight (8) years and it is indicated that for a Danish context, a maximum of ten (10) years has been accepted by SBP on requirement from the Danish Energy Agency (?). Men I Energistyrelsens håndbog/oversigt over biomassetyper angives følgende: Energitræ fra landbrugsarealer i 10 års omdrift (Energistyrelsen vurderer, at poppel-arter på landbrugsjord i Danmark eller tilsvarende klimazone kan betragtes som energitræ fra landbrugsarealer til og med en alder på 20 år fra plantning eller stævning).	SBP has accepted the danish rotation for short rotation poplar.

	Der mangler en refleksion og eventuel tilpasning i forhold til den danske kontekst.	
	Ref.: 8. Summary of identified risk areas Tabel 8.1. Summary of identified risk areas. Tabel 8.1 ser ud til at have nogle lidt underlige kolonneoverskrifter, som gør tabellen lidt svær at læse og forstå, særligt den sidste kolonne mod højre har ikke nogen specifik overskrift.	Thank you for input. Table 8.1 has been updated and introductory text has been added.
	Ref.: Annex 1: Detailed Findings for Supply Base Evaluation Indikatorerne i SBP TOF RRA udkastet Nedenfor gives kommentarer til de indikatorer, der har en-til-flere konklusioner om Specified Risk. Vores kommentarer fokuserer på om rationalet beskrevet under Findings I tabellerne er tydeligt eller uklart I forhold til at kunne konkludere "Specified Risk", herunder hvor tydeligt det er om risikoen er vurderet både I forhold til en vis sandsynlighed og en vis betydning for om indikatorkravet kan siges at være mødt eller ej. 	Thank you for your input. The comment has been well
	Indicator 2.1.2: Threats to and impacts on the identified key species, habitats, ecosystems, and areas of high conservation values (HCV) partaining to biodiversity in the Supply Base shall be identified and evaluated: Specified Risk: Landscape areas, Nature conservation areas Rationalet og analysen for "Landscape areas, Nature conservation areas", der skulle føre til konklusionen "specified risk" fremstår uklart. Forståelsen af Nature Conservation Areas må være områder, som er beskyttet i henhold til dansk lovgivning, fx § 3-områder. Derfor er det uklart hvorfor der alligevel skulle være risiko for at disse områder ikke skulle være identificerede og	Thank you for your input References and analysis for assessment of nature conservation areas has been updated. It has not been possible to obtain statistics neither pointing clearly towards low or specified risk, therefore specified risk is suggested. On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk.

	evaluerede, samt med hvilken sandsynlighed der er for at trusler og påvirkninger ikke skulle være identificerede. Teksten med rationalet/Analysen er helt uden referencer, så det er uklart på hvilken baggrund der vurderes høj sandsynlighed og høj påvirkning, der skulle føre til Specified risk. Specified Risk: Woody energy crops Woody energy crops, forstået som energi-pil eller -poppel, er vurderet, men der gives ingen referencer til udtalelsen: "Areas of short rotation coppice like willow and poplar provides better biodiversity than conventional agriculture". Denne udtagelse fører til konklusionen "Specified risk". Rationalet fremstår dermed ikke underbygget set I forhold til indikatorniveauet om hvorvidt arter, habitater og områder med høj bevaringsværdi er identificeret. Teksten med rationalet/analysen er uden referencer, så det er uklart på hvilken baggrund der vurderes høj sandsynlighed og høj påvirkning, der skulle føre til Specified risk. Energipil og -poppel er en intentiv landbrugsafgrøde på landbrugsjord. Det er uklart hvordan denne landbrugsafgrøde, der plantes og høstes i kort rotation, skulle kunne udgøre en speficeret risiko i forhld til indicatorkravet. Specified risk på arealer med energipil/poppel synes konkluderet på et meget begrænset grundlag. I praksis fremstår en 10-12 årig plantage med energipil/-poppel meget monoton etableret på ren landsbrugsareal.	
	Indicator 2.1.3: Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply base shall be maintained or enhances: Specified Risk: Hedgerows (i.e. shelterbelts/windsbreaks) Konklusionen af analysen virker umiddelbart meget foreskrivende og som en liste over krav til risikominimerende tiltag, inkl at der skal efterlades 25% af et læhegn ved tynning eller stævning. Det er uklart hvor de 25% kommer fra. Specified Risk: Landscape areas, Nature conservation areas Samme som ovenfor. Det er uklart hvordan rationalet/analysen under findings faktisk fører til konklusionen «Specified Risk» for "nature conservation areas", som er beskyttet under dansk lovgiving. Der mangler referencer, der kan give en forståelse eller et indtryk af hvor stor sandsynligheden er i Danmark for at de nævne naturtyper ikke skulle blive opretholdte eller forbedrede. Det fremstår næsten som om at der ikke er myndighedskontrol.	Thank you for your input References and analysis for assessment of nature conservation areas has been updated. It has not been possible to obtain statistics neither pointing clearly towards low or specified risk, therefore specified risk is suggested. On basis of stakeholder inputs and particularly input from the association DOF Birdlife, the risk rating of woody residues from agricultural land and woody energy crops has been changed to low risk. The discussion of 25% or alternatives has been brought forward to a mitigation measure process at SBP.

	Specified Risk: Woody energy crops Samme som ovenfor. Det er uklart hvordan rationalet/analysen under findings faktisk fører til konklusionen «Specified Risk» for "Wood energy crops, short rotation coppice", som i virkeligheden er en intensiv landbrugsafgrøde, der plantes som plantage med kort rotationstid på landbrugsjord.	
	Indicator 2.2.2: Ecosystems, their health, vitality, functions and services in the supply base shall be maintained or enhanced. Specified Risk: Landscape areas, Nature conservation areas Der er behov for at fikse de engelske terme for de angivne § 3 naturtyper. Samme kommentarer som under 2.1.2. Rationalet og analysen for "Landscape areas, Nature conservation areas", der skulle føre til "specified risk" er uklart. Dette er områder, som er beskyttet i henhold til dansk lovgivning og det er uklart hvordan og med hvilken sandsynlighed der er specificeret risiko for at disse områder ikke skulle være opretholdte eller forbedrede gennem plejen/tiltagene.	Thank you for your input. The indicator has been reviewed and updated.
	Indicator 2.2.3: Soil quality in the Supply Base shall be maintained or enhanced. Specified Risk: Landscape areas, Nature conservation areas Rationalet og analysen for "landscape areas, nature conservation areas", der giver konklusionen "specified risk" er uklart i forhold til at indikatorkravet går på om jordkvaliteten er opretholdt eller forbedret. Det er uklart hvordan og med hvilken sandsynlighed der er specificeret risiko for at de praktiske tiltag og de forskellige håndteringer i de forskellige kommuner giver specified risk for jordkvaliteten.	Thank you for the input. On basis of stakeholder inputs, the risk rating for nature conservation areas has been changed to low risk.
	Indicator 2.2.4: Where the removal of harvest fores residues and/or stumps occurs, this shall not lead to irreversible negativ impacts to the ecosystem. I først afsnit under "Analysis" beskrives "common practice" i "all forests", men skov er ikke med i scopet for TOF. Så det er uklart hvorfor dette er medtaget. Specified Risk: Landscape areas, Nature conservation areas Denne indikator vedrører "irreversible negative impacts on ecosystems». Rationalet er her uklart og afsnittet lidt rodet i forhold til at praktiske tiltag skulle føre til specified risk for hhv. for "landscape areas, nature conservation areas". Specified Risk: Woody residues from agricultural land og Woody energy crops	Thank you for input Definition of deadwood for Danish context added. Definiton from Aarhus University used, though context of definiton is from forest. For the TOF origins "Woody residue from agricultural land" and "Woody Energy crops, short rotation coppice" the feedstock type of these origins is not considered to produce deadwood and therefore there is low risk for these two origins.

	Denne indikator vedrører "irreversible negative impacts on ecosystems». Rationalet er her uklart i forhold til at praktiske tiltag skulle føre til specified risk for hhv. "Woody residues from agricultural land" og "Woody energy crops". Woody energy crops, forstået som energi-pil/-poppel, er vurderet I analysen, men der gives ingen referencer til udtalelsen: "Areas of short rotation coppice like willow and poplar provides better biodiversity than conventional agriculture". Denne formulering resulterer så i "Specified risk". Rationalet/analysen virker umiddelbart ikke underbygget set I forhold til indikatorkravet, der går på at undgå negativ påvirkning af økosystemet. Energipil og -poppel er en landbrugsafgrøde på landbrugsjord i kort rotation. Det er uklart hvordan de praktiske tiltag, der gennemføres ved hugst af denne landbrugsafgrøde skulle medfører dette. Det samme gælder også for Woody residues from agricultural land. Analysen giver mere indtryk af en holdning end en præsentation af data og referencer der kan underbygge konklusionen.	
	Indicator 2.2.5: Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced: Specified Risk: Landscape areas, Nature conservation areas Ud fra det beskrevne rationale/analyse under findings er det yderst at forstå hvordan der kan konkluderes "Specified Risk for "landscape areas, nature conservation areas" i forhold til indikatorkravet, der handler om qualiteten og kvantiteten af grundvand, overfladevand og vand "downstream". Det er ikke let at forstå hvordan praktiske tiltag I forhold til hugstaktiviteter I nærheden af de pågældende områder skulle føre til negativ påvirkning af vandkvaliteten og/eller kvantiteten i forhold til fx vandløbsloven og naturbeskyttelseslovens § 3.	Thank you for input. Indicator has been developed further. Conclusion remains specified. Conclusion: Data are insufficient to settle on low risk, and therefore as a precautionary approach specified risk is suggested for 1) altered/reduced water quality, including but not limited to, sedimentation, turbidity, water temperature; 2) altered/Reduced water quantity, including but not limited to, increased or decreased volume, seasonality, peak-flow, surface run-off and 3) altered/reduced of riparian habitat and function. SBP guidance reference: https://sbpcert.wpenginepowered.com/wp-content/uploads/2023/05/SBP_Guidance_Standard_1_v2.0_final.pdf
	Indicator 2.2.7: Pesticides shall only be used as part of an integrated pest management (IPM) plan in compliance with national legislation, chemical safety data sheets and industry best practice. Banned pesticides shall not be used: Specified Risk: Woody residues from argricultural land og Primary production of the agriculture "Woody residues from argricultural land" og "Primary production of the agriculture" er begge angivet med specified risks. For begge gælder at der er lovgivning som regulere og kontrollere brugen af pesticider i Danmark.	Thank you for the input The following has been highlightened in the introduction and indicator 2.2.7: For woody residues it is particulary important to note that when sourcing woody residues from agricultural production a risk assessment has to be performed both for the production of the biomass (the residues), but also the primary production of agriculture i.e. management of the orchard plantation.

	Argumentationen virker umiddelbart til at være bygget op omkring en artikel og derudover er der ikke mange referencer til at pesticidforbruget ved juletræer og plantager ikke skulle være anvendt i overensstemmelse med IPM, dansk lovgivning, faktaark og industriens best practice. Derudover er det umiddelbart svært at forstå hvad og hvordan "Specified Risk" vil skulle kunne håndteres i praksis af de SBP-certificerede biomasse-producenter, som udelukkende står for hugst og tynning af de givne TOF typer.	The findings concerning banned pesticides are considered relevant for the primary production. Data do not indicate if the 18 percent unapproved pesticides were found on farms producing e.g. christmas tree or other farms, therefore no conclusion can be made for this. However, 18 percent is surprising and considered so high that the combination with the findings from the Ministry of Environment (2022) cannot justify low risk.
	Indicator 2.2.10: Harvested areas shall be regenerated: Der konkluderes "Specified Risk" for begge TOF origins under "Landscape". Det er I rationalet under Findings uklart hvordan konklusionen Specified Risk er truffet for "Nature Conservation Areas". At vejledning i forhold til dansk lovgivning varierer fra kommune til kommune fortæller ikke noget om omfang af om beskyttet natur regenereres eller ej. Der henvises til en anden indikator, indikator 2.1.2, for mere information. Men emnet bør belyses i konteksten af indikatorkravet. Hvordan og for hvilke TOF origins, det giver mening at stille ekstra krav til om genetablering bør også tage Energistyrelsens håndbog med tilhørende dokumenter i betragtning.	Thank you for the input. The analysis of the indicator has been revised.
	Indicator 4.1.8: Training shall be provided for all workers to allow them to implement the conditions set out in all elements of the SBP standards relevant to their responsibilities: Under Findings skrives at "Competence in SBP sourcing standards will require special training. Dette er en påstand, som ikke umiddelbart synes at være underbygget med referencer eller information om dette i virkeligheden er et problem eller ej. Desuden er der netop udkommet en ny version af SBP Standards v2.0 normative interpretations, som siger følgende og som bør tages til efterretning under findings:	Biomass producers shall take risk mitigation measures relevant to the specific supply chain to ensure that workers in the supply chain have adequate competence in sustainable management practices that conform to the SBP requirements.

	Guidance Document, Indicator 4.1.8 Original text: Training shall be provided for all workers to allow them to implement the conditions set o elements of the SBP Standards relevant to their responsibilities. Additional guidance: *The intent is that operators equip their workers with adequate and relevant know (e.g., first aid training, forestry training for forest workers, social training for community liaison, etc.) so they perform their work in accordance with the SBP Standards. It does not necessarily mean the work must have knowledge of SBP or its Standards, but that they are adequately trained to perform their w ensure overall compliance of the operations with the SBP Standards.* Ud fra beskrivelsen/rationalet under findings er det uklart hvordan man kan komme til "Specified Risk" for alle relevante TOF origins.	
	Ref.: Annex 4: List of stakeholders: WSP Danmark er angivet forkert på listen: WSP. We hedder WSP Danmark A/S og bør I øvrigt angives som Certification Body Agent/Affiliate.	Thank you for your input. Details have been corrected
On Revised Draft RRA Update for Denmark		
WSP Denmark	Ref.: Annex X: REDII National Level Risk Assessment I overskriften star der [COUNTRY/REGION], som må skulle erstattes	Thank you for your input. Details have been corrected
Partnerskabet for Ansvarlig Træbiomasse	Indicator 2.2.4 Where the removal of harvest forest residues and/or stumps occurs, this shall not lead to irreversible negative impacts to the ecosystem. Vi er enige i vurderingen om at klassificere ikkeskov og naturområder som specified risk. Dog hæfter vi os ved formuleringen på side 43, linje 12, hvor der står "Landscape: stump removal not allowed". Her mener vi, at det er tilladt at fræse/grave op og fjerne rødderne, men at rødderne ikke må bruges til biomasse. (Translation: We agree with the assessment to classify non-forest and natural areas as specified risk. However, we note the wording on page 43, line 12, which states "Landscape: stump removal not allowed". Here we believe that it is permitted to mill/dig up and remove the roots, but that the roots may not be used for biomass.)	Thank you for your feedback. Findings in indicator has been updated with following text: "Danish legislation does not prohibit the removal of residues from TOF areas, however, there are regulations relevant to biomass production which is described below."
	Indicator 2.2.5 Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced.	Thank you for your feedback. See response in indicator 2.2.7.

	Vi er enige i vurderingen, der er lavet for naturområder, og at alle bør forholde sig til de gældende regler på området. For primærproduktion fra landbrug henvises der i RRA'en til 2.2.7 omkring pesticider. Se vores kommentar til 2.2.7 i det følgende som vi mener skal ændres til low risk. Som konsekvens af det mener vi også at 2.2.5 for primærproduktion fra landbrug skal ændres til low risk. (Translation: We agree with the assessment made for natural areas, and that everyone should comply with the applicable regulations in the area. For primary production from agriculture, the RRA refers to 2.2.7 regarding pesticides. See our comment on 2.2.7 below, which we believe should be changed to low risk. As a consequence, we also believe that 2.2.5 for primary production from agriculture should be changed to low risk.)	
	Indicator 2.2.7 Pesticides shall only be used as part of an Integrated Pest Management (IPM) plan in compliance with national legislation, chemical safety data sheets and industry best practice. Banned pesticides shall not be used. Denne vurdering er vi ikke enige i, da vi ikke mener, at argumentationen for at lave "primary production of the agriculture" til en specified risk er velbegrundet. Begrundelsen baserer sig på en kilde, som angiver, at der er problemer med ulovlige sprøjtemidler fra ca. 18% af alle landbrugsejendomme i Danmark i en kontrolrunde i 2022. Kilden angiver dermed ikke, at der er en specifik udfordring med pesticider ift. juletræsproduktion. Yderligere er kilden ikke direkte fra de ansvarlige myndigheder, men fra et webopslag fra en NGO, der henviser til at have fået data igennem aktindsigt. Der er derfor ikke foretaget en egentlig vurdering fra SBPs side af, hvad de relevante myndigheder mener på området. Fra Danske Juletræer, som er brancheforening for juletræsbranchen, er kommentaren, at de kun har kendskab til 2 sager omkring ulovlige pesticider hos et medlem i løbet af de seneste 15-20 år. I begge tilfælde var det midler, hvor det aktive stof stadigt var lovligt i Danmark men tilladelsen til det middel, der var opbevaret hos avleren, var udløbet og de blev derfor klassificeret som ulovlige. Angående argumentet om pesticidrester i grundvandet vil vi argumentere for, at juletræsproduktionen udgør mindre end 1% af landbrugsarealet og derfor har juletræsproduktionen en ubetydelig påvirkning på grundvandet ift. andre landbrugsbedrifter. Yderligere er 6.000	Thank you for feedback. It is likely correct that the potential biomass originating from Christmas tree areas is limited to originate from around 1 % of the agricultural area in Denmark. This does however not justify low risk in itself. The industry organisation "Danske Juletræer" has been contacted after the feedback, this did not lead to new findings but we recognize that the organization only have very few records of illegal use of pesticide. In order to qualify the findings of the Working Body, The Ministry of Environment was contacted by phone and e-mail. The Ministry explained the control mechanisms particularly for Christmas tree producers but could not give any information about the specific violations but offered access to about 300.000 spraying journals. The WB respectfully declined to review the spraying journals. Additionally, more recent news articles have been reviewed. An article by Politiken was considered relevant for the assessment.

	ha, som udgør ca. 25% af juletræsarealet, certificeret efter forskellige ordninger (f.eks. GlobalGab, Naturbaum, Bæredygtige Naturtræer, Økologi, PEFC), der også tager pesticid anvendelse ind i betragtning. På baggrund af det ovenstående vil vi argumentere for, at dette reducerer den mulige udfordring yderligere. Vi mener derfor, at primary production of the agriculture bør kategoriseres som low risk. (Translation: We do not agree with this assessment, as we do not believe that the argument for making "primary production of agriculture" a specified risk is well-founded. The justification is based on a source that indicates that there are problems with illegal pesticides from approximately 18% of all agricultural properties in Denmark in an inspection round in 2022. The source therefore does not indicate that there is a specific challenge with pesticides in relation to Christmas tree production. Furthermore, the source is not directly from the responsible authorities, but from a web post from an NGO that refers to having obtained data through access to documents. Therefore, no actual assessment has been made by SBP of what the relevant authorities think in this area. From Danske Juletræer, which is the trade association for the Christmas tree industry, the comment is that they are only aware of 2 cases involving illegal pesticides at a member over the past 15-20 years. In both cases, the active substance was still legal in Denmark, but the permit for the product stored at the grower had expired and they were therefore classified as illegal. Regarding the argument about pesticide residues in groundwater, we would argue that Christmas tree production constitutes less than 1% of the agricultural area and therefore Christmas tree production has a negligible impact on groundwater compared to other agricultural holdings. In addition, 6,000 ha, which constitutes approximately 25% of the Christmas tree area, are certified according to various schemes (e.g. GlobalGab, Naturbaum, Sustainable Natural Trees, Organic, PEFC), which also take pesticide use into account. Based on the above, we would argue that this further reduces the potential challenge. We therefore believe that primary production of the agriculture should be categorized as low risk.)	The WB is aware that some findings are general for the entire "agricultural" industry and others are specific for Christmas tree producers. The findings have been updated under supervision of SBP, but the findings do not support low risk. It is relevant to consider Christmas tree certifications which sufficiently include pesticides in their scope, as a mitigation measure.

	Indicator 2.2.10 Harvested areas shall be regenerated. Vi er enige i vurderingen om, at 2.2.10 skal være specified for ikkeskov og naturområder, men vi mener, at det er med en anden begrundelse end det, der står nu. Begrundelsen for, at den er specified bør være fordi læhegnene ikke er tilstrækkeligt sikret imod at blive ryddet i Dansk lovgivning. Derfor skal der være et system, der minimerer den risiko, så vi overholder SBPs krav om genetablering af afskovede arealer. Dermed bør argumentet være identisk med argumentet i Regional Risk Assessment for skov i Danmark under punkt 2.2.10. for skov uden fredskovspligt. Vi mener, at den etablerede brancheprakis om at genetablering af ikkeskov skal ske indenfor 3 år både er rimelig og har vist sig i praksis at være et godt værktøj til at overholde kravet i den danske biomassehåndbog, der er identisk med SBPs krav under 2.2.10. Derfor bør den del af RRA'en for 2.2.10 slettes igen. (Translation: We agree with the assessment that 2.2.10 should be specified for non-forest and natural areas, but we believe that it is for a different reason than what is stated now. The reason for it being specified should be because the windbreaks are not sufficiently secured against being cleared in Danish legislation. Therefore, there must be a system that minimizes that risk so that we comply with SBP's requirement for the reestablishment of deforested areas. Thus, the argument should be identical to the argument in the Regional Risk Assessment for forests in Denmark under point 2.2.10. for forests without a peace forest obligation. We believe that the established industry practice that the reestablishment of non-forest must take place within 3 years is both reasonable and has proven in practice to be a good tool for complying with the requirement in the Danish biomass handbook, which is identical to SBP's requirement under 2.2.10. Therefore, that part of the RRA for 2.2.10 should be deleted again.)	Thank you for feedback. We agree with your comment and have rewritten large parts of the indicator, this includes the deletion of the section with 3 years for replanting. We have used the reasoning from the forest RRA for Denmark as part of the conclusion.

Annex 6 REDII Level A risk assessment

RED II National Level risk assessment for TOF

NOTE: For "Trees outside forests (TOF) – Urban and landscape feedstock [9]" no REDII sustainability requirements apply, only the GHG savings criteria apply (SBP REDII Bridging ID Section 4.2). The land use category in this case is neither forest land nor agricultural land. For "Trees outside forests (TOF) – Agricultural land feedstock [10]" the applicable criteria are Article 29 paragraphs (2)-(5). Please see the details of these criteria below and the SBP Regional Risk Assessment

[9] Feedstock from Landscape and Urban, domestic and infrastructure sources

[10] Feedstock from Woody residues from agricultural land (Orchards, vineyards, nuts and other woody crops, agro-forestry and Woody energy crops (i.e. woody biomass), short rotation coppice

Sustainable harvesting criteria 29(2) Soil quality and soil carbon

Biofuels, bioliquids and biomass fuels produced from waste and residues derived not from forestry but from agricultural land shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 only where operators or national authorities have monitoring or management plans in place in order to address the impacts on soil quality and soil carbon. Information about how those impacts are monitored and managed shall be reported pursuant to Article 30(3).

(i) Impacts on soil quality

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• Act on the use of fertilizers in agriculture and on nutrient-reducing measures (01) • Order on nutrient-reducing measures and cultivation-related measures in agriculture for the planning period 2023/2024 (02) • Order on the use of fertilizer by agriculture in the planning period 2021/2022 (03) • The Nature Protection Act • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • Act on the use of fertilizers in agriculture and on nutrient-reducing measures: https://www.retsinformation.dk/eli/lta/2019/338 • Consultation (2024): Consultation, Danish Energy Agency. • Instruction Document REDII: Bridging Requirements for Meeting REDII (2024): https://sbpcert.wpenginepowered.com/wp-content/uploads/2024/01/SBP_Instruction-Document-REDII_v1.1_final.pdf • Order on the use of fertilizer by agriculture in the planning period 2021/2022 https://www.retsinformation.dk/eli/lta/2021/1601 • Order on nutrient-reducing measures and cultivation-related measures in agriculture for the planning period 2023/2024 https://www.retsinformation.dk/eli/lta/2023/1024 • Guidance on fertilization and harmony rules Plan period 1 August 2023 to 31 July 2024 https://lbst.dk/fileadmin/user_upload/NaturErhverv/Filer/Landbrug/Goedningsregnskab/Vejledning_om_goedskning_og_harmoniregler_2023_2024.pdf • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (section 4.2.1): https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	Laws mentioned (01, 02, 03) are applicable for agricultural crop residues only, including maize, cereals (straw), beets, grass- and clover and Jerusalem artichokes (root). Woody residues from agricultural land in Denmark is typically end-of-life orchards or Christmas tree plantations which maintain or enhance soil quality. No monitoring and management plans for these origins are in place. Woody energy crops from agricultural land in Denmark is typically willow or poplar which typically grow in 8-10 years rotations which maintain or enhance soil quality. These are according to the Danish Energy Agency (Consultation, 2024) not covered by Article 29(2). However, according to Instruction Document REDII: Bridging Requirements for Meeting REDII (2024), woody energy crops from agricultural land are covered by the Article and therefore shall be included in the present assessment. The Danish Agricultural Agency under the Ministry of Food, Agriculture and Fisheries of Denmark enforces the act and orders related to the use of fertilizers in agriculture and on nutrient-reducing measures. The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook.
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies.
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

(ii) Impact on soil carbon

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• Act on the use of fertilizers in agriculture and on nutrient-reducing measures (01) • Order on nutrient-reducing measures and cultivation-related measures in agriculture for the planning period 2023/2024 (02) • Order on the use of fertilizer by agriculture in the planning period 2021/2022 (03) • The Nature Protection Act • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • Act on the use of fertilizers in agriculture and on nutrient-reducing measures: https://www.retsinformation.dk/eli/lta/2019/338

	• Order on the use of fertilizer by agriculture in the planning period 2021/2022 https://www.retsinformation.dk/eli/lta/2021/1601 • Order on nutrient-reducing measures and cultivation-related measures in agriculture for the planning period 2023/2024 https://www.retsinformation.dk/eli/lta/2023/1024 • Guidance on fertilization and harmony rules Plan period 1 August 2023 to 31 July 2024 https://lbst.dk/fileadmin/user_upload/NaturErhverv/Filer/Landbrug/Goedningsregnskab/Vejledning_om_goedskning_og_harmoniregler_2023_2024.pdf • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes (section 4.2.1): https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	Laws mentioned (01, 02, 03) are applicable for agricultural crop residues including maize, cereals (straw), beets, grass- and clover and jerusalem artichokes (root). Woody residues from agricultural land in Denmark is typically end-of-life orchards or christmas tree plantations which maintain or enhance soil carbon. No monitoring and management plans for these origins are in place. Woody energy crops from agricultural land in Denmark is typically willow or poplar which typically grow in 8-10 years rotations which maintain or enhance soil carbon. These are according to the Danish Energy Agency (Consultation, 2024) not covered by Article 29(2). However, according to Instruction Document REDII: Bridging Requirements for Meeting REDII (2024), woody energy crops from agricultural land are covered by the Article and therefore shall be included in the present assessment. The Danish Agricultural Agency under the Ministry of Food, Agriculture and Fisheries of Denmark enforces the act and orders related to the use of fertilizers in agriculture and on nutrient-reducing measures. The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook.
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

Sustainable harvesting criteria 29(3): Protection of land with high biodiversity value

Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall not be made from raw material obtained from land with a high biodiversity value, namely land that had one of the

following statuses in or after January 2008, whether or not the land continues to have that status:

(a) primary forest and other wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed;

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• The Nature Protection Act • The Forest Act • Act on environmental assessment of plans and programs and of specific projects (VVM) • Order on designation and administration of international nature conservation areas and protection of certain species • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • The Forest Act: https://www.retsinformation.dk/eli/lta/2023/690 • Act on environmental assessment of plans and programs and of specific projects (VVM) https://www.retsinformation.dk/eli/lta/2023/4 • Order on designation and administration of international nature conservation areas and protection of certain species: https://www.retsinformation.dk/eli/lta/2023/1098 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) enforces the Forest Act. The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Environmental Agency, under the Ministry of Environment, in collaboration with the municipalities enforces the Act on environmental assessment of plans and programs and of specific projects (VVM). The Danish Environmental Agency, under the Ministry of Environment, enforces the order on designation and administration of international nature conservation areas and protection of certain species. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies

Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

(b) highly biodiverse forest and other wooded land which is species-rich and not degraded, or has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• The Nature Protection Act • The Forest Act • Act on environmental assessment of plans and programs and of specific projects (VVM) • Order on designation and administration of international nature conservation areas and protection of certain species • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • The Forest Act: https://www.retsinformation.dk/eli/lta/2023/690 • Act on environmental assessment of plans and programs and of specific projects (VVM): https://www.retsinformation.dk/eli/lta/2023/4 • Order on designation and administration of international nature conservation areas and protection of certain species: https://www.retsinformation.dk/eli/lta/2023/1098 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) enforces the Forest Act. The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Environmental Agency, under the Ministry of Environment, in collaboration with the municipalities enforces the Act on environmental assessment of plans and programs and of specific projects (VVM). The Danish Environmental Agency, under the Ministry of Environment, enforces the order on designation and administration of international nature conservation areas and protection of certain species. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s)	Regular monitoring of the enforcement is conducted and reported by the concerned

and explanation for the evaluation	agencies
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

(c) areas designated:

(i) by law or by the relevant competent authority for nature protection purposes; or

(ii) for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the first subparagraph of Article 30(4), unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes;

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• The Nature Protection Act • The Forest Act • Act on environmental assessment of plans and programs and of specific projects (VVM) • Order on designation and administration of international nature conservation areas and protection of certain species • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • The Forest Act: https://www.retsinformation.dk/eli/lta/2023/690 • The Act on environmental assessment of plans and programs and of specific projects (VVM): https://www.retsinformation.dk/eli/lta/2023/4 • Order on designation and administration of international nature conservation areas and protection of certain species: https://www.retsinformation.dk/eli/lta/2023/1098 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) enforces the Forest Act. The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Environmental Agency, under the Ministry of Environment, in collaboration with the municipalities enforces the Act on environmental assessment of plans and programs and of specific projects (VVM). The Danish Environmental Agency, under the Ministry of Environment, enforces the order on designation and administration of international nature conservation areas and protection of certain species. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook
Sources	Webpages of and consultation with the official from the relevant agencies

Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

(d) highly biodiverse grassland spanning more than one hectare that is:

(i) natural, namely grassland that would remain grassland in the absence of human intervention and that maintains the natural species composition and ecological characteristics and processes; or

(ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and that is species-rich and not degraded and has been identified as being highly biodiverse by the relevant competent authority, unless evidence is provided that the harvesting of the raw material is necessary to preserve its status as highly biodiverse grassland.

The Commission may adopt implementing acts further specifying the criteria by which to determine which grassland are to be covered by point (d) of the first subparagraph of this paragraph. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(3).

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• The Nature Protection Act • The Act on environmental assessment of plans and programs and of specific projects (VVM) • Order on designation and administration of international nature conservation areas and protection of certain species • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • Act on environmental assessment of plans and programs and of specific projects (VVM): https://www.retsinformation.dk/eli/lta/2023/4 • Order on designation and administration of international nature conservation areas and protection of certain species: https://www.retsinformation.dk/eli/lta/2023/1098 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Environmental Agency, under the Ministry of Environment, in collaboration with the municipalities enforces the Act on environmental assessment of plans and programs and of specific projects (VVM).

	The Danish Environmental Agency, under the Ministry of Environment, enforces the order on designation and administration of international nature conservation areas and protection of certain species. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

Sustainable harvesting criteria 29(4): Protection of land with high carbon stock

Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall not be made from raw material obtained from land with high-carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status:

(a) wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year;

This paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• The Nature Protection Act • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook

Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

(b) continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30 %, or trees able to reach those thresholds in situ;

This paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• Act on environmental assessment of plans and programs and of specific projects (VVM): • The Forest Act • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• Act on environmental assessment of plans and programs and of specific projects (VVM): https://www.retsinformation.dk/eli/lta/2023/4 • The Forest Act: https://www.retsinformation.dk/eli/lta/2023/690 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595 • Gregor Levin and Steen Gyldenkærne (2022): "Estimating land use/land cover and changes in Denmark" Aarhus University, Department of Environmental Science. https://dce2.au.dk/pub/TR227.pdf • Gregor Levin et al (2014): Estimating land use/land cover and changes in Denmark from 1990 to 2012. Aarhus University, Department of Environmental Science and University of Copenhagen, Department of Geosciences and Natural Resource Management (IGN). https://dce2.au.dk/pub/TR38.pdf

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Forest Act protects about 70% of forests in Denmark from being converted to other uses. Article 6 in the Forest Act defines what needs to be taken into consideration to change the status of an area from being protected by the forest act. In general, it is not possible to cancel an area from being protect by the Forest Act and if granted replacement forests have to be established. By 2021 the "Sustainability handbook" identified the risk that about 30% of Danish forests which aren´t protected by the Forest Act will not be protected by a legal obligation to become replanted if used in any way as biofuel (loss of carbon). Mitigation measures were implemented. However, between 2008 and 2021 - for about 30% of forest not protected by the Forest Act – the only Act which prevented conversion was The Act on Environmental Assessment of plans and programs and of specific projects. This act does not protect conversion on every parcel in all kinds of forests as the Forest Act does. This does not lead to low risk for conversion without further review of data, see below. Gregor Levin and Steen Gyldenkærne (2022) did a study as Denmark according to the Kyoto Protocol is obliged to document sequestration and emission of carbon dioxide. The study concludes that conversion (2011 to 2020) from Forestland to either Grassland or Cropland are as follows: Of the total area of approx. 6,500 hectares, around 4,000 hectare (~62 %) were Forestland, which was not earlier covered by the field parcel map and thus most probably are the consequence of errors in the Forestland layer derived from satellite images. Around 1,100 hectares (~17 %) were energy forest (poplar or alder) or Christmas trees while around 2,500 hectare (~38 %) were other Forestland derived from the field parcel maps. These numbers indicate that, because of the applied data and methodology, the total area of deforestation is substantially overestimated. In order to cover the gap between 2008 and 2011 a study by Gregor Levin et al (2014) was reviewed. Gregor Levin et al (2014) conclude that deforestation is only taking place in relation to restoration of nature areas (e.g. wetlands) or if new settlements are planned and must be replaced by afforestation at other locations.
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

(c) land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10 % and 30 %, or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in Part C of Annex V is applied, the conditions laid down in paragraph 10 of this Article would be fulfilled.

This paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• Act on environmental assessment of plans and programs and of specific projects (VVM) • The Forest Act • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• Act on environmental assessment of plans and programs and of specific projects (VVM): https://www.retsinformation.dk/eli/lta/2023/4 • The Forest Act: https://www.retsinformation.dk/eli/lta/2023/690 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595 • Gregor Levin and Steen Gyldenkærne (2022): "Estimating land use/land cover and changes in Denmark" Aarhus University, Department of Environmental Science. https://dce2.au.dk/pub/TR227.pdf • Gregor Levin et al (2014): Estimating land use/land cover and changes in Denmark from 1990 to 2012. Aarhus University, Department of Environmental Science and University of Copenhagen, Department of Geosciences and Natural Resource Management (IGN). https://dce2.au.dk/pub/TR38.pdf

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Forest Act protects about 70% of forests in Denmark from being converted to other uses. Article 6 in the Forest Act defines what needs to be taken into consideration to change the status of an area from being protected by the forest act. In general, it is not possible to cancel an area from being protect by the Forest Act and if granted replacement forests have to be established. By 2021 the "Sustainability handbook" identified the risk that about 30% of Danish forests which aren´t protected by the Forest Act will not be protected by a legal obligation to become replanted if used in any way as biofuel (loss of carbon). Mitigation measures were implemented. However, between 2008 and 2021 - for about 30% of forest not protected by the Forest Act – the only Act which prevented conversion was The Act on Environmental Assessment of plans and programs and of specific projects. This act does not protect conversion on every parcel in all kinds of forests as the Forest Act does. This does not lead to low risk for conversion without further review of data, see below. Gregor Levin and Steen Gyldenkærne (2022) did a study as Denmark according to the Kyoto Protocol is obliged to document sequestration and emission of carbon dioxide. The study conclude that conversion (2011 to 2020) from Forestland to either Grassland or Cropland are as follows: Of the total area of approx. 6,500 hectare, around 4,000 hectare (~62 %) were Forestland, which was not earlier covered by the field parcel map and thus most probably are the consequence of errors in the Forestland layer derived from satellite images. Around 1,100 hectares (~17 %) were energy forest (poplar or alder) or Christmas trees while around 2,500 hectare (~38 %) were other Forestland derived from the field parcel maps. These numbers indicate that, because of the applied data and methodology, the total area of deforestation is substantially overestimated. In

	order to cover the gap between 2008 and 2011 a study by Gregor Levin et al (2014) was reviewed. Gregor Levin et al (2014) conclude that deforestation is only taking place in relation to restoration of nature areas (e.g. wetlands) or if new settlements are planned and must be replaced by afforestation at other locations.
Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required

Sustainable harvesting criteria 29(5): Protection of peatland

Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.

Step 1: Identification of applicable laws

Have the applicable law(s) been identified?	✓ **Yes** · No, Level B route is required
List of applicable law(s)	• The Nature Protection Act • Act on environmental assessment of plans and programs and of specific projects (VVM) • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes
Sources	• The Nature Protection Act: https://www.retsinformation.dk/eli/lta/2024/927 • Act on environmental assessment of plans and programs and of specific projects (VVM): https://www.retsinformation.dk/eli/lta/2023/4 • Order on Handbook on the fulfillment of sustainability requirements and requirements for saving greenhouse gas emissions for biomass fuels for energy purposes: https://www.retsinformation.dk/eli/lta/2023/595

Step 2: Description of enforcement and monitoring

Description of the practical implementation of the law(s)	The Danish Environmental Agency in collaboration with the Danish Nature Agency (both under the Ministry of Environment) and the Municipalities enforces the Nature Protection Act. The Danish Environmental Agency, under the Ministry of Environment, in collaboration with the municipalities enforces the Act on environmental assessment of plans and programs and of specific projects (VVM). The Danish Energy Agency under the Ministry of Climate, Energy and Utilities enforces the Sustainability Handbook

Sources	Webpages of and consultation with the official from the relevant agencies
Is the enforcement and monitoring ensured for the identified law(s)?	✓ **Yes** · No, Level B route is required

Step 3: Evaluation of the effectiveness of the legal framework

Evaluation of the practical implementation of the law(s) and explanation for the evaluation	Regular monitoring of the enforcement is conducted and reported by the concerned agencies
Sources	Webpages of and consultation with the official from the relevant agencies
Is the legal framework effective?	✓ **Yes** · No, Level B route is required