Supply Base Report:

LEAG Pellets GmbH, Werk Wismar
Fourth Surveillance Audit

Sustainable Biomass Program
sbp-cert.org



Completed in accordance with the Supply Base Report Template Version 2.2 and SBP Bridging Requirements for Meeting the Directive EU/2023/2413 (REDIII)

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

Document history

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1 Overview

Producer name:	LEAG Pellets GmbH, Werk Wismar
Producer address:	Am Torney 2a, DE-23970 Wismar, Germany
SBP Certificate Code:	SBP-01-89
Geographic position:	53.901600, 11.541300
Primary contact:	Sylwia Senczyszyn, +49 151 204 233 80, sylwia.senczyszyn@leag.de
Company website:	
Date report finalised:	04 Jun 2026
SBR reporting period from:	01 Jan 2025
SBR reporting period to:	31 Dec 2025
Name of the Certification Body:	Preferred by Nature OÜ
Certification Body Approval date:	18 Sep 2026
SBP Standard(s) used:	SBP Standard 1: Feedstock Compliance v2.0, SBP Standard 2: Feedstock Verification v2.0, SBP Standard 4: Chain of Custody v2.0, SBP Standard 5: Collection and Communication of Data v2.0, Instruction Document 5E: Collection and Communication of Energy and Carbon data. v2.1, Instruction Document EU RED: Bridging Requirements for Meeting the Directive EU/2023/2413
Feedstock origin (countries)	Germany (Whole country), Poland (Whole country), Denmark (European part), Estonia (Whole country), Latvia (Whole country), Lithuania (Whole country), Sweden (Whole country), Norway (Whole country), Finland (Whole country), United Kingdom (European part)
Weblink to Standard(s) used:	https://sbp-cert.org/documents/standards-documents/standards

2 Description of the Biomass Producer and the Supply Base

2.1 Description of the company

LEAG Pellets GmbH, Werk Wismar (Wismar Pellets), is a wood pellet producer located in Wismar, Mecklenburg-Vorpommern, on the Baltic Sea coast of northern Germany. The company has an annual capacity of approximately 250,000 tons of wood pellets. The pellet plant is considered a medium-sized company in wood processing.
LEAG Pellets Wismar produces pellets according to the DINplus and ENplus quality standards. The company is also committed to the sustainable sourcing of raw materials and is certified under multiple schemes, including FSC, PEFC, SBP, and SURE. It produces pellets from sawmill residues and low-grade stemwood from forest maintenance operations, such as salvage wood.
In 2023, LEAG Pellets Wismar was acquired by the LEAG Group, a major power plant operator in eastern Germany. This acquisition followed LEAG's purchases of Holzkontor und Pelletierwerk Schwedt GmbH (HPS) and PROPELL GmbH in 2022.

Products included in the scope of SBP Certification: *WB 1.1 Wood pellets*

Number of employees: *65*

Annual maximum production capacity (metric tonnes): *250000*

Number of direct feedstock suppliers: *20*

Approximate number of feedstock sub-suppliers: *10*

Description of the chain-of-custody and upstream supply chain:

Currently, only processing residues fall within the scope of our SBP and EU RED certification. However, the above figures also include some suppliers of forest biomass.
Practically all processing residues (secondary feedstock) is delivered directly from sawmills or other wood processing facilities, though a middleman may be involved in the chain of custody. Our company holds direct supply agreements with around 14 sawmills.

2.2 Detailed description of the Supply Base

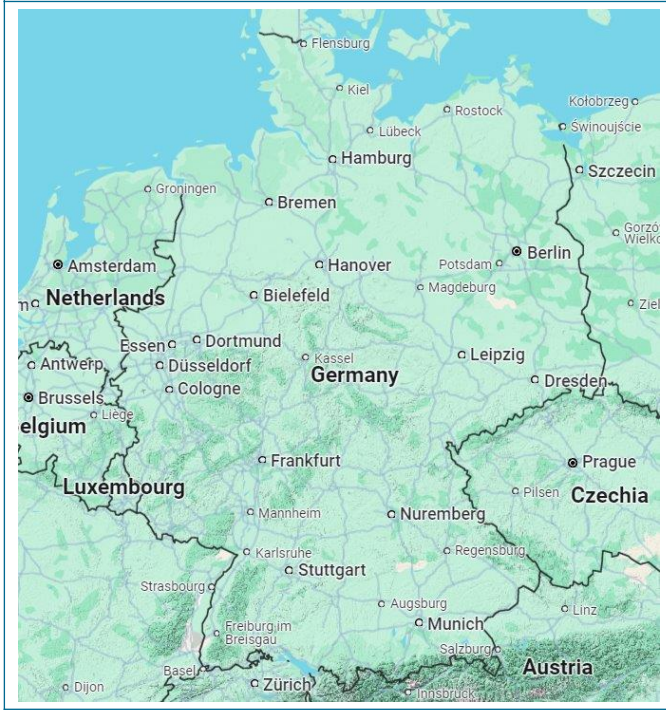
Guidance: Tables below have been generated automatically for each sourcing country based on the selection of 'Feedstock origin (countries)' in section 1 above.

Annex 1 is generated by the system if the SBP SBE is used without Regional Risk Assessment(s) (RRAs). In case RRA(s) is used, further details shall be given only in section 3 below.

Annex 2 is generated if EU RED SBE is in the scope for each country separately.

Country	Germany
Area/Region	Whole country
Exclusions	
Feedstock types	Primary feedstock, Processing residues
Feedstock Product Groups	Forest feedstock (1A), Processing residues feedstock (4A)

Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	Yes – Biomass Producer's own risk assessment used (SBE)
Provide a concise summary of why a SBE was determined to be required or not required here:	
PEFC certification of forest biomass does not result in SBP-compliant biomass. The SBE is the only way one can reach SBP-compliance on forest biomass.	
Feedstock types included in SBE:	Primary feedstock
Includes EU RED SBE:	Yes
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	35.7020
Map(s) of the Supply Base area:	



Country	Poland
Area/Region	Whole country
Exclusions	
Feedstock types	Primary feedstock, Processing residues
Feedstock Product Groups	Forest feedstock (1A), Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
Deliveries from Poland are seldom. Wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	
Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	31.1910
Map(s) of the Supply Base area:	



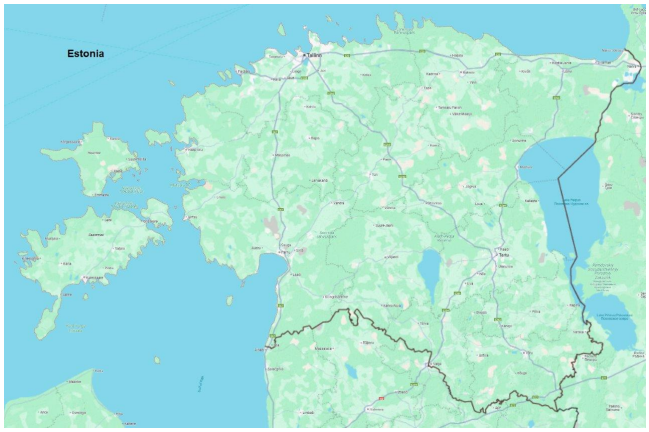
Country	Denmark
Area/Region	European part
Exclusions	
Feedstock types	Primary feedstock, Processing residues
Feedstock Product Groups	Forest feedstock (1A), Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
There has been no first gathering point in this country in the reference period. It is mentioned, because wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	
Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No

Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	4.2940
Map(s) of the Supply Base area:	



Country	Estonia
Area/Region	Whole country
Exclusions	
Feedstock types	Processing residues
Feedstock Product Groups	Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
There has been no first gathering point in this country so far. It is mentioned, because wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	
Feedstock types included in SBE:	N/A

Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	4.5280
Map(s) of the Supply Base area:	



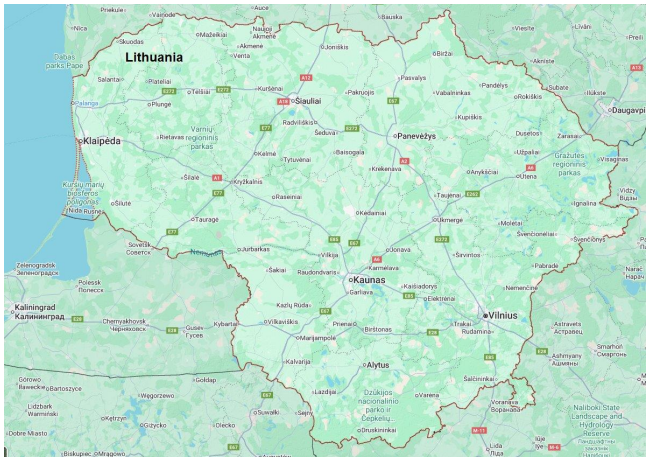
Country	Latvia
Area/Region	Whole country
Exclusions	
Feedstock types	Processing residues
Feedstock Product Groups	Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
There has been no first gathering point in this country so far. It is mentioned, because wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	

Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	6.4520
Map(s) of the Supply Base area:	



Country	Lithuania
Area/Region	Whole country
Exclusions	
Feedstock types	Processing residues
Feedstock Product Groups	Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
There has been no first gathering point in this country so far. It is mentioned, because wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	

Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	6.5310
Map(s) of the Supply Base area:	



Country	Sweden
Area/Region	Whole country
Exclusions	
Feedstock types	Primary feedstock, Processing residues
Feedstock Product Groups	Forest feedstock (1A), Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	

Deliveries from this country are seldom. Wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	
Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	41.0330
Map(s) of the Supply Base area:	



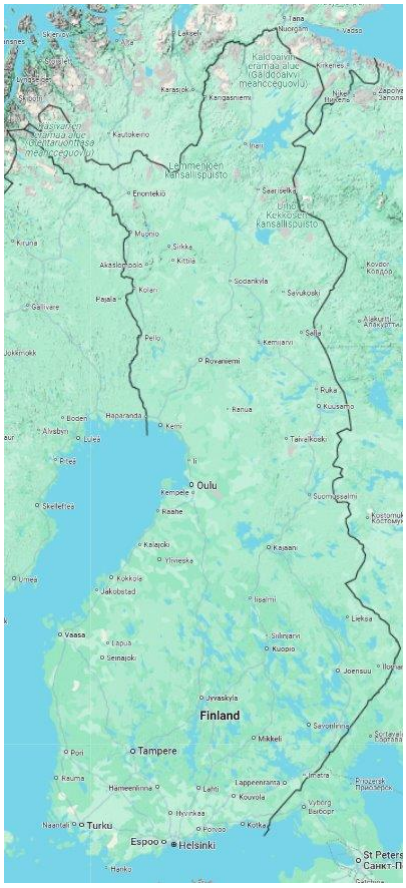
Country	Norway

Area/Region	Whole country
Exclusions	
Feedstock types	Primary feedstock, Processing residues
Feedstock Product Groups	Forest feedstock (1A), Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
Deliveries from this country are seldom. Wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	
Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	32.3850
Map(s) of the Supply Base area:	



Country	Finland
Area/Region	Whole country
Exclusions	
Feedstock types	Processing residues
Feedstock Product Groups	Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock
Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
There has been no first gathering point in this country in the reference period. It is mentioned, because wood harvested in this country may be present in secondary residues from relevant sawmills in other countries.	

Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	30.3390
Map(s) of the Supply Base area:	



Country	United Kingdom
Area/Region	European part
Exclusions	
Feedstock types	Processing residues
Feedstock Product Groups	Processing residues feedstock (4A)
Feedstock inputs	SBP Compliant feedstock , SBP Controlled feedstock

Is the forest managed to supply energy and non-energy markets?	No
For the forests in the Supply Base, is there an intention to retain, restock or encourage natural regeneration within 5 years of felling?	Yes - Majority
Risk assessment(s)	N/A – Primary and/or Processing residues certified to an SBP- recognised controlled scheme
Provide a concise summary of why a SBE was determined to be required or not required here:	
There has been no first gathering point in this country so far.	
Feedstock types included in SBE:	N/A
Includes EU RED SBE:	No
Includes EU RED II SBE grandfathering	No
Includes EU RED TOF:	No
Includes EU RED II TOF grandfathering	No
Size of Supply Base area (million ha):	24.3610
Map(s) of the Supply Base area:	


Haroldswick
Sullom Voe
Oil Terminal
Shetland
Lerwick
Kirkwall
Elgin
Portree
Inverness
HEBRIDES
SCOTLAND
Aberdeen
Dundee
St Andrews
Stirling
Edinburgh
Glasgow
United
Kingdom
Newcastle
upon Tyne
NORTHERN
IRELAND
Sligo
Isle of Man
Dundalk
Drogheda
Great Britain
Leeds
Dublin
Liverpool
Manchester
Limerick
Kilkenny
Norwich
Birmingham
Waterford
Cambridge
Cork
WALES
ENGLAND
Oxford
Cardiff
Bristol
London
Exeter
Bournemouth
Plymouth
English Channel

2.3 Feedstock information

a. **Total volume of Feedstock:** 1-200,000 tonnes

b. **Volume of primary feedstock:** 1-200,000 tonnes

c. **List of all the species in primary feedstock, including scientific name:**

Abies alba	Silver fir
Abies grandis	Grand fir
Larix spp	Larch
Picea abies	Norway spruce
Picea sitchensis	Sitka spruce
Pinus nigra	Austrian pine
Pinus strobus	Weymouth pine
Pinus sylvestris	Scots pine
Pseudotsuga menziesii	Douglas fir
Fraxinus spp	Ash
Ulmus glabra	Mountain Elm
Fagus spp	Beech
Quercus spp	Oak
Betula spp	Birch
Alnus spp	Alder
Populus spp	Poplar and aspen

d. **Was the feedstock used in the biomass removed from a forest as part of a pest/disease control measure or a salvage operation?** Yes - Minority

Explanation: Forests are sometimes lost to disturbances and need to be salvaged. The focus is on sourcing low quality wood. The scale of these operations has reduced over the last year and is small.

e. **Hardwood (i.e. broadleaf trees): specify proportion of feedstock from (%)**: 5.00

f. **Softwood (i.e. coniferous trees): specify proportion of feedstock from (%):** 95.00

g. **Proportion of feedstock composed of or derived from saw logs by weight (%):** 0.00

h. **Indicate how you determine the proportion of saw log:** Specification used by the sawmill closest to where the wood was grown.

i. **Roundwood from fellings from forests with > 40 yr rotation times - Average % volume of fellings delivered to BP (%):** 6.00

j. **Select forest type(s) where the primary feedstock was sourced from:** Mix of The Above

k. **Select the main harvesting system(s) used for the sourced primary feedstock:** Mix of the above

l. **Volume of primary feedstock from primary forest:** 0

m. **Volume of processing residues feedstock:** 1-200,000 tonnes
Physical form of the feedstock: Chips, Sawdust, Offcuts, Clean chips or dust

n. **Share of SBP-recognised system claim for processing residues:**

100.00 % PEFC

o. **Volume of post-consumer feedstock:** 0
Physical form of the feedstock: Chips, Sawdust, Offcuts, Clean chips or dust

p. **Estimated amount of EU RED-compliant sustainable feedstock that could be collected annually by the BP:** 300000 tonnes

q. **What is the estimated amount of EU RED-compliant sustainable feedstock that could be harvested annually in a Supply Base (estimated):** 20000000.00 m3

Explanation: The value is based on the assumption that the Level B report for Germany can approve most fuelwood produced in Germany. FAO data indicate that fuelwood production in Germany exceeded 20 million m³ in 2024.

3 Supply Base Risk Assessments and Risk Management Measures

Guidance: Biomass Producers shall demonstrate that any specified risks of sourcing feedstock not in compliance with SBP Standard 1 have been adequately reduced to low risk, following Standard 2 requirements. Following section applies to Biomass Producer's implementing SBP Supply Base Evaluation (SBP RRA or company own risk assessment). EU RED Supply Base Evaluation details are reported in Annex 2.

☐ **Not Applicable – Supply Base Evaluation not implemented**

3.1 Summary of the Supply Base Evaluation

The assessment resulted in 7 specified risks as stated below per indicator.

2.1.1 Identifying protected species, habitats and HCV areas
Low risk for FSC and public PEFC certified areas.
Specified risk for non-certified areas and PEFC certified private forests.

This assessment took into account the SBP benchmark finding that PEFC certification may not always ensure sufficient impact assessment. However, given the procedures applied in PEFC-certified public forests, these forests were assessed as low risk.

2.1.2 Evaluating threats and impacts on biodiversity and HCV
Low risk for FSC and public PEFC certified areas.
Specified risk for non-certified areas and PEFC certified private forests.

2.1.3 Maintaining protected species, habitats and HCV areas
Low risk for FSC and PEFC certified areas.

2.2.2 Maintaining ecosystems and their services
Low risk for FSC and PEFC certified areas.
Forest resilience has often received insufficient attention.

2.2.11 Managing fires, pests, diseases
Low risk for FSC and PEFC certified areas.
Long-term management choices have not sufficiently reduced the risks.

3.2.3 Forests with high carbon stock and HCV.
Specified risk (all forest owners and certification statuses).
This indicator aligns with the EU RED "no-go area" requirements.

3.3.1 Cascading use of wood
The use of biomass shall not create additional sourcing issues with wood processing facilities producing "long-lived" wood products.

3.2 Conflicts with applicable national and sub-national legislation

No conflict identified.

3.3 Risk Management Measures

Guidance: Please provide more details about specified risk indicators in each supply country and describe mitigation measures taken to address all specified risks associated with indicators.

Country: Germany

Area/sub-scope: whole country

Risk Assessment used:

☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim
☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim
☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim
☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed
☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim
☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed
☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed
☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed
☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim
☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim
☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim
☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim
☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim
☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim
☒ Biomass Producer's own risk assessment

Indicator with specified risk:

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

Description of the specific risk:

The SBE must consider the minimum performance level in the supply base, not the usual or average level.
Law-enforcement structures exist, but capacity constraints limit the frequency of inspections.
Small private owners are usually exempt from producing management plans and enviromental impact assessments. In private forests, harvesting decisions could be shaped by economic considerations and limited specialist knowledge.
Small private forest owners can be participating in PEFC group certification.
An SBP benchmark of PEFC indicated that PEFC-certified forests may lack sufficient impact assessment.

Mitigation measure:

Low risk for FSC certified areas. Specified risk for non-certified areas and PEFC certified private forests.
Given the procedures applied in government forestry, government-owned and -managed PEFC-certified areas are assessed as low risk.
For uncertified forests and privately owned PEFC-certified forests, evidence is required that biodiversity values were identified and that the threats and impacts of harvesting were assessed before operations began (field inspections). This can include documental evidence that protected species and habitats were identified before harvesting and/or on-site evidence that operations were low-impact or unavoidable. For example, salvage operations in stands of low biodiversity value outside the nesting season are likely to be compliant.

Monitoring and outcomes:
The SBE covers all forest owners, but our company has so far implemented it only in PEFC-certified government forests. Online databases and maps provide sufficient information on the sourcing areas, and no-go areas can easily be identified in practice.

Country: Germany	
Area/sub-scope: whole country	
Risk Assessment used:	
	☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim ☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim ☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim ☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed ☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim ☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed ☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed ☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed ☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim ☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim ☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim ☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim ☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim ☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim ☒ Biomass Producer's own risk assessment
Indicator with specified 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.	
Description of the specific risk:	
Additional evidence is required that an assessment is made on the threats and possible impacts of the operations, covering protected species and other biodiversity values. See indicator above.	
Mitigation measure:	
Low risk for FSC certified areas. Specified risk for non-certified areas and PEFC certified private forests. Given the procedures applied in government forestry, government-owned and -managed PEFC-certified areas are assessed as low risk. For uncertified forests and privately owned PEFC-certified forests, evidence is required that biodiversity values were identified and that the threats and impacts of harvesting were assessed before operations began (field inspections). This can include documental evidence and/or on-site evidence that operations were low-impact or unavoidable. Low-grade wood used as biomass – including low-grade stemwood of low biodiversity value, thinnings from simplified or heavily degraded stands, low-grade salvage wood and forest wastes and residues typically comes from forest maintenance, salvage and sanitation operations that, when properly executed, support biodiversity conservation. The tree species, type of biomass, and management operation are considered in the risk mitigation process.	

Monitoring and outcomes:
In practice so far, our company implements the SBE in PEFC-certified government forests. We will extend our reach to other forest managers only if needed. For most harvesting companies, assessing the biodiversity risks and impacts is standard practice.

Country: Germany	
Area/sub-scope: whole country	
Risk Assessment used:	
	☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim ☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim ☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim ☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed ☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim ☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed ☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed ☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed ☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim ☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim ☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim ☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim ☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim ☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim ☒ Biomass Producer's own risk assessment
Indicator with specified 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.	
Description of the specific risk:	
The SBE considers the minimum performance level in the supply base (not the usual or average level). Nearly half of Germany's forests are privately owned, often in small parcels; many small private owners are exempt from formal management planning. Often a harvesting permit is not required either. Advisory services and cooperatives provide support, but not all owners participate. Enforcement capacity is uneven between the regions, and inspections can be infrequent. NGOs report cases of violations, such as logging during the breeding season of protected species or inadequate consideration of sensitive habitats. Regarding both private and public forests, there can be tension between management objectives: either converting forests to increase resilience, or maintaining recognised HCV forest habitats (such as harvesting old beech forests).	
Mitigation measure:	
Low risk for FSC and PEFC certified areas. Regarding uncertified forests, additional evidence is required that the area was managed in a way that respects protected species, biodiversity values, and HCV areas. This can include documental evidence and/or on-site evidence that operations were low-impact or unavoidable.	

Relevant are also the tree species sourced, the feedstock quality, and type of forest operation. Unlike the procurement of quality roundwood, procuring low-grade stemwood, salvage wood, and forest residues does not create an economic incentive to reduce the area and quality of the habitat types.
Monitoring and outcomes:
In practice so far, our company implements the SBE in PEFC-certified government forests. We will extend our reach to other forest managers only if needed. Most forest managers in Germany take protected species, habitats, ecosystems, and HCV areas into account when considering their management options.

Country: Germany	
Area/sub-scope: whole country	
Risk Assessment used:	
	☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim ☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim ☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim ☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed ☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim ☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed ☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed ☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed ☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim ☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim ☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim ☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim ☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim ☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim ☒ Biomass Producer's own risk assessment
Indicator with specified risk:	
2.2.2 Ecosystems, their health, vitality, functions and services in the Supply Base shall be maintained or enhanced.	
Description of the specific risk:	
Germany adjusted its approach to monocultures too late, and the consequences are now evident: extensive conifer stands have collapsed, salvage wood has dominated harvests, growing stock has fallen sharply, and net increment has declined. These outcomes were predicted, federal strategies warned for decades, and yet, to date, forest legislation and mandatory regulation remain behind. Many forests still have low resilience, for example planted monoculture spruce stands.	
Mitigation measure:	
Low risk for FSC and PEFC certified areas. Sourcing low-grade wood and forest residues is an essential element in the way forward after many years of premature forest downfall. However, it is also needed that adaptation measures are implemented and forests with a significant resilience are cultivated. Regarding uncertified forests, the regeneration method will be investigated. Inadequate management plans will make the biomass non-compliant.	

Monitoring and outcomes:
So far, in practice, our company has implemented the SBE in PEFC-certified government forests. The problems in German forestry have attracted considerable attention, and the recommendations for improving forest resilience are generally taken into account.

Country: Germany	
Area/sub-scope: whole country	
Risk Assessment used:	
	☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim ☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim ☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim ☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed ☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim ☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed ☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed ☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed ☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim ☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim ☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim ☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim ☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim ☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim ☒ Biomass Producer's own risk assessment
Indicator with specified risk:	
2.2.11 The impacts of natural processes such as fires, pests and diseases shall be managed.	
Description of the specific risk:	
See SBE indicator 2.2.2. Although Germany has a well-developed legal and institutional forest-protection system, it is nevertheless facing a forest health crisis driven by fires, pests, and diseases, because long-term management choices have not sufficiently reduced the risks. Forest resilience received insufficient attention.	
Mitigation measure:	
Low risk for FSC and PEFC certified areas. For uncertified forests, management plans must explicitly consider natural-disturbance risks when selecting regeneration methods and planning the development of stand structure.	
Monitoring and outcomes:	
So far, in practice, our company has implemented the SBE in PEFC-certified government forests.	

Country: Germany	
Area/sub-scope: whole country	
Risk Assessment used:	
	☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim ☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim ☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim ☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed ☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim ☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed ☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed ☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed ☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim ☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim ☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim ☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim ☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim ☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim ☒ Biomass Producer's own risk assessment
Indicator with specified risk:	
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.	
Description of the specific risk:	
Biomass end-users in both Germany and abroad participate in market instruments to promote renewable energy production. These instruments increase their purchasing power. The demand for biomass has coincided with high levels of salvage logging. Under these conditions, there is a risk that wood ends up as biomass what could have been used in a more sustainable manner (in long-lived products). The combination of non-binding cascading principles, significant market incentives, and crisis driven harvesting, results in classifying this indicator as Specified Risk. Given the strong growth of the processing and biomass sectors over the past decade, and the loss of stands in the 61–80-year age class (BWI), this issue is likely to become more pressing in the coming years. The use of biomass shall not create sourcing issues with wood processing facilities producing "long-lived" wood products.	
Mitigation measure:	
Biomass procurement excludes quality roundwood (Stammholz) and avoids assortments where regional wood-processing companies have reported unresolved supply constraints. The specified risk is mitigated by using "Industrieholz" and low-grade assortments, preventing competition with regional processors, and monitoring market prices to avoid assortments showing price spikes. LEAG commits to taking any concerns from regional wood processors seriously and to promptly discuss and address them. Given Germany's salvage operations with local oversupply, quality roundwood from salvage must be identified and offered to the processing industry. Only wood of reasonable quality that cannot be feasibly supplied due to oversupply and full storage capacity may be treated as SBP-compliant biomass.	
Monitoring and outcomes:	
LEAG has experience allocating wood to the highest-value use and has publicly committed to the cascading	

principle. Suppliers state the wood quality category on invoices, and this information has proven to be accurate.
Biomass production is not an objective of German forestry. The current challenges in Germany were not caused by the biomass sector, but the sector does address them by providing an outlet for low-grade wood, supporting affected forest owners, and enabling the conversion towards more resilient stands.

Country: Germany	
Area/sub-scope: whole country	
Risk Assessment used:	
	☐SBP-RRA-AS-VN-FOR_v1.0 RRA for Vietnam FOR_Interim ☐SBP-RRA-US-NF-FOR_v1.0 RRA for US National FOR_Interim ☐SBP-RRA-US-PF-FOR_v1.0 RRA for US Private FOR_Interim ☐SBP-RRA-EU-DK-FOR_v2.0 RRA for Denmark FOR_Endorsed ☐SBP-RRA-EU-DK-TOF_v1.0 RRA for Denmark TOF_Interim ☐SBP-RRA-EU-EE-FOR_v2.0 RRA for Estonia FOR_Endorsed ☐SBP-RRA-EU-LV-FOR_v2.0 RRA for Latvia FOR_Endorsed ☐SBP-RRA-EU-LT-FOR_v2.0 RRA for Lithuania FOR_Endorsed ☐SBP-RRA-CA-QC-FOR_v2.0 RRA for Quebec FOR_Interim ☐SBP-RRA-CA-AB-FOR_v1.0 RRA for Alberta FOR_Interim ☐SBP-RRA-CA-BC-FOR_v2.0 RRA for British Columbia FOR_Interim ☐SBP-RRA-CA-NB-FOR_v1.0 RRA for New Brunswick FOR_Interim ☐SBP-RRA-CA-NS-FOR_v1.0 RRA for Nova Scotia FOR_Interim ☐SBP-RRA-EU-NO-FOR_v1.0 RRA for Norway FOR_Interim ☒ Biomass Producer's own risk assessment
Indicator with specified risk:	
3.2.3 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).	
Description of the specific risk:	
German law does not ensure the unconditional exclusion of biomass from forests with high carbon stock and high conservation value. While some forests are left to natural development (without interventions), many such forests remain under a maintenance regime. Any biomass sourced from such forests is non-compliant. Forests that combine high carbon stock and high conservation value and Old-Growth-Forests are similar concepts. SBP does not mention heather or heathland in any of its standard, guidance documents, or normative interpretations, but it is also one of the EU RED unconditionally no-go areas.	
Mitigation measure:	
Specified risk applies to the unconditional no-go areas, as defined more clearly in the EU RED, regardless of forest owner or certification status. The general steps for mitigating the specified risks of the SBE and EU RED Level B report are: 1) Supplier / initial information: suppliers are evaluated; geolocations and basic stand data are provided. Non-compliance increases the supplier's risk level and may add conditions. Additional investigations are triggered by: forests with old trees, heathland, valuable tree species, indications of high	

biodiversity and habitats, and young stands (after 2007).
2) Procurement check: verify legality and plausibility (location, rights, tree species, ownership type, supply chain, certification claims, biomass type). If possible, obtain evidence about forest type and age.
3) Online map and database review: the sustainability manager cross-checks supplier data, screens for biodiversity values, and reviews for identified areas with conservation value. If needed, documents are requested.
4) On-site verification (when needed): field inspections to clarify habitat type. Where the assessment leave doubts, sourcing areas are non-compliant.

Monitoring and outcomes:

In practice so far, our company has not encountered forests with high carbon stock or HCV or heathland. We mainly procure low-grade softwood of limited stem size and age.
Our team is in close contact with our suppliers and continues to monitor for any supply origins that could fall under this indicator. Additional investigations can be triggered by information from suppliers, assortment specifics, and desk-based assessments (satellite imagery and geoportals).

4 Stakeholder engagement

4.1 General description

Biomass Producer's stakeholder engagement start date: 03 Nov 2025

Biomass Producer's stakeholder engagement end date: 17 Dec 2025

Total number of stakeholders contacted:

Give a general description of the process of Stakeholders Engagement, including stakeholders contacted, method of communication and a summary of the comments received:

During the development process of the SBE and the EU RED Level B report for Germany, several specialists were consulted. The final draft was shared with 66 stakeholders in key areas of interest, representing the social, economic, and ecological aspects of forestry in Germany. The draft SBE was made publicly available online for one and a half months before the SBP audit on the website of BiomassConsult. This SBE for Germany is based on an earlier version of the SBE in SBP version 1. That version also underwent stakeholder consultation.

4.2 Response to stakeholder comments

5 Report updates and approval

This document is: Updated SBR (surveillance audits/scope-change audits)

Updated data. Some tree species were added because they could be present in small volumes in mixed deliveries.

Name	Sylwia Senczyszyn
Title	Management representative
Date of report approval	04 Jun 2026

Annex 1: Detailed findings for Supply Base Evaluation indicators

Germany Whole country	Indicator
1.1.1	Operations related to feedstock sourcing and biomass production shall comply with all existing applicable laws and regulations.
Supply Base Verifiers	Legislation Animal Welfare Act (Tierschutzgesetz - TierSchG) Biomass Electricity Sustainability Regulation (Biomassestrom-Nachhaltigkeitsverordnung) Convention on Biological Diversity Directive (EU) 2018/2001 (RED II) EU Deforestation Regulation (EUDR) EU Forest Law Enforcement, Governance and Trade Action Plan (FLEGT) EU Timber Regulation (EUTR) Federal Building Code (Baugesetzbuch - BauGB) Federal Forest Act (Bundeswaldgesetz - BWaldG) Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG) Federal Soil Protection Act (Bundesbodenschutzgesetz - BBodSchG) German Civil Code (Bürgerliches Gesetzbuch - BGB) German Timber Security Act (Holzhandels-Sicherungs-Gesetz - HolzSiG) Habitats Directive Local Tree Protection Statutes (Baumschutzsatzungen) Renewable Energy Act (Erneuerbare-Energien-Gesetz - EEG) State Forest Acts (Landeswaldgesetz) URLs Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht Biomass must remain classed as renewable under German electricity tax law https://www.bioenergy-news.com/news/biomass-must-remain-classed-as-renewable-under-german-electricity-tax-law/ BLE - Sustainable Forest Management https://www.ble.de/EN/Project-Funding/Themes-ptble/Sustainable-Forest-Management/sustainable-forest-management.html BLE EUTR Reporting https://www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite https://www.ble.de/DE/Startseite/startseite_node.html BMEL Forest Law https://www.bmel.de/EN/topics/forestry/forest-management/forest-law.html BMEL Home https://www.bmel.de/EN/Home/home_node.html BNatSchG (Federal Nature Conservation Act) https://www.gesetze-im-internet.de/bnatschg_2009/

	BNM's activities in 2024 – the year in overview – ZIV https://www.ziv-zweirad.de/en/bnm-activities-in-2024/ Bundesfinanzministerium (BMF) https://www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) https://www.bzst.de/EN/Home/home_node.html CITES Germany Profile https://https://cites.org/eng/parties/country-profiles/de Cleanenergywire https://www.cleanenergywire.org/news/germany-wants-protect-forests-against-rising-temperatures-environmentalists-critical-draft-law Concern about the loss of German forests – DLR https://www.dlr.de/en/latest/news/2022/01/20220221_concern-about-german-forests DIMB https://www.imba-europe.org/dimb-interview-on-the-draft-federal-forest-act-in-germany Forest and Deforestation-Free Products – BLE https://www.ble.de/EN/Topics/Forest-Timber/forest-timber_node.html Forest Strategy 2020 – BMELH https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/ForestStrategy2020.pdf?__blob=publicationFile&v=4 Forests in Germany – BMELH https://www.bmleh.de/EN/topics/forests/forests-in-germany/forests-in-germany_node.html General Taxation Codes (German) https://www.gesetze-im-internet.de/englisch_ao/ GENRES Rare Tree Species https://www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species German Civil Code (BGB) – English https://www.gesetze-im-internet.de/englisch_bgb/ German Forests - Forests for Nature and People (BMELH Publication) https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/german-forests.pdf?__blob=publicationFile&v=7 Gesetze im Internet (Law Portal) https://www.gesetze-im-internet.de/index.html HolzSiG (German Timber Security Act) https://www.gesetze-im-internet.de/holzsig/BJNR134500011.html Info-brief: EUTR enforcement in Germany https://www.clientearth.org/media/dvugnnn3/2016-08-30-eutr-enforcement-info-brief-in-germany-ce-en.pdf Landgericht (Regional Court) – Wikipedia https://https://de.wikipedia.org/wiki/Landgericht Legal Basis - BLE (Sustainable Biomass Production)

	https://www.ble.de/EN/Topics/Climate-Energy/Sustainable-Biomass-Production/Legal-Basis/LegalBasis.html National Forest Act 1975 (Bundeswaldgesetz) - NWFP Policies http://nwfp-policies.efi.int/wiki/National_Forest_Act_1975_(Bundeswaldgesetz New Federal Forest Act – Who Is Allowed in the Woods? - Green Forest Fund https://www.greenforestfund.de/en/new-federal-forest-act-who-is-allowed-in-the-woods/ NGOs https://www.fern.org/id/publications-insight/ngos-send-an-open-letter-to-german-minister-habeck-we-must-end-eu-incentives-for-woody-biomass-in-energy-production-2447/ Research for international sustainable forest management https://www.ble.de/EN/Project-Funding/Funding-Contracts/Forest-Management/sustainable-forest_node.html Species+ https://https://www.speciesplus.net// The world needs forests - Germany's forest action plan for sustainable development (BMZ) https://www.bmz.de/resource/blob/23678/a2dffcf2e79abfb1d73e3cd0ed09de88/materialie283-forest-action-plan-data.pdf Thünen Institute EUTR Coverage https://www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project https://www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Thünen Institute Publication https://literatur.thuenen.de/digbib_extern/dn058648.pdf UNDRIP (UN Declaration on Rights of Indigenous Peoples) https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf Waldschutz (Forest Protection) – Wikipedia https://de.wikipedia.org/wiki/Waldschutz ZIV position: Free right of access to forests https://www.ziv-zweirad.de/en/free-right-of-access-to-forests/
Risk Rating justification	According to the official Bundeswaldinventur (BWI 2022) (“Waldland Deutschland”), Germany’s forest area is owned 48% by private owners, 29% by the Länder (state forests), and 20% by corporate/municipal owners (Körperschaften), with the remaining 3% being federal forest (Bundeswald). Germany is assessed as having a low level of perceived public-sector corruption. Transparency International reports a Corruption Perceptions Index (CPI) score of 78/100 in 2023 (rank 9/180) and 75/100 in 2024 (rank 15/180); the rating decreased but is well above the commonly used 50-point “high-corruption risk” threshold supporting a generally reliable environment for enforcing legality requirements related to land tenure and harvesting rights, timber trade compliance checks, inspections, judicial enforcement, customs

	controls and taxation. This is consistent with the World Bank's Worldwide Governance Indicators (WGI): in the latest available year (2023), Germany shows strong governance performance on core dimensions linked to legality and enforcement, including Government Effectiveness (estimate 1.19), Rule of Law (1.55) and Control of Corruption (1.66) on the WGI −2.5 to +2.5 scale. Policies and laws A proposed new federal forestry law (reform of the Bundeswaldgesetz) has still not been adopted. This is relevant because the existing Federal Forest Act dates back to 1975 and comprehensive reform is widely discussed in the context of climate change and biodiversity. Environmental NGOs have criticised the more recent draft versions led by the Federal Ministry of Food and Agriculture (BMEL) as substantially watered down compared with earlier proposals. Key criticisms include that the draft follows an "alles kann, nichts muss" approach that leaves decisive choices to the Länder, that it does not require sufficient climate-adaptation measures or structural changes to improve resilience against drought and pests, and that an earlier proposal to treat illegal felling as a criminal offence was removed or significantly weakened. Within the current legal framework, the sourcing of forest feedstock and the production of forest biomass in Germany are governed by a dense set of federal, state, EU, and international rules. The foundational principle is sustainable and multifunctional forest management, balancing economic, ecological, and social functions, and applying across forest ownership types and sizes. Core national legislation includes the Federal Forest Act (Bundeswaldgesetz, BWaldG) as the framework law for forest management and the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) as the central biodiversity and habitat protection law as applied to forests. The BWaldG sets the overall requirement to manage forests sustainably, conserve and enhance forests, and maintain their productivity, biodiversity, and capacity to regenerate. In practice, this framework is further specified through the State Forest Acts (Landeswaldgesetze) and related state-level rules and guidelines, which may require or operationalise forest management planning and set detailed expectations on soil protection, water conservation, and biodiversity preservation, including for biomass extraction. The BNatSchG requires that harvesting and forest vegetation-management activities avoid harm to protected species and habitats, including during breeding and nesting periods. For bioenergy-related use, Germany's Renewable Energy Act (Erneuerbare-Energien-Gesetz, EEG) promotes renewable energy including biomass via incentives and links eligibility to sustainability-related criteria, including requirements connected to greenhouse-gas savings and sustainable forest management for the relevant feedstock, such as forest residual wood and pest-damaged stem wood. At EU level, the EU Timber Regulation (EUTR) and the EU Forest Law Enforcement, Governance and Trade (FLEGT) framework address illegal logging and illegal timber on the market; the EU Deforestation Regulation (EUDR) is set to strengthen requirements further. Germany implements the EUTR through the Timber Security Act

	(Holzhandels-Sicherungs-Gesetz, HolzSiG). For biodiversity and protected areas, requirements also derive from the Habitats Directive and the Convention on Biological Diversity and are reflected in national law and forest site planning. CITES does not list any tree species for Germany; however, CITES-listed flora and fauna occurring in forests are addressed through broader nature protection and conservation legislation and the protected-area system. Property rights and land-use baselines are underpinned by the German Civil Code (Bürgerliches Gesetzbuch, BGB), which provides the core structure for ownership and use, including the principle that the wood in both public and private forests belongs to the respective landowners and that harvesting or collecting wood, including deadwood, requires the landowner's permission. The legal framework also covers civil-law instruments relevant to access and historical patterns of use, such as easements under the BGB, and intersects with other sectoral rules such as hunting law (federal and state). Relevant institutes and law enforcement Administrative implementation and enforcement are distributed between federal and Länder authorities, with judicial oversight by courts at both levels. For legality controls in timber trade and placing timber on the market, the Federal Office for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung, BLE) functions as the competent authority for EUTR implementation under the HolzSiG. In this role, it checks whether operators placing timber on the market (imported and domestic) apply due diligence and comply with the relevant obligations. Controls include document-based checks and, where necessary, verification through wood sampling and determination of wood species and origin, including cooperation with the Thünen Centre. BLE also carries oversight roles connected to sustainability rules relevant to biomass incentivisation, including the administrative basis and rules for sustainable biomass production. Where non-compliance is identified, enforcement can include administrative procedures such as warnings and fines and, depending on the offence, further sanctions such as confiscation measures; for certain cases, criminal provisions may apply. For forest management rules on the ground, state competent authorities and the state and local forestry offices (Landesforstämter and Forstämter/Forstbehörden) are the principal bodies enforcing the BWaldG framework in conjunction with the State Forest Acts and related implementing provisions. Their work includes monitoring and inspections of forest management and harvesting practices, including in small, privately owned, and uncertified forests, with attention to compliance with sustainability requirements and with soil, water, and biodiversity safeguards. For conservation-law enforcement in forests, local nature conservation authorities and environmental agencies apply the BNatSchG and related state conservation laws and monitor compliance with applicable restrictions for forest operations. Courts (including Amtsgerichte and Landgerichte) provide judicial oversight, handle property-rights disputes under the BGB and forest laws, and deal with serious criminal cases that can arise from timber trade and related violations.

	Financial and tax compliance linked to timber payments and related obligations is overseen nationally by the Federal Ministry of Finance (Bundesministerium der Finanzen, BMF) and enforced through regional tax offices (Finanzämter), which conduct audits, inspections, and spot checks. The tasks of the tax administration are set out in the Financial Administration Act (Finanzverwaltungsgesetz, FVG; first enacted in 1950 and amended in 2024). In public forests, timber transactions and the sale of harvesting rights are commonly managed through the relevant Länder forestry authorities or state forestry enterprises (for example, state forest agencies and enterprises in individual Länder), typically via formal contracts that specify procurement terms and payments. Performance in practice and critical reviews In practice, forest feedstock sourcing for energy commonly includes forest residual wood ("Waldrestholz"), such as branches, tops, and other woody debris left after harvesting, and stem wood damaged by insects, fungi, or other pests that is unsuitable for material use. Using pest-damaged wood for energy can be part of sanitary measures intended to reduce further spread, for example in bark beetle situations. Regardless of the operational rationale, harvesting and extraction remain subject to the BWaldG sustainability principles and to nature conservation constraints applicable to forests, including protected species and habitat requirements. The legal requirements are not limited to large forest enterprises. Small, uncertified private woodlands are subject to the same core legal framework, and state-level rules often translate the framework requirements into operational obligations such as management planning and documented measures for soil protection, water conservation, and biodiversity preservation. Across the supply chain, operators and traders placing timber on the market must demonstrate due diligence under the HolzSiG/EUTR framework. BLE controls include planned and risk-based checks and may involve review of documentation for shipments and wood sampling to verify species and origin. This provides a legal-control layer that is separate from, but complementary to, field-level forest management enforcement by forestry authorities. Certification schemes such as FSC and PEFC are often used by forest managers and biomass producers as an additional assurance layer that commonly goes beyond the legal minimum, but certification is not the legal basis for compliance; the statutory framework applies irrespective of certification status. Critical reviews based on secondary sources commonly conclude that Germany's overall framework for legality in forest biomass feedstock is strong and consistent with a low risk of illegal harvesting and trade, supported by the breadth of applicable laws and the presence of dedicated enforcement bodies at federal and state level. At the same time, a recurring critical point is the modernisation gap at federal level: the BWaldG's age and the non-adoption of a revised federal forestry law, combined with NGO criticism that recent drafts lacked binding requirements for climate adaptation and biodiversity resilience and weakened earlier enforcement ambitions, indicate an acknowledged policy tension between the strength of the existing baseline

	system and the contested adequacy of proposed reforms for current and emerging forest stressors.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
1.1.2	Legal ownership of land and resource use rights shall be respected.
Supply Base Verifiers	Legislation Bundes-Bodenschutzgesetz (BBodSchG) Bundeswaldgesetz (BWaldG) / Federal Forest Act Bürgerliches Gesetzbuch (BGB) / German Civil Code Grundbuchordnung (GBO) / Landbook Rule Grundgesetz (GG) / German Constitution (Article 14) Land-level Forest Acts Pachtverträge Wasserhaushaltsgesetz (WHG) URLs 3 Forest Governance: Legal-Regulatory & Organizational Frame- work Conditions https://www.congreso.es/docu/docum/ddocum/dosieres/sleg/legislatura_10/spl_77/pdfs/17.pdf BNM's activities in 2024 – the year in overview – ZIV https://www.ziv-zweirad.de/en/bnm-activities-in-2024/ German Forests - Forests for Nature and People https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/german-forests.pdf?__blob=publicationFile&v=7 Germany's Voluntary National Contribution towards achieving the Global Forest Goals and targets of the United Nations Strate https://www.un.org/esa/forests/wp-content/uploads/2019/05/VNC-Germany-May2019.pdf Governance in Germany – Globig http://globig.co/governance-in-germany/ National Forestry Accounting Plan for Germany - Bundesministerium für Umwelt, Klimaschutz, Naturschutz und nukleare Sicherheit https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/nfap_germany_bf.pdf New Federal Forest Act – Who Is Allowed in the Woods? - Green Forest Fund https://www.greenforestfund.de/en/new-federal-forest-act-who-is-allowed-in-the-woods/ Promotion of Forest Law Enforcement, Governance and Trade (PRO-FLEGT) | GIZ https://www.giz.de/en/projects/promotion-forest-law-enforcement-governance-and-trade-pro-flegt Research for international sustainable forest management

	https://www.ble.de/EN/Project-Funding/Funding-Contracts/Forest-Management/sustainable-forest_node.html The German Federal Government's Guidelines https://www.bmleh.de/SharedDocs/Downloads/DE/_Wald/leitlinien-entwaldungsfreie-lieferketten-engl-gez.pdf?__blob=publicationFile&v=2 Thünen Institute EUTR Project https://www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Transparency International CPI https://www.transparency.org/en/countries/germany Worldwide Governance Indicators (WorldBank) https://databank.worldbank.org/source/worldwide-governance-indicators ZIV position: Free right of access to forests https://www.ziv-zweirad.de/en/free-right-of-access-to-forests/
Risk Rating justification	Policies and laws The core legal basis is Article 14 of the Grundgesetz (GG), which guarantees property rights while establishing the “social obligation” of property use (Sozialbindung des Eigentums). This principle allows forestry-related restrictions to be imposed by law for the public good, but within a legally defined and reviewable framework rather than arbitrary practice. The German Civil Code (Bürgerliches Gesetzbuch, BGB) provides the central private-law framework for ownership, transfer, boundaries, and enforceable resource-use arrangements, including lease and use-right contracts relevant in forestry (Pachtverträge and related BGB provisions). Legal certainty is reinforced through the Land Register regime under the Grundbuchordnung (GBO): ownership and encumbrances become legally effective through registration, and the register functions as the primary legal proof of title and associated rights. Forestry-specific regulation sits on top of this property-law foundation. The Federal Forest Act (Bundeswaldgesetz, BWaldG) provides the framework for sustainable forest management across all forest ownership categories and thereby combines tenure security with legally defined management obligations. The State Forest Acts (Landeswaldgesetze) implement and specify the BWaldG at Länder level, adapting requirements to regional circumstances and, where applicable, linking tenure and use to planning and documentation duties. Resource use is also constrained by sectoral laws that can limit how owners exercise their rights in forests in the public interest, notably the Federal Soil Protection Act (Bundes-Bodenschutzgesetz, BBodSchG) and the Federal Water Act (Wasserhaushaltsgesetz, WHG), which impose legally defined constraints where soil and water functions are affected by forest management. Where biodiversity and protected-area requirements apply in forests, the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) and related state conservation laws can further limit management options, again within the general constitutional framework that property can be restricted by law for the public good. Relevant institutes and law enforcement Land tenure and forest resource-use rights are safeguarded through a

	decentralised but tightly linked system of registries, technical land administration, forestry authorities, tax administration, and courts. The Grundbuch is maintained by Grundbuchämter, which are special divisions of the local courts (Amtsgerichte). The register is the decisive legal record of who owns a forest parcel and what rights, encumbrances, or third-party interests are attached to it (such as easements and registered use rights). In parallel, the Liegenschaftskataster (property cadastre) maintained by the Länder provides the technical-spatial definition of parcels, including location and boundaries, and serves as a reference system supporting the legal entries in the Grundbuch. This linkage between cadastre and land register reduces ambiguity over parcel identity and supports enforceability of ownership and boundary positions. Disputes and infringements are addressed through the judicial system (Amtsgerichte and Landgerichte), which enforces property law and contract law under the BGB and provides remedies against unauthorised use, boundary disputes, and unlawful harvesting. Forestry authorities at state and local level (Landesforstämter, Forstämter/Forstbehörden) supervise compliance with BWaldG and state forest acts and, in doing so, commonly review management documentation for larger forest holdings where planning instruments are required or customary, including mid-term management planning and strategic planning documentation (Forsteinrichtungswerk, Forsteinrichtung). Financial and tax authorities support legality by verifying that forest economic activity is attributable to the rightful economic actor through tax documentation and audits, including review of tax assessments (Steuerbescheide) and related records, which creates an additional governance layer discouraging unlawful appropriation and undeclared exploitation of timber resources. Performance in practice and critical reviews In practice, actors who harvest timber in forests are expected to establish the legal right to harvest before operations proceed. The minimum evidentiary basis is typically confirmation of ownership via the Grundbuch entry for the relevant forest parcel or a valid use-right/lease arrangement (Pachtvertrag) that is traceable to the registered owner and defines the scope of authorised resource use. The “public faith” effect of the land register supports reliance on the register’s correctness for third parties acting in good faith, which contributes to operational certainty for lawful sourcing. The existence of a technical cadastre linked to the legal register, combined with common use of boundary delineation practices (including physical markers in many areas), reduces the scope for persistent boundary confusion and supports dispute resolution when conflicts arise. This system functions across forest types and sizes, including fragmented small private ownership, because legal ownership remains formally recorded in the Grundbuch regardless of holding size, and contractual allocation of harvesting rights can be evidenced through standard civil-law instruments. At the same time, forest owners’ rights are not absolute in practice: BWaldG and state forest acts can impose sustainable management obligations, and BBodSchG/WHG and nature conservation provisions can constrain certain

	activities where legally relevant forest functions are at stake. These constraints are generally framed as lawful limitations in the public interest rather than tenure insecurity, and they can be challenged or clarified through administrative and judicial mechanisms. Critical reviews in widely used third-party risk frameworks for forestry commonly support a Low Risk conclusion for respect of legal ownership and tenure rights in German forestry, based on the strong constitutional and civil-law property protections, the reliability of the Grundbuch system, and the availability of effective enforcement through courts and public authorities. More broadly, Germany is generally characterised in international governance and corruption-risk indices as having strong rule-of-law performance and low perceived public-sector corruption, and there is no specific indication in the provided sources that forestry is an exception to these conditions.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
1.1.3	Feedstock shall be legally harvested, supplied and produced, including in compliance with CITES, EUTR and other applicable legal trade requirements.
Supply Base Verifiers	Legislation CITES (Convention on International Trade in Endangered Species) Commission Regulation (EC) No. 865/2006 Council Regulation (EC) No. 338/97 EU Deforestation Regulation (EUDR) EU Timber Regulation (EUTR) Federal Forest Act (BWaldG) Federal Nature Conservation Act (BNatSchG) Federal Species Protection Ordinance (BArtSchV) Financial Administration Act (FVG) German Civil Code (BGB) German Timber Trading Security Act (HolzSiG) State Forest Acts URLs Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg Bundeswaldinventur (BWI) / The Forests in Germany (National Inventory 2012) www.bundeswaldinventur.de/fileadmin/SITE_MASTER/content/Downloads/BMEL_The_Forests_in_Germany.pdf Bundeswaldinventur (BWI) / Germany: The Land of Forests - Forest Area Unchanged www.bundeswaldinventur.de/en/third-national-forest-inventory/germany-the-land-of-forests-forest-area-unchanged/the-forests-mainly-privately-owned German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/

	General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html Landgericht (Regional Court) – Wikipedia https://de.wikipedia.org/wiki/Landgericht Thünen Institute EUTR Coverage www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects UNDRIP (UN Declaration on Rights of Indigenous Peoples) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMEL Forest Law www.bmel.de/EN/topics/forestry/forest-management/forest-law.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg/ Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html CITES Germany Profile https://https://cites.org/eng/parties/country-profiles/de GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species Gesetze im Internet (Law Portal) www.gesetze-im-internet.de/index.html Holzhandels-Sicherungs-Gesetz (HolzSiG; Act against the trade in illegally harvested timber) https://www.gesetze-im-internet.de/holzsig/ Species+ https://www.speciesplus.net/ Thünen Institute Publication https://literatur.thuenen.de/digbib_extern/dn058648.pdf WWF Enforcement Review of the EU Timber Regulation (EUTR) – EU Synthesis Report (PDF, 2019) https://wwfeu.awsassets.panda.org/downloads/wwf_eutr_implementation_eu_synthesis_report_2019.pdf WWF (EU) – “Member States too lax about illegal wood entering EU market” (news item on the 2019 EUTR review)

	https://www.wwf.eu/?357125%2FMember-States-too-lax-about-illegal-wood-entering-EU-market-finds-new-WWF-report= WWF (EU) – "Illegal timber trade in Germany: WWF files complaint with European Commission" (2021) https://www.wwf.eu/?3926816%2FIllegal-timber-trade-in-Germany-WWF-files-complaint-with-European-Commission= Zeit Online (dpa) – "Holzdiebstähle sind in Niedersachsen zurückgegangen" (2024) https://www.zeit.de/news/2024-01/14/holzdiebstaehle-sind-in-niedersachsen-zurueckgegangen
Risk Rating justification	Policies and laws For the supply base of wood harvested in German forests, legality means that harvesting is authorised by the legal right-holder, carried out in accordance with forest and nature legislation applicable to the site, and supplied/placed on the market under the EU timber legality due-diligence framework as implemented in Germany. The core forest-management legality framework is set by the Federal Forest Act (Bundeswaldgesetz, BWaldG) and the State Forest Acts (Landeswaldgesetze), which require sustainable forest management and provide the legal basis under which forest owners and authorised operators may harvest. Nature and biodiversity constraints relevant to forest harvesting derive primarily from the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) and related state conservation laws, which require avoidance of harm to protected species and habitats, including in protected areas and during sensitive periods. In this forest context, "CITES compliance" is relevant mainly as species protection: no tree species occurring in German forests are CITES-listed, but German forests can contain CITES-listed fauna and flora; forest operations therefore need to comply with the applicable species and habitat protection rules that safeguard these taxa and their habitats through domestic and EU nature conservation law. For the legality of supplying and placing domestic timber on the market, the EU Timber Regulation system (EUTR) is implemented in Germany through the Timber Trade Security Act (Holzhandels-Sicherungs-Gesetz, HolzSiG). This framework requires operators placing timber on the market (including timber harvested in Germany) to apply due diligence to minimise the risk of illegal timber entering the market, and it provides the basis for official controls and sanctions for non-compliance. Relevant institutes and law enforcement Forest-level legality in Germany is enforced primarily by Länder and local forestry authorities (Landesforstämter/Forstämter), which supervise compliance with the BWaldG and state forest laws and can require corrective measures where operations breach applicable rules. Compliance with nature conservation requirements in forests, including species and habitat protection relevant to CITES-listed fauna and flora, is enforced by the competent nature conservation authorities and environmental agencies at Länder and local level, with permitting and enforcement powers where restrictions apply. Legality controls for placing timber on the market under HolzSiG/EUTR are

	performed by the Federal Office for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung, BLE) as the competent authority, including checks on due-diligence systems and documentation. Disputes and serious infringements (such as unauthorised harvesting, persistent boundary conflicts, or serious regulatory breaches) can be pursued through administrative procedures and, where relevant, through the courts. Performance in practice and critical reviews At minimum, legally harvested wood from German forests requires that the harvesting party can demonstrate a valid right to harvest and that the harvest is conducted within the constraints of forest and nature law applicable to the site. In practice, the minimum evidence base for the right to harvest is proof that harvesting is carried out by the forest owner or by a party authorised by the owner through a legally valid agreement, supported by ownership and rights documentation (land register evidence and contracts). Harvesting must also respect binding restrictions arising from conservation and protected-area requirements, including rules that protect species and habitats present in the forest; this is the practical route by which CITES-relevant protection applies in the German forest supply base, because the compliance focus is on avoiding harm to protected fauna and flora and their habitats. For supply and placing domestic timber on the market, the minimum performance required under HolzSiG/EUTR is that operators maintain and apply a due-diligence system with documentation sufficient to demonstrate legality of the timber and to enable competent-authority controls. This creates a second, market-facing legality layer on top of forest-level controls: forest authorities and conservation authorities address the legality of the harvest in the forest, while BLE controls address whether operators placing timber on the market can evidence legality through due diligence and records. Independent and civil-society reviews of the timber-legality control system in Germany are mixed. A WWF EU synthesis review of EUTR enforcement across Member States concluded that enforcement still had severe shortcomings and that, overall, implementation had not yet met the regulation's intent of stopping illegal timber (including illegal logging occurring within EU borders), implying that market-surveillance and sanctioning practice can be too weak to be fully deterrent. In the same direction, WWF publicly filed a complaint to the European Commission alleging that Germany's EUTR enforcement was inadequate and that controls and penalties were not applied with sufficient intensity to curb illegality risks in the market. For the domestic forest supply base specifically, public reporting and media coverage tends to highlight not organised "illegal logging" in the classic sense, but rather episodic unlawful activity such as timber theft from forests and timber storage, which can rise when wood values and demand increase; German media has reported increasing timber-theft cases in multiple Länder and continued relevance of the issue in practice. These reports support the view that the main practical illegality risk in German forests is typically opportunistic unauthorised removal rather than systemic illegal harvesting enabled by weak tenure or corruption, but they still underscore the need for traceable harvesting rights, documented sales, and

	effective field-level monitoring as part of the minimum legality baseline.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation Abgabenordnung (AO) / General Taxation Codes Federal Forestry Laws Financial Administration Act (FVG) Handelsgesetzbuch (HGB) / German Commercial Code State Forestry Laws Umsatzsteuergesetz (UStG) / Value Added Tax Act URLs Abgabenordnung (AO) https://www.gesetze-im-internet.de/ao_1977/ Abgabenordnung (AO) § 141 Buchführungspflicht bestimmter Steuerpflichtiger https://www.gesetze-im-internet.de/ao_1977/__141.html Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMF – Ergebnisse der steuerlichen Betriebsprüfung der Länder 2024 (Monatsbericht, 20.11.2025) https://www.bundesfinanzministerium.de/Monatsberichte/Ausgabe/2025/11/Inhalte/Kapitel-2-Analysen/2-4-steuerliche-betriebspruefung-der-laender-2024.html Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html Bundesrechnungshof – Umsatzsteuerbetrugsbekämpfung zweiter Klasse droht (05.05.2025) https://www.bundesrechnungshof.de/SharedDocs/Downloads/DE/Berichte/2025/ergaenzungsband-2024/29-volltext.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html CITES Germany Profile https://https://cites.org/eng/parties/country-profiles/de Finanzverwaltungsgesetz (FVG) https://www.gesetze-im-internet.de/fvg_1971/ General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/

	GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species Gesetze im Internet (Law Portal) www.gesetze-im-internet.de/index.html Handelsgesetzbuch (HGB) § 238 Buchführungspflicht https://www.gesetze-im-internet.de/hgb/__238.html HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html Landgericht (Regional Court) – Wikipedia https://https://de.wikipedia.org/wiki/Landgericht Thünen Institute EUTR Coverage www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects UNDRIP (UN Declaration on Rights of Indigenous Peoples) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf Waldschutz (Forest Protection) – Wikipedia https://de.wikipedia.org/wiki/Waldschutz BMEL Home www.bmel.de/EN/Home/home_node.html BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BNatSchG (Federal Nature Conservation Act) www.gesetze-im-internet.de/bnatschg_2009/ German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ Rechnungshof Baden-Württemberg – Denkschrift 2024, Beitrag Nr. 9 Informationstechnik bei ForstBW (PDF) https://rechnungshof.baden-wuerttemberg.de/fileadmin/Denkschriften/Denkschrift_2024/Denkschrift_2024_-_Beitrag_Nr._9.pdf Rechnungshof Rheinland-Pfalz – Jahresbericht 2024, Nr. 14 Wirtschaftsführung Landesforsten Rheinland-Pfalz https://rechnungshof.rlp.de/veroeffentlichungen/jahresberichte/jahresbericht-2024/nr-14-wirtschaftsfuehrung-des-landesbetriebs-landesforsten-rheinland-pfalz Species+ https://www.speciesplus.net// SVLFG – Berufsgenossenschaft: Versicherung und Beiträge (Pflichtversicherung Land- und Forstwirtschaft) https://www.svlfg.de/berufsgenossenschaft-versicherung-beitraege Thünen Institute Publication https://literatur.thuenen.de/digbib_extern/dn058648.pdf

	Umsatzsteuergesetz (UStG) https://www.gesetze-im-internet.de/ustg_1980/
Risk Rating justification	Policies and laws In German forestry, payments connected to harvesting and supplying forest feedstock must be complete and up to date because they arise from enforceable contracts and from mandatory public-law obligations. Relevant payment types include payments for harvest rights and timber/feedstock (such as stumpage/royalty elements reflected in timber sales prices, timber sales revenue for the owner, and contractual fees for granted use or harvesting rights under lease or similar agreements), and mandatory taxes and duties linked to the economic activity (income tax or corporate tax, VAT where applicable to supplies, property tax where applicable, and statutory accident insurance contributions for forestry undertakings). Where forest owners or operators receive public support related to forestry, payments and reporting duties for such support also create traceable financial flows that are subject to public-law control. The main legal framework ensuring completeness and timeliness is tax and accounting law, supplemented by contract law and public-sector financial rules. The Financial Administration Act (Finanzverwaltungsgesetz, FVG) defines the structure and tasks of the tax administration, including the role of the Finanzämter. The General Tax Code (Abgabenordnung, AO) governs tax procedures and establishes documentation and bookkeeping/recordkeeping duties for certain taxpayers, including land and forestry operators, and provides the legal basis for enforcement against tax violations. The Value Added Tax Act (Umsatzsteuergesetz, UStG) governs VAT obligations for taxable supplies. The German Commercial Code (Handelsgesetzbuch, HGB) requires orderly bookkeeping for merchants and sets a traceability standard for business transactions that supports verifiable turnover and profit determination. Contractual payments for harvesting rights and timber sales in private forests are enforceable under civil law (BGB contract law). In public forests (Länder or municipal/corporate forests), timber sales and harvesting-right arrangements are implemented through formal contracts and are additionally constrained by public budgeting, accounting and audit requirements that are designed to prevent missing or misallocated receipts and to document revenue collection. Relevant institutes and law enforcement Tax compliance and the completeness of mandatory payments are overseen nationally by the Federal Ministry of Finance (Bundesministerium der Finanzen, BMF) and implemented by Länder tax administrations through local tax offices (Finanzämter) within the framework set by the FVG. The Finanzämter receive tax returns, can request supporting records, and can initiate audits and investigations where needed; this enforcement architecture applies to forestry actors in the same way as to other taxpayers, meaning that timber-related income and taxable transactions can be checked against records and bank-based transaction trails. Payment integrity for harvest rights and feedstock is also supported by the institutional structure of forest ownership and contracting. In public forests,

	the relevant state forestry enterprise/administration or municipal forest owner manages timber sales and any granted harvesting rights through formal contracting and invoicing, with receipts and financial management subject to public audit institutions at Länder level. In private forests, the legal enforceability of contracts and invoices is the primary payment-control mechanism between parties, while the tax system provides an external verification route through declared income/turnover and associated audit powers. Statutory accident insurance contributions for forestry undertakings are administered within the Social Insurance for Agriculture, Forestry and Horticulture system (SVLFG) as a compulsory scheme for relevant enterprises, which issues contribution assessments and can enforce payment obligations under the social insurance framework. Performance in practice and critical reviews At the minimum level for the forest supply base, a legally operating timber sale or harvesting-right transaction must have a clear contractual basis, a clearly identified payee who is entitled to receive the payment (the forest owner or an authorised party), and traceable payment flows supported by invoices and banking evidence. For tax and duty completeness, the minimum requirement is that the economic actor involved in harvesting and selling timber maintains the records required under applicable bookkeeping rules and submits the required tax declarations so that taxable turnover and taxable profit can be determined and checked. Where VAT applies, the minimum requirement includes VAT-compliant invoicing and reporting consistent with the UStG, and where HGB bookkeeping applies, records must allow a third party to follow transactions from origin to completion. These requirements do not rely on “typical good practice”; they are the baseline legal obligations that create auditability and enforceability. Recent official and audit-body publications provide both supportive and critical signals about the control environment that underpins completeness and timeliness of payments. On the supportive side, the BMF’s annual reporting on Länder tax audits documents that audits are an active control instrument that regularly generate additional assessed amounts, evidencing that declarations are subject to verification and correction. On the critical side, the Federal Court of Auditors (Bundesrechnungshof) has warned that Germany risks falling behind in combating VAT fraud without more modern controls; while this is not forestry-specific, it is relevant to timber and biomass supply chains to the extent that VAT-relevant goods transactions can be exploited if control systems are not sufficiently up to date. For public forestry finance management, Länder audit bodies have also published findings pointing to weaknesses in parts of financial governance, such as incomplete or insufficiently explained financial planning documents in a state forestry enterprise and IT-governance findings in a state forestry organisation; these are not direct findings of unpaid harvest-right charges, but they are relevant because payment completeness and timeliness depend on robust financial planning, accounting and IT-supported internal controls,

	especially in publicly owned forest operations.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
1.1.5	There shall be adequate protection of the Supply Base from unauthorised and illegal activities, such as illegal logging, mining, and encroachment.
Supply Base Verifiers	Legislation Bundeswaldgesetz (BWaldG) Federal Building Code (BauGB) Federal Forest Act (BWaldG) Federal Mining Act (Bundesberggesetz - BBergG) Federal Nature Conservation Act (BNatSchG) German Civil Code (BGB) German Timber Trading Security Act (HolzSiG) EU Timber Regulation (EUTR) Landbook Rule (GBO) URLs Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BBergG - englisch - RMIS - Raw Materials Information System https://rmis.jrc.ec.europa.eu/uploads/legislation/GermanyFederalMiningActENGLISH.pdf BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMEL Home www.bmel.de/EN/Home/home_node.html BNatSchG (Federal Nature Conservation Act) www.gesetze-im-internet.de/bnatschg_2009/ Bund Naturschutz – BN-Erfolg vor Gericht: Douglasien-Wäldchen bei München darf weiterhin nicht für Kiesabbau gerodet werden (04.07.2025) https://www.bund-naturschutz.de/pressemitteilungen/bn-erfolg-vor-gericht-douglasien-waeldchen-bei-muenchen-darf-weiterhin-nicht-fuer-kiesabbau-gerodet-werden Bundesberggesetz (BBergG) https://www.gesetze-im-internet.de/bbergg/ Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html

	Chinese demand for timber and wildlife in West Africa: Responding to the environmental and social impacts - Atlantic Council https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/chinese-demand-for-timber-and-wildlife-in-west-africa/ CITES Germany Profile https://https://cites.org/eng/parties/country-profiles/de eLibrary - European Union Timber Regulation (EUTR) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010R0995 FSC National Risk Assessment for Germany - FSC Connect - Forest Stewardship Council https://connect.fsc.org/document-centre/documents/resource/201 FSC announced new risk assessments - Preferred by Nature https://www.preferredbynature.org/news/fsc-announced-new-risk-assessments fsc.org/en/illegal-logging https://fsc.org/en/illegal-logging General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ Germany - Forest Trends https://www.forest-trends.org/idat_countries/germany/ Gesetze im Internet (Law Portal) www.gesetze-im-internet.de/index.html HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html How are resource extraction projects approved and monitored? - D-EITI https://d-eiti.de/en/report/how-are-resource-extraction-projects-approved-and-supervised/ DAT Risk - Key Resources - Forest Trends https://www.forest-trends.org/idat/idat-risk-key-resources/ Illegal Deforestation and Associated Trade (IDAT) Risk - Forest Trends (main page) https://www.forest-trends.org/idat/ Illegal Deforestation and Associated Trade (IDAT) Risk - Forest Trends (Methodology 2022) https://www.forest-trends.org/wp-content/uploads/2022/03/Methodology-for-State-ILAT-project-website_Feb-2022-1.pdf Illegal Deforestation and Associated Trade (IDAT) Risk - Forest Trends (Update 2025) https://www.forest-trends.org/wp-content/uploads/2025/06/FT-IDAT-Risk-Scores-Update-and-Methodology-May-2025.pdf Landgericht (Regional Court) – Wikipedia https://https://de.wikipedia.org/wiki/Landgericht Mine rehabilitation in Germany Example LMBV https://www.lmbv.de/wp-content/uploads/2023/08/Mine-rehabilitation-in-

	Germany-Example-LMBV.pdf Mining law | Umweltbundesamt https://www.umweltbundesamt.de/en/mining-law Ministerium für Landwirtschaft, Umwelt und Klimaschutz Brandenburg – Waldzustandsbericht 2024 (PDF) https://mleuv.brandenburg.de/sixcms/media.php/9/Waldzustandsbericht-BB-2024.pdf Münchner Merkur – Kiesabbau im Planegger Wäldchen: Rückschlag für Glück (07.07.2025) https://www.merkur.de/lokales/wuermtal/planegg-ort29296/kiesabbau-im-planegger-waeldchen-rueckschlag-fuer-glueck-93822170.html Part 2a: Forest Crimes: Illegal Deforestation and Logging https://www.unodc.org/documents/data-and-analysis/Crimes%20on%20Environment/ECR25_P2a_Deforestation.pdf Species+ https://www.speciesplus.net// The world needs forests - Germany's forest action plan for sustainable development https://www.bmz.de/resource/blob/23678/a2dffcf2e79abfb1d73e3cd0ed09de88/materialie283-forest-action-plan-data.pdf Thünen Institute EUTR Coverage www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Thünen Institute Publication https://literatur.thuenen.de/digbib_extern/dn058648.pdf Transparency International Corruption Perceptions Index 2023 www.transparency.org/en/cpi/2023/index/deu UNDRIP (UN Declaration on Rights of Indigenous Peoples) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf Waldschutz (Forest Protection) – Wikipedia https://de.wikipedia.org/wiki/Waldschutz Who is responsible? Laws and responsibilities of public authorities - D-EITI https://d-eiti.de/en/report/who-is-responsible-laws-and-responsibilities-of-public-authorities/ Umweltbundesamt (UBA) – Reformbausteine für eine bessere Berücksichtigung von Umweltbelangen im Rohstoffrecht (Texte 71/2019, PDF) https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-07-04-texte_71-2019_instro-1.pdf
Risk Rating justification	Policies and laws The German legal framework, institutional capacity, and low governance risk collectively provide strong formal protection of the forest supply base against unauthorised and illegal activities. Because the supply base is defined as

	German forests as a whole rather than a specific owner's forest, this indicator overlaps with the general legality topics on lawful harvesting and on legal ownership and use rights; separate market-legality controls under the EU timber due-diligence framework are addressed under the legality/trade indicator. Protection against unauthorised harvesting and forest destruction is anchored in the Federal Forest Act (Bundeswaldgesetz, BWaldG) and the implementing State Forest Acts, which set binding rules for forest management and provide the administrative basis for forest authorities to intervene against unlawful felling and other forest offences. Environmental damage and harmful interference with protected species, habitats, and protected areas within forests are constrained by the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) and related Länder conservation law. Encroachment and unlawful occupation are deterred and remedied through the property-rights system under civil law and land registration, and through land-use planning and permitting rules that constrain forest conversion and require authorisation for changes of use. Mining-related pressures are governed by the Federal Mining Act (Bundesberggesetz, BBergG), which subjects mining to state-supervised licensing and operating-plan requirements and imposes obligations aimed at preventing and remedying harmful effects at the surface, including restoration duties. Relevant institutes and law enforcement The primary operational protection of forests is delivered by Länder and local forestry authorities (Landesforstverwaltungen/Forstämter), which monitor forest management and investigate forest offences under forest law, and by nature conservation authorities for conservation-law infringements affecting forests. Suspected criminal conduct linked to unlawful forest activities can be pursued through police, prosecution services, and the courts. For encroachment and land-use conflicts, building and planning authorities implement land-use controls and permitting, while courts provide review and remedy where permissions are disputed or unlawful. Mining oversight is exercised by the state mining authorities (Bergbehörden), which supervise exploration and extraction through the BBergG operating-plan system and associated environmental and safety requirements. These authorities can impose conditions, require mitigation, and enforce restoration and monitoring duties, and their decisions can be challenged through administrative and judicial procedures. Performance in practice and critical reviews At the minimum level expected in the German forest supply base, unauthorised harvesting and encroachment are constrained by a combination of legal clarity (registered tenure and boundaries), administrative presence (forestry and conservation authorities with inspection and intervention powers), and enforceable remedies (criminal and civil enforcement for offences; administrative and judicial review for land-use and mining decisions). Mining and land conversion affecting forests are not legally self-authorised by operators; they require formal approvals and are subject to

	continuing public-law supervision and, where necessary, judicial review. A structural critical point highlighted in environmental-policy analysis is that mining law is designed to facilitate raw-material supply via an efficient licensing and approval architecture, which can create tension with other public interests; this increases the importance of robust conditions and oversight where forests and ecosystem functions are affected. Recent reporting in Germany also shows that unauthorised activities affecting forests remain practically relevant even in a high-governance setting, particularly beyond classic timber offences. A current Brandenburg forest condition report identifies persistent illegal dumping in forests, including hazardous waste, and documents significant recorded volumes and administrative burdens for the state forestry operation in dealing with it. Separately, public reporting on conflicts around forest conversion pressures for resource extraction indicates that court review can be decisive in protecting forests: in a 2025 case in Bavaria linked to forest clearing for gravel extraction, a court decision was reported as confirming that a clearing permission was unlawful, illustrating both the existence of conversion pressure and the practical role of judicial control as a backstop against improper or insufficiently justified authorisations.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.1.1	Key species, habitats, ecosystems, and areas of high conservation value (HCV) pertaining to biodiversity in the Supply Base shall be identified.
Supply Base Verifiers	Legislation Bundeswaldgesetz (BWaldG) Federal Nature Conservation Act (BNatSchG) Federal Species Protection Ordinance (BArtSchV) Federal Soil Protection Act (BBodSchG) State Forest Laws Water Resources Act (WHG) EU Birds Directive EU Habitats Directive URLs Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BfN (Federal Agency for Nature Conservation) - Main Page www.bfn.de/en BfN (Federal Agency for Nature Conservation) - Privately Protected Areas www.bfn.de/en/privately-protected-areas Biodiversity Information System for Europe (BISE) - Germany https://biodiversity.europa.eu/ BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-

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Risk Rating justification	Indicator 2.1.1 is the first one of three related indicators; it examines how key species, habitats, ecosystems and areas of high conservation value are identified and documented. Indicator 2.1.2 studies how the main threats to these identified values and impacts of forest management are assessed. Indicator 2.1.3 then assesses whether forest management and the wider policy framework maintain or enhance these conservation values in practice. In Germany, key species, habitats, ecosystems and areas of high

	conservation value (HCVs) are identified through a dense combination of forest and nature conservation legislation, comprehensive mapping and monitoring systems, and a very extensive protected area network. This applies both to regular multifunctional forests and to specially protected areas at national and regional level. Policies and laws The main legal pillars are the Federal Forest Act (Bundeswaldgesetz, BWaldG) and the State Forest Acts (Landeswaldgesetze), the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG), the Federal Soil Protection Act and the national implementation of the EU Habitats Directive and Birds Directive. International commitments such as the Convention on Biological Diversity (CBD) provide an additional framework that is translated into national instruments. The National Biodiversity Strategy and the Forest Strategy 2020 further set political targets for the identification, protection and improvement of forest biodiversity and HCVs. The Federal Forest Act establishes sustainable forest management as a legal requirement for all forests, including private forests. Forest owners must maintain forest functions and consider the forest as an ecosystem when planning and implementing operations. This is operationalised through mid-term forest management planning (Forsteinrichtung), which is compulsory in public forests and widespread in larger private forests and further detailed by Landeswaldgesetze. Forsteinrichtung includes the mapping and description of stands, tree species composition, age classes, site conditions, protection and recreation functions and the presence of special biotopes. As a result, many ecologically important forest elements are identified and recorded as part of standard forest planning, even outside formally protected areas. The Federal Nature Conservation Act is the central legal basis for identifying and designating high conservation values. It regulates species protection, habitat protection and the creation of protected areas, and it implements the EU Habitats Directive and the EU Birds Directive into German law. Under this Act, several categories of protected areas are identified and mapped, including nature conservation areas, national parks, biosphere reserves, landscape reserves, nature parks, protected landscape elements, specially protected biotopes, wetlands of international importance (Ramsar sites) and Natura 2000 sites, which comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). Each category has a defined legal basis in the BNatSchG, with Articles 23 to 30 and 31 to 36 specifying the different types, their objectives and their use restrictions. These designations are based on ecological surveys, habitat mapping and species data and therefore reflect a systematic identification of HCV areas across the country. The mapping of habitats and biotopes provides an important basis for the identification of HCVs related to ecosystems and habitats (HCV 3). The EU Habitats Directive lists so-called Annex I habitat types of Community interest whose conservation requires the designation of SACs. The Federal Agency for Nature Conservation, as the national authority responsible for this implementation, reports that there are 93 natural habitat types of Community interest in Germany, 35 of which are forest-related. Their distribution and

	status are monitored every six years at the level of biogeographical regions. In Germany, seven forest habitat types are currently assessed in at least one region as being in “unfavourable – bad” status, meaning the habitats are is serious danger of disappearing (at least regionally). These include Galio-Carpinetum oak-hornbeam forests, old acidophilous oak woods on sandy plains, bog woodlands, alluvial forests dominated by alder and ash, riparian mixed forests with oak, elm and ash along major rivers, Central European lichen Scots pine forests and Sarmatic steppe pine forests. Oak, hornbeam, ash, elm and pine-based ecosystems are recognised as of high conservation value and are explicitly identified through this EU–national mechanism. The identification of key species and species-related HCVs (HCV 1) is based primarily on Red Lists and EU species lists. Germany has adopted the IUCN system for assessing extinction risk. For tree species, the IUCN lists 5 species as vulnerable, 8 as endangered and 14 as critically endangered in Germany. National and regional Red Lists, compiled by the Federal Agency for Nature Conservation and by state authorities, list threatened animals, plants, fungi, habitat types and biotope complexes. These Red Lists are scientific expert opinions that evaluate risk based on population sizes, trends and threats. They are used to define legal protection status, to inform spatial and environmental planning and to identify areas requiring conservation action. Many forest-associated species, including red-listed birds, saproxylic insects, lichens and bryophytes, are identified through this system. Protected nesting seasons, typically from March to September for many red-listed bird species, are derived from this knowledge and are recognised in national and regional regulations. The National Forest Act (via BWaldG §41a) also requires nationwide monitoring of forests (Bundeswaldinventur, BWI) approximately every ten years. This inventory collects data on tree species, stand structure, deadwood, age classes and forest health, complementing the habitat and biotope maps and providing a comprehensive picture of forest biodiversity and HCV-relevant structures. The latest National Forest Inventory shows that natural regeneration has become predominant, that the proportion of deciduous species has increased and that deadwood volumes and the number of designated habitat (biotope) trees have grown, all of which are important parameters for identifying and tracking HCVs in managed forests. Beyond species and habitats, other HCV categories are also explicitly defined and identified in the German context. For HCV 2 (landscape-level ecosystems and mosaics), expert work has concluded that there are no remaining intact natural forest landscapes in Germany according to global criteria. However, the category is interpreted to include all forests with legally designated protection status of national significance, such as national parks, biosphere reserves, SACs and SPAs. For HCV 4 (critical ecosystem services), forests that serve as protection forests under §12 BWaldG are identified and mapped. These are forests that protect against damaging environmental influences under the Federal Emissions Protection Act, against erosion by water and wind, desiccation, damaging run-off and avalanches. Water catchment protection areas, regulated under water law, define immediate and proximate zones around drinking water sources; in these

	zones, activities are strictly restricted and forest management is subordinated to water protection objectives. For HCV 5 (community needs), official recreation forests and forests with level 1 recreation function in the national forest function map are identified. For HCV 6 (cultural values), remains of historical land use such as coppice and coppice-with-standards forests and forest pastures, as well as archaeological monuments and built heritage in forests, are identified by regulatory agencies and are included in forest function mapping and Forsteinrichtung. Germany's protected area network is very extensive and is a core outcome of these policies and laws. According to the Biodiversity Information System for Europe, there are more than forty thousand protected areas in Germany designated under national law and the Natura 2000 framework. ProtectedPlanet lists over twenty-three thousand protected areas, with some areas designated under multiple programmes. Around 37.4% of the terrestrial area is designated as protected, which is well above EU averages, and around 17% of the forest area is part of the Natura 2000 network. There are 16 national parks, 16 UNESCO biosphere reserves designated both under state law and by UNESCO, and more than one hundred nature parks covering about 10.1 million hectares, corresponding to approximately 28.4% of Germany's land surface. About two-thirds of the German forest area is reported to lie within at least one protection category under the Federal Nature Conservation Act, state forest laws or the EU nature directives. These designations, together with a large number of smaller protected biotopes, identify where HCVs are concentrated at landscape and ecosystem level. Forest biodiversity in Germany is well documented, which provides a factual basis for identifying HCVs. Forests harbour around 2,900 plant species, including approximately 1,216 vascular plant species with 76 tree species, several epiphytes, more than one hundred shrub species and over one thousand herbaceous plant species. They host a large share of Germany's moss and lichen species and support around 140 vertebrate species and a significant proportion of the approximately 30,000 insect species known in the country. More than 40% of breeding bird species in Germany are linked to forests. Detailed knowledge of species composition and habitat requirements, including flagship species such as stag beetle, European hornet, woodpeckers, bats and sensitive lichens, is used to identify and delineate HCVs at stand and landscape level. National programmes such as the Forest Genetic Resources Programme (GENRES) further identify genetic conservation units and seed stands for key forest tree species such as European beech and silver fir with an emphasis on maintaining genetic diversity and resilience. Relevant institutes and law enforcement Institutionally, the identification and documentation of HCVs is supported by multiple authorities and information systems at federal and state level. The Federal Agency for Nature Conservation (Bundesamt für Naturschutz, BfN) is the key expert and enforcement authority for nature conservation. It oversees the National Red List, compiles and evaluates data on habitat types and species (including Annex I habitats and Red List species) and maintains

	national geodata on protected areas and biotopes. The BfN's interactive map of protected areas publicly displays all protected area categories and provides a central reference for identifying legally designated HCV areas. The Federal Ministry of Food and Agriculture (BMEL) and the Thünen Institute oversee the National Forest Inventory (Bundeswaldinventur) and other forest-monitoring programmes required under the BWaldG. They are responsible for designing and coordinating the sampling framework, evaluating the data and publishing results that characterise forest structure, species composition, deadwood, habitat trees, old stands and other HCV-relevant attributes. In the recent inventories, for example, the average deadwood volume has increased compared with earlier cycles and the number of trees with ecologically significant characteristics (such as woodpecker cavities, broken crowns or fungal fruiting bodies) has been quantified at tens of millions across the German forest area, with around eight to nine such habitat trees per hectare on average. At state level, environmental agencies (Landesumweltämter) and forestry authorities (Forstbehörden) carry out mapping and monitoring at Länder level and implement both BWaldG and Landeswaldgesetze. They maintain regional biotope maps, Red Lists and protected-area registers and integrate this information into forest management planning. State forest organisations prepare ten-year forest inventories and plans (Forsteinrichtung) and, in many states, annual forest plans for public forests and larger private forests. These plans cover actual and predicted stock, harvesting, regeneration, silvicultural measures and conservation aspects, and they document the location and status of protected sites, special biotopes, protection forests and recreation forests. Lower Nature Conservation Authorities (Untere Naturschutzbehörden) and forest control services (Forstaufsicht) operate at local level and implement the legal requirements on the ground. They check compliance with species-protection provisions (including seasonal restrictions), verify that protected biotopes and habitats are correctly mapped and respected in operations and are involved in screening and, where necessary, conducting environmental impact assessments for larger projects in or near sensitive areas. In small private forests where formal management plans may not be mandatory, these authorities still have supervisory powers and can intervene if protected species, biotopes or designated HCV areas are at risk. Data from habitat mapping, National Forest Inventories, Red Lists and protected-area registers are brought together in national and Länder-level information systems and geodata portals. These systems allow managers, planning authorities and enforcement bodies to determine which areas are subject to certain legal protections and restrictions without needing new field surveys before each decision. They are central tools for identifying where key species, habitats, ecosystems and HCVs occur and for making this information accessible and operational in planning and law enforcement. Performance in practice and critical reviews In practice, Germany's combination of legislation, mapping and monitoring has resulted in a very detailed picture of forest biodiversity and a very

	extensive protected-area network. Forest biodiversity is well documented; protected areas are widely designated and mapped; Red Lists and Annex I habitat types clearly highlight rare and threatened species and forests, including EU Habitat Directive Annex I forest habitats that are in unfavourable condition. The National Forest Inventory and state-level forest and biotope mapping confirm that almost the entire German forest can be classified as semi-natural, that mixed and deciduous stands have expanded and that deadwood and habitat trees have increased compared with earlier inventories, improving the structural basis for identifying and maintaining many HCV attributes. At the same time, critical reviews show that identification and designation are not complete and that some HCV-related habitats remain under pressure. The Red List of threatened habitat types in Germany, first published in 1994 and updated in 2017 and 2020, indicates that a high share of forest habitats remains threatened. For example, 69.5% of forest habitat types are still classified as threatened in the 2020 update, even though some beech-forest types have improved status due to more natural management. The reporting under the Habitats Directive shows that several Annex I forest habitat types are in “unfavourable – bad” condition, especially those associated with oak, hornbeam, ash, elm and certain pine forests. These assessments do not primarily question the identification of HCVs but demonstrate that many identified HCV habitats are in a degraded or vulnerable state. In 2021 the European Commission initiated infringement proceedings against Germany for delays and gaps in designating SACs and specifying conservation targets. In 2023 the European Court of Justice confirmed that Germany had failed to designate 88 of 4,606 sites as special conservation areas within the required timeframe and had not set detailed conservation objectives for another large group of sites. This ruling shows that, although the legal framework for identification and designation of HCV areas exists, its implementation has been incomplete and delayed in part of the Natura 2000 network. NGOs such as NABU and BUND criticise the lack of management plans in many Natura 2000 sites and point to individual cases where high conservation values in small private forests were overlooked and damaged by logging. These organisations provide additional independent oversight, bringing cases to court and demanding more systematic mapping, management planning and enforcement, particularly in small, fragmented private forests that are not always covered by detailed Forsteinrichtung. Their interventions, together with official infringement procedures at EU level, indicate that the system is not flawless and that some HCVs have been missed or insufficiently protected in practice. In practice, identification of high conservation values in small private forests is the weakest element of the system. Almost half of Germany’s forest area is privately owned and highly fragmented; there are around two million private and corporative forest owners, many of them holding less than 20 ha. Below certain size thresholds (often around 30 ha, varying by Land), owners are typically not obliged to prepare a forest management plan (Forsteinrichtung) or detailed biodiversity surveys. Nevertheless, they are fully bound by the

	Federal Forest Act, the Federal Nature Conservation Act and the relevant Landeswaldgesetze, including the strict protection of specially protected biotopes, Natura 2000 habitat types and protected species. In legal terms, even the smallest owner must avoid “significant impairment” or destruction of protected habitats and must not disturb protected species, including compliance with felling and cutting bans during the breeding season. For small private owners, the identification of HCVs is therefore expected to take place through a combination of desk-based checks and basic field observation prior to interventions. In practice this means consulting publicly available geodata (Natura 2000 layers, biotope maps, water protection zones, forest function maps) and, where available, seeking advice from public forest advisory services. For larger or more sensitive operations, contractors and consulting foresters are expected to recognise typical protected habitat types (such as swamp, marsh and riparian forests) and obvious indicators of protected species (for example, known raptor nests, bat roost trees, or mapped biotope trees) before harvesting. However, there is no uniform, legally prescribed pre-harvest screening protocol for small private forests, and detailed species surveys are normally not required outside designated sites or larger projects subject to environmental impact assessment. Enforcement and inspections for small private forests are carried out by state forest authorities and lower nature conservation authorities, but these inspections are sampling-based and often significantly delayed due to limited staff and resources. Environmental organisations report incidents in which small owners carried out logging during the breeding season of protected bird species or in areas that should have been treated as sensitive habitats. Official cases and NGO reports suggest that such incidents represent only a small proportion of total forest operations, but they demonstrate that identification of biodiversity values in small private forests is not systematic and can fail. Moreover, ecosystems are dynamic: protected species and habitats can appear in new places, and some habitat types can develop over relatively short time periods. In the absence of formal management plans and standardised pre-harvest biodiversity assessments, there is a risk that newly established or previously unmapped species and habitats remain undetected before harvesting. This combination of fragmented ownership, limited planning obligations, non-standardised identification practices and resource-constrained inspections explains why, despite a strong legal framework and extensive mapping at higher levels, the identification of biodiversity values in small private forests remains uncertain.
Risk Rating	Specified Risk

Germany Whole country	**Indicator**
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.

Supply Base Verifiers	Legislation Abgabenordnung (AO) / General Taxation Codes EU Birds Directive EU Habitats Directive Federal Forest Act (BWaldG) Federal Nature Conservation Act (BNatSchG) Federal Soil Protection Act (BBodSchG) State Forest Acts Umsatzsteuergesetz (UStG) / Value Added Tax Act Water Resources Act URLs Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BfN (Federal Agency for Nature Conservation) - Main Page www.bfn.de/en BfN (Federal Agency for Nature Conservation) - Privately Protected Areas www.bfn.de/en/privately-protected-areas Biodiversity Information System for Europe (BISE) - Germany https://biodiversity.europa.eu/advanced-search?q=germany BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMEL Home www.bmel.de/EN/Home/home_node.html BMEL - Forest Strategy 2020 www.bmel.de/EN/topics/forests/forests-in-germany/forest-strategy-2020.html BMEL - Unser Wald - nutzen und bewahren (National Forest Inventory) www.bmel.de/DE/themen/wald/waldinventur/national-forest-inventory.html BMBF (Federal Ministry of Education and Research) - Biodiversity www.bmbf.de/bmbf/en/research/environment-and-climate/biodiversity/biodiversity_node.html BNatSchG (Federal Nature Conservation Act) www.gesetze-im-internet.de/bnatschg_2009/ Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html BUND (Bund für Umwelt und Naturschutz Deutschland) - Main Page www.bund.net Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html CITES Germany Profile https://https://cites.org/eng/parties/country-profiles/de DBU (Deutsche Bundesstiftung Umwelt) - Naturerbe www.dbu.de/naturerbe/

	DW - EU takes Germany to court for breaching environment laws www.dw.com/en/eu-takes-germany-to-court-for-breaching-environment-laws/a-56614385 DW - Germany violated nature conservation law, rules EU top court www.dw.com/en/germany-violated-nature-conservation-law-rules-eu-top-court/a-66882782 EEA (European Environment Agency) - European Protected Areas (Interactive Map) www.eea.europa.eu/data-and-maps/explore-interactive-maps/european-protected-areas-1 Eionet (European Topic Centre on Biological Diversity) - Article 17 Reporting (Germany Habitats) https://www.eionet.europa.eu/etcs/etc-be/activities/reporting/article-17/outcomes-2001-2006 General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species GeoPortal.de - Protected Area Search www.geoportal.de/search.html?q=protected%20area German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ Gesetze im Internet (Law Portal) www.gesetze-im-internet.de/index.html HCV Network - Main Page www.hcvnetwork.org/ HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html IUCN Red List of Threatened Species www.iucnredlist.org Landgericht (Regional Court) – Wikipedia https://https://de.wikipedia.org/wiki/Landgericht Waldmonitor Deutschland https://map3d.remote-sensing-solutions.de/waldmonitor-deutschland/#%20(Waldmonitor%20Deutschland) NABU (Nature And Biodiversity Conservation Union) - Main Page https://en.nabu.de/ Natura 2000 - Countries View https://natura2000.eea.europa.eu/ NW-FVA (Nordwestdeutsche Forstliche Versuchsanstalt) - Main Page www.nw-fva.de/ Protected Planet - Country Profile Germany (DEU) www.protectedplanet.net/country/DEU Ramsar Convention - Country Profile Germany www.ramsar.org/country-profile/germany Ramsar Sites Information Service - Search Germany https://rsis.ramsar.org/ Thünen Institute EUTR Coverage

	www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Thünen Institute Publication https://literatur.thuenen.de/digbib_extern/dn058648.pdf UNDRIP (UN Declaration on Rights of Indigenous Peoples) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf UNESCO - Biosphere Reserves Germany www.unesco.de/en/culture-and-nature/biosphere-reserves/biosphere-reserves-germany UNESCO - Countries Germany www.unesco.org/en/countries/de Waldschutz (Forest Protection) – Wikipedia https://de.wikipedia.org/wiki/Waldschutz
Risk Rating justification	Indicator 2.1.1 provides a detailed picture on the identification of key species, sensitive habitats and HCVs in German forests. Indicator 2.1.2 addresses how forest management activities and external pressures can threaten and impact these identified values. Policies and laws German forest and nature conservation law contains several safeguards intended to limit negative impacts on biodiversity once key values have been identified. The Federal Forest Act (BWaldG) requires sustainable management for all forests and explicitly obliges owners to maintain forest functions and consider the forest as an ecosystem when planning and conducting operations. Clear-felling and forest conversion are generally subject to authorisation under federal and state forest acts (Landeswaldgesetze), especially where they may lead to substantial changes in stand structure or land use. Protection forests under §12 BWaldG – which safeguard soils, slopes, water regimes and settlements – are a specific category where management must prioritise protective functions and avoid erosion, desiccation and damaging run-off. The Federal Nature Conservation Act (BNatSchG) is the core law governing species and habitat protection. It prohibits significant deterioration or destruction of specially protected biotopes (Article 30), many of which are forest habitats such as bog woodlands, swamp and marsh forests and species-rich riparian forests. Strictly protected species and many red-listed species are subject to prohibitions on killing, disturbance, nest destruction and habitat damage (Articles 44 ff.). These provisions are reinforced by seasonal restrictions: during the breeding season (typically March–September) many activities that may disturb nesting red-listed birds are restricted or subject to conditions. The EU Habitats Directive and Birds Directive, implemented through BNatSchG, impose a “no deterioration” requirement on Natura 2000 sites.

	Any plan or project likely to have a significant effect on a Special Area of Conservation (SAC) or Special Protection Area (SPA) must undergo an appropriate assessment (§§33–34 BNatSchG). Forest operations that could affect Annex I forest habitat types or the habitats of Annex II and Annex I bird species must therefore be planned and executed to avoid adverse impacts on conservation objectives. The Environmental Impact Assessment Act (UVPG) requires environmental impact assessments for certain larger forestry projects (for example, large clear-cuts or infrastructure in forest areas). These EIAs must evaluate effects on ecosystems, species and protected habitats and propose mitigation measures. However, many routine forestry activities remain below the EIA thresholds and are therefore not systematically assessed through this instrument. National and EU strategies recognise external pressures as major drivers of impact. The Forest Strategy 2020 and the National Biodiversity Strategy highlight air pollution, nitrogen deposition and climate change as key threats to forest biodiversity and set goals for emission reduction, habitat restoration and the expansion of unmanaged forest areas. Red List assessments of forest habitats (Heinze et al.) indicate that around 69.5% of forest habitat types in Germany remain threatened, largely due to intensive land use, forestry practices and external pressures. EU Article-17 reporting shows that seven of the 35 Annex I forest habitat types are assessed as “unfavourable – bad” in at least one biogeographical region, including oak–hornbeam forests, old acidophilous oak woods on sandy plains, bog woodlands, alluvial forests with alder and ash, riparian mixed oak–elm–ash forests and specific pine forests. These habitats are precisely those where inappropriate harvesting – particularly of oak, hornbeam, ash, elm and pine stemwood – can exacerbate already poor conservation status. Relevant institutes and law enforcement Several institutions are responsible for translating these legal safeguards into practical protection against damaging impacts. The Federal Ministry of Food and Agriculture (BMEL) sets the national forestry framework and coordinates the National Forest Inventory (Bundeswaldinventur, BWI) under Article 41a BWaldG. This provides a basis for evaluating trends and potential impacts of management on HCVs at national level. Additional monitoring instruments, such as the Forest Condition Survey and forest soil surveys, track forest health, nutrient status and pollution effects. The Federal Agency for Nature Conservation (BfN) is the central expert authority for nature conservation and biodiversity. It oversees Red Lists of species and habitats, coordinates national biodiversity monitoring, provides guidelines on forest biodiversity (including indicators such as deadwood, old stands, indigenous species, fragmentation and endangered species) and reports on the status of Annex I habitats. BfN’s assessments provide the main scientific basis for judging whether forest management and other pressures are moving key habitats towards or away from favourable conservation status.

	At regional level, State Forestry Authorities (Forstbehörden) and forest supervisory services (Forstaufsicht) oversee forest management practices, review management plans where they are obligatory, and inspect operations. They are responsible for enforcing BWaldG and Landeswaldgesetze, including provisions on protection forests and restrictions on clear-felling. State Environmental Agencies (Landesumweltämter) and Lower Nature Conservation Authorities (Untere Naturschutzbehörden) enforce BNatSchG at regional and local level. They regulate activities in protected areas, assess forest-related projects that may require EIAs or appropriate assessments, and can impose operational restrictions (for example, timing limits during breeding seasons or buffer zones along watercourses). For Natura 2000 sites, Länder authorities are responsible for drawing up and implementing management plans and for carrying out appropriate assessments. Non-governmental organisations such as NABU, BUND, Deutsche Umwelthilfe, Robin Wood, Greenpeace and WWF systematically review forest operations and conservation outcomes. They document cases where nature conservation law appears to be violated, submit complaints to authorities, and bring lawsuits relating to forest operations in protected areas or alleged breaches of species protection rules. Their activities show that parts of the enforcement system rely on external reporting to identify problematic operations, especially in small private forests where state inspections are less frequent. Forest owner cooperatives and advisory services (Forstbetriebsgemeinschaften, Waldbesitzerverbände and advisory services of Landesforsten or Landwirtschaftskammern) play an intermediate role for private forests. They support owners in planning and conducting harvesting, pool timber sales and help align operations with legal requirements and funding programmes. However, participation is voluntary and coverage is not complete; some small owners operate largely outside these advisory frameworks. Performance in practice and critical reviews Despite robust legal and institutional frameworks, several threat pathways and implementation gaps are evident in practice, particularly in small, uncertified private forests and in habitats already in poor condition. Many forest operations, especially in small and fragmented private holdings, take place without formal management plans and below thresholds that would trigger an EIA or a detailed appropriate assessment. Small private owners (often with holdings below roughly 30–100 ha) are typically not obliged to prepare Forsteinrichtung plans and may carry out harvesting based on ad hoc decisions, though they remain fully subject to forest and nature conservation law. In the absence of standardised pre-harvest biodiversity checks, identification of HCVs at the level of individual harvest plots depends heavily on the awareness and experience of owners and contractors and on occasional inspections by authorities. Habitat removal and degradation: Felling in Annex I forest habitats or red-listed forest biotopes can reduce the area and quality of already threatened

	habitat types, many of which are assessed as “unfavourable – bad”. Removal of large oak, hornbeam, ash, elm or pine stemwood can eliminate veteran trees, cavity trees and other microhabitat-rich individuals that are crucial for saproxylic insects, bats, woodpeckers, lichens and bryophytes. Habitat fragmentation and edge effects: Unsuitably located or oversized openings, dense networks of skid trails and the construction or upgrading of forest roads can fragment habitat complexes, increase edge effects and isolate populations of sensitive species. This is particularly relevant for larger forest mosaics and SAC complexes, where maintenance of structural connectivity is essential to retain viable populations. Soil and water impacts: Use of heavy machinery under wet conditions can cause compaction and deep rutting, altering soil structure, infiltration and root conditions. On steep slopes and in erosion-prone areas, poorly planned skid trails and clearings accelerate surface run-off and erosion – precisely the impacts protection forests are meant to prevent. In riparian and alluvial forests, operations carried out too close to watercourses, without adequate buffer strips or regard for flood dynamics, can destabilise banks, increase sediment loads and damage the characteristic microhabitats of Annex I alluvial forest types. In bog woodlands and swamp forests, road construction or inadvertent drainage can lower water tables and trigger long-term degradation of these sensitive ecosystems. Non-native species, fertilisation and liming: Large-scale planting of non-native species, as well as excessive or poorly targeted fertilisation and liming, can change site conditions and species composition, especially in naturally nutrient-poor or acidic habitats that host rare plant communities. Lime or ash applied without regard to habitat sensitivity can damage specialised flora and soil organisms and reduce habitat suitability for characteristic HCV species. External factors significantly influence the conservation status of forest HCVs and interact with forest management impacts: Air pollution and nitrogen deposition affect trees, ground vegetation, mosses, lichens and soil processes. Nitrogen inputs from agriculture, traffic and energy production lead to eutrophication and acidification, favouring nitrophilous species and disadvantaging specialists of nutrient-poor habitats. Sensitive lichens and bryophytes are particularly affected. European air quality data show that although sulphur emissions and rainfall acidity have declined, nitrogen deposition remains high and PM2.5 levels still exceed WHO guidelines in many locations. In this context, even moderately intensive logging can have amplified impacts in already stressed ecosystems. Climate change is driving more frequent and severe droughts, storms, pest outbreaks and fires, which in turn result in extensive damage and large-scale salvage logging. Where salvage operations focus on maximal extraction of merchantable stemwood and give insufficient attention to biodiversity, surviving veteran trees and habitat trees in damaged landscapes may be removed, structural diversity is further reduced and soils are disturbed over large areas. This is particularly critical in remaining semi-natural stands and in HCV-rich pockets embedded within larger damaged areas. Wetlands, Ramsar sites and floodplain forests: for Germany’s 35 Ramsar sites, main reported threats include pollution, human disturbance, biological

	resource use, water regulation, agriculture and infrastructure. Many of these sites include or border floodplain and riparian forests that are important HCV areas. Much of the pressure arises from non-forest sectors (water engineering, agriculture, transport), but forest operations that do not respect hydrological constraints, buffer zones or seasonal restrictions can add to these impacts. National and regional programmes (for example, the “Blaues Band Deutschland” and river-basin restoration projects) are restoring floodplains and removing inappropriate tree cover in some areas, but the overall conservation status of many wetland-related forest habitats remains unfavourable. Implementation deficits in the Natura 2000 network are a central source of risk. Some SACs and SPAs still lack management plans; in others, plans exist but vary in quality and implementation is slow due to limited administrative capacity. The 2023 ECJ ruling confirmed that Germany had not fully designated all required SACs and had failed to set sufficiently detailed conservation objectives for many sites. In those areas, forest operations may proceed under general legal rules without a clear site-specific framework for avoiding deterioration of Annex I forest habitats and protected species. Enforcement structures exist, but capacity constraints limit their reach. Small private owners, who are often exempt from formal management plans or EIAs, must comply with forest and nature conservation law and are subject to random inspections by forest and nature conservation authorities. However, inspections are not systematic and can be delayed due to limited staffing. Environmental organisations have documented cases of logging during bird breeding seasons and other violations by small owners; related court cases demonstrate that breaches do occur, even if they represent a small proportion of total forest operations. Available information suggests that the main weaknesses lie in detection, prioritisation and follow-up in precisely those ownership categories where planning obligations are weakest. In small private forests, harvesting decisions can be shaped by economic considerations and limited specialist knowledge. Advisory services and cooperatives support many owners, but participation is not universal. Where owners operate without such support, pre-harvest identification of species, habitats and HCVs may be incomplete, and the associated assessment of threats and impacts on these values may be missing or only superficial. As a result, mitigation measures (retention of habitat trees, protection of microhabitats, timing restrictions) are not always applied consistently. This is particularly relevant in older mixed stands and in forests containing Annex I habitat fragments, where high-biodiversity value stems (oak, hornbeam, ash, elm, pine) can be removed without full recognition of their ecological importance and the consequences of their loss. In forests management, also in public forests (and protected areas) there can be tension between management objectives: either converting forests to increase resilience, or maintaining recognised HCV forest habitats (such as old beech forests).
Risk Rating	Specified Risk

Germany Whole country	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 enhanced.
Supply Base Verifiers	Legislation Bundeswaldgesetz (BWaldG) EU Birds Directive (2009/147/EC) EU Habitats Directive (92/43/EEC) Federal Forest Act (BWaldG) Federal Nature Conservation Act (BNatSchG) Federal Soil Protection Act (BBodSchG) State Forest Acts Water Resources Act (WHG) URLs Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BfN (Federal Agency for Nature Conservation) - Main Page www.bfn.de/en BfN (Federal Agency for Nature Conservation) - Natura 2000 Areas www.bfn.de/natura-2000-gebiete BfN (Federal Agency for Nature Conservation) - Privately Protected Areas www.bfn.de/en/privately-protected-areas Biodiversity Information System for Europe (BISE) - Germany https://biodiversity.europa.eu/ BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMEL Home www.bmel.de/EN/Home/home_node.html BMEL - Forest Strategy 2020 www.bmel.de/EN/topics/forests/forests-in-germany/forest-strategy-2020.html BMBF (Federal Ministry of Education and Research) - Biodiversity www.bmbf.de/bmbf/en/research/environment-and-climate/biodiversity/biodiversity_node.html BNatSchG (Federal Nature Conservation Act) www.gesetze-im-internet.de/bnatschg_2009/ BUND (Bund für Umwelt und Naturschutz Deutschland) - Main Page www.bund.net Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html CITES Germany Profile

	https://cites.org/eng/parties/country-profiles/de DBU (Deutsche Bundesstiftung Umwelt) - Naturerbe www.dbu.de/naturerbe/ DW - EU takes Germany to court for breaching environment laws www.dw.com/en/eu-takes-germany-to-court-for-breaching-environment-laws/a-56614385 DW - Germany violated nature conservation law, rules EU top court www.dw.com/en/germany-violated-nature-conservation-law-rules-eu-top-court/a-66882782 EEA (European Environment Agency) - European Protected Areas (Interactive Map) www.eea.europa.eu/data-and-maps/explore-interactive-maps/european-protected-areas-1 Eionet (European Topic Centre on Biological Diversity) - Article 17 Reporting (Germany Habitats) https://www.eionet.europa.eu/etcs/etc-be/activities/reporting/article-17/outcomes-2001-2006 Forstpraxis - Ein Gutachten bestätigt: Das neue Bundeswaldgesetz ist verfassungswidrig www.forstpraxis.de/ein-gutachten-bestaetigt-das-neue-bundeswaldgesetz-ist-verfassungswidrig-22700 General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species GeoPortal.de - Protected Area Search www.geoportal.de/search.html?q=protected%20area German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ Gesetze im Internet (Law Portal) www.gesetze-im-internet.de/index.html HCV Network - Main Page www.hcvnetwork.org/ Holz-Zentralblatt - Aktuelles https://holz-zentralblatt.de/aktuelles/ HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html IUCN Red List of Threatened Species www.iucnredlist.org IUCN Red List Publication - Threatened Species in Europe https://portals.iucn.org/library/node/51460 Landgericht (Regional Court) – Wikipedia https://de.wikipedia.org/wiki/Landgericht Lutreola - Biodiversity in Germany Report https://lutreola.org/wp-content/uploads/2013/05/alemania.pdf Waldmonitor Deutschland https://map3d.remote-sensing-solutions.de/waldmonitor-deutschland/#%20(Waldmonitor%20Deutschland)

	NABU (Nature And Biodiversity Conservation Union) - Main Page https://en.nabu.de/ NABU - Ein neues und zukunftsfähiges Bundeswaldgesetz ist überfällig www.bund.net/service/presse/pressemitteilungen/detail/news/ein-neues-und-zukunftsfaehiges-bundeswaldgesetz-ist-ueberfaellig-1/ Natura 2000 - Countries View https://natura2000.eea.europa.eu/? Naturwald Akademie - Privatwald / Waldumbau / PNV Details https://naturwald-akademie.org/beratung/privatwald/waldumbau/pnv-details/ Nature Conservation Research Article (Pensoft) https://natureconservation.pensoft.net/article/50656/ NW-FVA (Nordwestdeutsche Forstliche Versuchsanstalt) - Main Page www.nw-fva.de/ Protected Planet - Country Profile Germany (DEU) www.protectedplanet.net/country/DEU Ramsar Convention - Country Profile Germany www.ramsar.org/country-profile/germany Ramsar Sites Information Service - Search Germany https://rsis.ramsar.org/ Species+ https://www.speciesplus.net// Statistical Office Germany - Sustainable Development Indicators www.destatis.de/EN/Themes/Society-Environment/Sustainable-Development-Indicators/Publications/Downloads/indicator-report-0230002219004.pdf?__blob=publicationFile The world needs forests - Germany's forest action plan for sustainable development https://www.bmz.de/resource/blob/23678/a2dffcf2e79abfb1d73e3cd0ed09de88/materialie283-forest-action-plan-data.pdf Thünen Institute EUTR Coverage www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Thünen Institute Publication https://literatur.thuenen.de/digbib_extern/dn058648.pdf UNDRIP (UN Declaration on Rights of Indigenous Peoples) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf UNESCO - Biosphere Reserves Germany www.unesco.de/en/culture-and-nature/biosphere-reserves/biosphere-reserves-germany UNESCO - Countries Germany www.unesco.org/en/countries/de University Jena - Forest Biodiversity Monitoring www.monitoringzentrum.de/en

	Waldschutz (Forest Protection) – Wikipedia https://de.wikipedia.org/wiki/Waldschutz Waldeigentümer (Forest Owners Association) www.waldeigentuemer.de/author/agdwadmin/page/3/ Wikipedia - List of National Parks of Germany https://en.wikipedia.org/wiki/List_of_national_parks_of_Germany
Risk Rating justification	See also indicator 2.1.1 (identification of biodiversity values) and the analysis under indicator 2.1.2 (identification and evaluation of threats and impacts). Policies and laws Germany's legal and policy framework explicitly requires the maintenance and enhancement of conservation values in forests, but a favourable conservation status is not always achieved in practice. The Federal Forest Act (Bundeswaldgesetz, BWaldG) and the State Forest Acts (Landeswaldgesetze) form the core of forest management regulation. They require sustainable forest management, protect forests against improper treatment, overuse and land loss, oblige reforestation of bare areas and require forest owners to consider forest ecosystem functions (including HCV 1, 3 and 4) in management and site planning (Forsteinrichtung). The Federal Forest Act mandates inventories and planning that take ecological values into account before logging, and harvesting in protection forests (Schutzwald) is only permitted where it supports protective functions such as erosion control and water protection, in interaction with the Federal Soil Protection Act (Bundesbodenschutzgesetz, BBodSchG) and the Water Resources Act (Wasserhaushaltsgesetz, WHG). The Federal Nature Conservation Act (BNatSchG) complements this by requiring the protection and maintenance of species (HCV 1) and habitats (HCV 3), including specially protected biotopes, old-growth stands and wetlands, and by transposing the EU Habitats and Birds Directives. Through these directives and Natura 2000, Germany is legally bound to maintain or restore listed habitats and species to a favourable conservation status, including through site-specific conservation measures and seasonal restrictions (for example protection of red-listed breeding birds between March and September). For larger forestry projects, the Environmental Impact Assessment Act (UVPG) requires environmental impact assessments that include evaluation of potential impacts on habitats and species and mitigation measures. National strategies and monitoring programmes embed these legal requirements into forest management practice. The National Strategy for Biodiversity (NBS), the National Sustainability Strategy and the Forest Strategy 2020 all emphasise multifunctionality, biodiversity conservation, climate adaptation and reduction of pollution pressures (including air pollutants and nitrogen deposition). Forest Strategy 2020 explicitly calls for further reductions in emissions of acidifying and eutrophying pollutants and focuses on safeguarding forest ecosystem functions under changing climatic and pollution regimes. The Federal Agency for Nature Conservation (BfN) uses Red Lists of species and habitats, together with regular updates on habitat threat status, to set

	priorities for maintaining and improving conservation values. The Federal Forest Inventories (Bundeswaldinventuren) provide trend data on forest structure, including the development of deadwood, habitat trees, stand age and naturalness of tree species composition; results from recent inventories show that structural elements important for biodiversity have increased in many regions. Forest biodiversity monitoring schemes, coordinated by the National Monitoring Centre for Biodiversity and research institutions, and DIN-based guidelines for habitat and species monitoring, link these data back to management practice. Together they form a feedback system that is used to evaluate whether existing management measures are effectively maintaining and enhancing key species, habitats and other HCVs and to adjust management where necessary. On the ground, the prevailing silvicultural approach in Germany is close-to-nature forestry (naturnahe Waldwirtschaft), which aims to maintain structurally rich, mixed-species forests, minimise clear-cuts and favour natural regeneration. The National Forest Inventory documents that natural regeneration now accounts for about 90% of young stands and that the share of near-natural tree species composition has increased, especially in beech-dominated forests. The proportion of older stands has grown; a significant area now has trees older than 100 or 120 years. Targeted retention of deadwood and habitat trees has measurably increased deadwood volumes and the number of trees with microhabitats relevant for many red-listed species and sensitive forest biotopes. In protected areas and zones, management is adjusted or forest use is reduced to maintain or enhance conservation values. In national parks, strict reserves and many biosphere reserve core zones, forests are left to natural processes with minimal intervention, creating wilderness areas (Wildnisgebiete) that support late-successional species and habitat types and serve as reference systems. In Natura 2000 sites and other conservation areas where management continues, state authorities prepare or coordinate management plans that define conservation objectives for Annex I habitats and species, translate them into concrete forestry prescriptions (for example no deterioration of Annex I forest habitat types, expansion of native tree species, retention of old stands and deadwood, protection of riparian strips and bogs) and use contractual nature conservation and compensation measures to support implementation. Not all sites have plans or dedicated management bodies, but planning coverage and implementation are increasing, and Natura 2000 requirements are progressively integrated into forest management instructions. Financial instruments support management that maintains and enhances HCVs. The programme for climate-adapted forest management provides significant subsidies to private and municipal forest owners who commit to criteria such as mixed species composition, natural regeneration, retention of habitat trees and deadwood, and strong protection of watercourses. Several million euros have been disbursed for projects covering well over a million hectares, and similar funding volumes are envisaged for the coming years. Other federal and state programmes support conversion of conifer monocultures into mixed stands, restoration of swamp and bog forests, and

	the creation of set-aside areas (for example the aim to designate around 5% of forest area as non-intervention forest). Certification systems (FSC, PEFC) provide an important additional control layer for maintaining and enhancing HCVs in the certified part of the forest area. Both schemes require the identification of HCVs at management-unit level, the protection or restoration of rare habitats, retention of habitat trees and deadwood, protection of watercourses, restrictions on clear-cutting and explicit consideration of threatened species and habitats. Relevant institutes and law enforcement The Federal Ministry of Food and Agriculture (BMEL) sets national forest policy; the Länder are responsible for implementing forest and conservation law through their Landeswaldgesetze and state nature conservation legislation. Forestry Authorities (Forstbehörden) and forest supervisory services (Forstaufsicht) oversee forest operations, check compliance with forest and conservation laws, review management plans and can impose sanctions where requirements are not met. State Environmental Agencies (Landesumweltämter) and Lower Nature Conservation Authorities (Untere Naturschutzbehörden) regulate activities that may affect protected species and habitats, including seasonal restrictions and conditions on logging in or near protected areas. They also participate in, or lead, the preparation of management plans for Natura 2000 sites and other protected areas, with a view to maintaining and improving conservation status. The Federal Agency for Nature Conservation (BfN) coordinates biodiversity monitoring, maintains Red Lists and issues concrete guidance on management elements – such as minimum deadwood levels, retention and ageing of stands, and the use of indigenous tree species – that are intended to actively enhance conservation values in managed forests. The Thünen Institute and other research institutions use data from the National Forest Inventory and the Forest Condition Survey to assess how current silvicultural practices affect these elements and to develop recommendations for adapting thinning regimes, species mixtures and regeneration methods. In this way, monitoring results are translated into practical management instructions and funding criteria that support the maintenance and improvement of key species, habitats and other HCVs in operational forestry. Forest management planning (Forsteinrichtung) and forest function mapping (Waldfunktionskartierung) operationalise conservation obligations at stand and landscape level. Medium-term planning, mandatory in public forests and in larger private forests, integrates information on protected areas, protected biotopes, water protection zones, recreation forests and cultural heritage sites. It specifies harvesting levels, regeneration methods, silvicultural interventions and constraints arising from protection and conservation objectives. Forest function maps identify protection, utility and recreation functions and, in some Länder, also soil and cultural heritage values; this influences road placement, choice of harvesting systems and the intensity and timing of operations. In protection forests and water catchment protection zones, management is restricted to measures that support protective

	functions and in immediate water protection zones most activities are prohibited except for water infrastructure operation and maintenance. Private owners' administrations and forest owner cooperatives support implementation of biodiversity-related requirements in the fragmented private forest sector. Advisory services, often provided by state forest services or agricultural chambers, help small owners interpret legal obligations, apply close-to-nature silviculture, retain habitat structures and access funding programmes (such as climate-adapted forest management). Judicial and EU-level oversight (European Commission infringement procedures, ECJ judgments) and NGO litigation have forced improvements in the designation and management of Natura 2000 sites and continue to push for stricter implementation, including calls for mandatory management plans for all sites and clearer restrictions on clear-cutting. NGOs such as NABU, BUND and others use monitoring, public campaigns and court actions to highlight cases where conservation values may be compromised and demand corrective measures. Performance in practice and critical reviews Critical reviews highlight that this framework is not fully effective everywhere. Nearly half of Germany's forests are privately owned, often in small parcels; many small private owners (below typical thresholds of 30–100 ha) are exempt from formal management planning and EIAs. Advisory services and cooperatives provide support, but not all owners participate. Enforcement capacity is uneven between the regions, and random inspections can be delayed. NGOs report cases of violations, such as logging during the breeding season of protected species or inadequate consideration of sensitive habitats in small private forests. Monitoring shows improvements in deadwood, habitat trees and management of certain forest types, but Red List data indicate that a large share of forest habitats remains threatened. This means that legal and policy instruments aimed at maintenance and enhancement are partly effective (for example in beech forests and structurally improved stands), but have not reversed overall habitat-level risk. The ECJ ruling in 2023 confirmed that Germany had failed to fully implement requirements of the Habitats Directive, including complete designation and the setting of detailed conservation objectives in many Natura 2000 sites. In practice, this implies that in a considerable number of forest Natura 2000 sites there is still no fully operational, site-specific framework for improving conservation status. Where conservation objectives and targeted forestry prescriptions are lacking or delayed, forest operations – including biomass harvesting – may follow generic rules without fully addressing the measures needed to maintain or enhance Annex I forest habitats and associated species. Natural regeneration and the trend towards more mixed and near-natural stands increase resilience and create better conditions for many forest species. Non-intervention areas in national parks, strict reserves and parts of biosphere reserves provide reference conditions and secure long-term habitat continuity for late-successional and disturbance-sensitive species. Where

	management plans for Natura 2000 sites are in place and adequately implemented, there is evidence that targeted measures (for example expansion of native deciduous species, restoration of alluvial forests, recovery of swamp and bog forests) contribute to stabilising or improving conservation status at site level. Certification further strengthens this positive development where it is applied. FSC and PEFC requirements on HCV identification, retention of key structures, limits on clear-cutting and explicit biodiversity objectives in management planning tend to raise the standard above legal minimum requirements.
Risk Rating	Specified Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation Federal Building Code (BauGB) Federal Forest Act (BWaldG) Federal Nature Conservation Act (BNatSchG) GAP-Direktzahlungs-Verordnung (GAPDZV) Habitat Directive (EU) Renewable Energy Act (EEG) Renewable Energy Directive (RED) State Forest Acts URLs Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMEL Home www.bmel.de/EN/Home/home_node.html BNatSchG (Federal Nature Conservation Act) www.gesetze-im-internet.de/bnatschg_2009/ Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html CITES Germany Profile

	https://cites.org/eng/parties/country-profiles/de Econstor - Thünen Working Paper 141a (Poplar Commission 2004) www.econstor.eu/bitstream/10419/215839/1/ThuenenWorkingPaper-141a.pdf FAO - Global Forest Resources Assessment 2020 – Germany www.fao.org/interactive/forest-resources-assessment/2020/en FAO - FRA 2020 Terms and Definitions https://openknowledge.fao.org/server/api/core/bitstreams/b8588141-46fb-48fa-922e-45a364c31b49/content General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ Gesetze im Internet (Law Portal) www.gesetze-im-internet.de/index.html HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html Landgericht (Regional Court) – Wikipedia https://de.wikipedia.org/wiki/Landgericht Species+ https://www.speciesplus.net// Thünen Institute EUTR Coverage www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Thünen Institute Publication (literatur.thuenen.de - dk042568.pdf) https://literatur.thuenen.de/digbib_extern/dk042568.pdf Thünen Institute Publication (literatur.thuenen.de - dn068120.pdf) https://literatur.thuenen.de/digbib_extern/dn068120.pdf Thünen Institute Publication (literatur.thuenen.de) https://literatur.thuenen.de/digbib_extern/dn058648.pdf UNDRIP (UN Declaration on Rights of Indigenous Peoples) https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf Waldschutz (Forest Protection) – Wikipedia https://de.wikipedia.org/wiki/Waldschutz
Risk Rating justification	For main aspects related to land use, federal and regional legislation, and law enforcement, see also indicators 1.1.1 (legislation feedstock sourcing and biomass production) and 2.2.3 (management of soil quality). The question here is whether feedstock could come from land that in January 2008 was forest, wetland, peatland or highly biodiverse grassland and has since been converted. Applicable Laws, Regulations, and Policy Frameworks

	The Federal Forest Act (Bundeswaldgesetz, BWaldG) and the State Forest Acts (Landeswaldgesetze) jointly prioritise the permanent preservation of forest area. Across the Länder (e.g. Berlin §6, Bavaria §9, Brandenburg §8), conversion of forest to other land uses is only permitted in exceptional, formally authorised cases. Clear-felling or clearing that would change land use or cause significant fragmentation requires prior authorisation; unauthorised conversion constitutes an offence. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) adds a no-deterioration obligation for protected forest habitats (Natura 2000, legally protected biotopes), so that forest areas designated as habitats of Community interest cannot be converted without a Natura 2000 appropriate assessment and explicit approval. The Act on Forest Reproductive Material (Forstvermehrungsgutgesetz, FoVG) regulates seeds and planting material, including for short-rotation systems, and aims to preserve genetic diversity and forest health. It applies also to short rotation coppice (SRC) and agroforestry sites where tree species are grown for wood production on agricultural land, reinforcing that these systems are treated as forestry in biological terms but as agricultural land use in legal and planning terms. With the 2010 amendment of the BWaldG, SRC plantations and agroforestry plots with rotation times up to 20 years, established outside forest, are explicitly not classified as forest. Their establishment therefore does not require forest conversion or afforestation authorisation, and they can be reconverted to other agricultural uses without a clearing permit. This is designed to keep woody biomass production on existing agricultural land, not to incentivise clearing of forests. In practice, SRC area is very small and stagnant (about 6,600 ha), and is recognised as eligible permanent crop under the Common Agricultural Policy (GAP-Direktzahlungs-Verordnung, GAPDZV) only for a limited list of species (Salix, Populus, Betula, Alnus, Fraxinus excelsior, Quercus robur, Q. petraea; not Robinia or Quercus rubra for new SRC from 2022). FAO's Forest Resources Assessment 2020 notes that plantation forest, in the strict sense of intensively managed single- or two-species, single-age, regularly spaced stands, is considered absent in Germany. Planted forests do exist (~5.7 million ha, largely historical post-war reforestation), but are not "plantations" in the FAO sense; conversion of semi-natural forest to plantation forest for biomass is therefore not an ongoing trend. Natural regeneration dominates regeneration in Germany (planting around 13% of young stock). Forest policy (close-to-nature forestry, naturnahe Waldwirtschaft) and the Forest Strategy 2020 favour mixed, structurally rich forests and discourage new monoculture plantations. Together with strict conversion rules, this framework strongly limits any forest-to-plantation land-use change after 2008. Wetlands and peatlands are primarily protected under the Federal Nature Conservation Act (BNatSchG). Article 30 lists "specially protected biotopes", which include many wetland types; their destruction or significant impairment is prohibited. Articles 33–34 transpose the EU Habitats Directive and Birds Directive, requiring a Natura 2000 appropriate assessment and a no-

	deterioration test for plans and projects that could affect designated sites, including many peatlands and floodplains. The National Peatland Protection Strategy (Nationale Moorschutzstrategie, 2022) recognises peatlands (~1.8 million ha, about 5% of the territory) as critical ecosystems that currently emit around 53 million tonnes CO_2eq per year because over 90% have been historically drained (mainly for agriculture, partly for forestry). The strategy's goal is to reduce emissions by rewetting agricultural and formerly forested peatlands and to stop further damaging conversion and drainage. Independent assessments confirm that current pressures on peatlands and wetlands are dominated by: legacy drainage and agricultural water management; nutrient enrichment (eutrophication); urbanisation and infrastructure, and climate effects (drought, fire risk). They also conclude that new drainage systems and afforestation are not relevant current threats to peatlands. Recent policy is focused on rewetting and restoring hydrology rather than on conversion for biomass. Under EU and national planning law, projects in or near wetlands and peatlands are screened through: the Environmental Impact Assessment Act (UVPG), and the Natura 2000 appropriate assessment under §34 BNatSchG. Afforestation or planting that could affect wetland or peatland habitats is constrained or refused in these procedures. In practice, several floodplain plantations have been removed to restore wetland function (for example along the Große Nister, where 21 ha of floodplain were taken out of intensive use and allowed to revert to wet habitats). Under the reformed CAP (2023–2027), GAEC 2 introduces a specific conditionality requirement to protect wetlands and peatlands on agricultural land, making direct payments conditional on avoiding damaging conversion or drainage of organic soils. Although GAEC 2 implementation has been delayed and includes derogations, it still reinforces the legal and economic disincentives for new drainage or conversion of peatlands after 2008. Annex I grassland habitats in Germany are generally assessed as "unfavourable", especially in the Continental region, with key pressures from agricultural intensification, nutrient enrichment, drainage, and land abandonment leading to scrub encroachment. These trends are driven by agriculture, not by woody biomass sourcing. Germany's highly biodiverse grasslands are safeguarded primarily through BNatSchG §30 (legally protected biotopes), §§33–34 (Natura 2000 no-deterioration and appropriate assessment), and CAP rules on permanent grassland, which together tightly restrict conversion and subject any proposed land-use change to authorisation and nature-conservation screening. Where woody biomass is taken from Annex I grasslands, it is generally limited by these same provisions (including §44 species-protection bans) to shrub and scrub removal as part of restoration or conservation management, rather than conversion to woody biomass plantations. Overall, federal and EU law (including the Renewable Energy Directive sustainability criteria as implemented in national law) explicitly prohibit sourcing biomass from land that was forest, wetland, peatland or highly biodiverse grassland in January 2008 and has since been converted.

	Identification of Institutional Roles and Oversight Functions State Forestry Authorities (Forstbehörden) and forest supervisory services (Forstaufsicht) implement the BWaldG and Landeswaldgesetze. They process all applications for forest conversion and larger clear-fellings, check that conversion is justified and legally permissible, and ensure that clear-cutting does not lead to unapproved land-use change. State Nature Conservation Authorities and Lower Nature Conservation Authorities (Untere Naturschutzbehörden) implement the BNatSchG at regional and local levels. They are responsible for protecting wetlands, peatlands and highly biodiverse grasslands, and for conducting or supervising Natura 2000 appropriate assessments and biotope protection decisions. State Environmental Agencies (Landesumweltämter) are responsible for environmental impact assessment (UVPG) and for integrating water, soil and nature-conservation considerations into land-use planning and project approvals. Municipal planning authorities apply the Federal Building Code (Baugesetzbuch, BauGB) in land-use plans and building permits, ensuring that designated conservation areas, wetlands, and floodplains are not converted without proper assessment and legal justification. The Federal Ministry of Food and Agriculture (BMEL) sets national forest policy, chairs the National Poplar Commission and oversees the National Forest Inventory (Bundeswaldinventur) and related research by the Thünen Institute, which provides detailed data on forest structure, planted vs. naturally regenerated areas, and the extent of fast-growing species and SRC. The Federal Agency for Nature Conservation (Bundesamt für Naturschutz, BfN) develops Red Lists, coordinates biodiversity and habitat monitoring, supports implementation of the Peatland Protection Strategy and wetland restoration programmes (e.g. Blue Belt), and provides expert input to Natura 2000 and biotope protection decisions. CAP-related authorities at federal and Länder level implement GAEC 2 and permanent grassland rules, linking direct payments to maintenance of wetlands, peatlands and grasslands. Environmental NGOs such as BUND, NABU, and others actively monitor forest, wetland and grassland management, review conversion and afforestation projects, and bring legal challenges where they detect violations of forest or nature-conservation law. Their litigation has led to stricter application of Natura 2000 rules and to the removal or modification of projects that would have degraded peatlands, wetlands or protected grasslands. This multi-layered institutional system provides both ex-ante control (authorisation and assessment requirements) and ex-post enforcement (inspections, sanctions, and NGO litigation) against illegal conversion of forests, wetlands, peatlands and highly biodiverse grasslands. Analysis of Practical Performance by Minimum and Typical Actors The National Forest Inventory and FAO assessments indicate that although half of Germany's forest is "planted" (largely historical), "plantation forest" is absent in the FAO sense. There is no trend to convert semi-natural forest into

	new plantation forest for biomass. Natural regeneration now dominates regeneration, with planting declining and primarily used for diversification and climate adaptation rather than for creating even-aged monocultures. Research and stakeholder interest in high-growth cultivars (poplar, willow, black locust, hybrid larch) exist, but Thünen data show that these species occupy limited areas and that SRC area stagnates around 6,600 ha, with no wave of new plantations. A 2004 report of the National Poplar Commission already noted declining poplar planting due to low market demand, and recent reports confirm that no new poplar clones were approved between 2020–2023 and that cultivation is largely confined to SRC on agricultural land. Where fast-growing species are used in conventional forestry, they are typically integrated into existing forests within legal limits and not associated with conversion of forest to non-forest land. Approvals for forest conversion are rare, tightly controlled and, where allowed, usually linked to infrastructure or settlement, not to biomass plantations. Current peatland and wetland issues in Germany are caused by historic drainage and long-standing agricultural use, not by recent conversion. After 2008, the dominant policy trend has been to halt further deterioration and promote rewetting and restoration, not to convert additional wetland/peatland to other uses. Independent analyses show that new drainage and afforestation are no longer major drivers of peatland loss; instead, restoration programmes (Peatland Strategy, Blue Belt, river and floodplain restoration projects, Natura 2000 management) increasingly remove inappropriate tree cover and restore hydrology in floodplains and degraded peatlands. Some floodplain plantations have been actively removed to restore wetlands and meet conservation objectives, which is the opposite of conversion away from wetland status. CAP GAEC 2 and other conditionality rules now make damaging conversion and drainage of organic soils on farmland explicitly incompatible with receiving direct payments, further reducing incentives for new conversion. While Germany is behind schedule on large-scale rewetting (emission reductions from peatlands lag behind targets), this reflects a failure to restore historic damage, not ongoing conversion of wetlands or peatlands to biomass production after 2008. Annex I and other species-rich grasslands have continued to deteriorate in many regions, but the main drivers are: agricultural intensification (fertilisation, frequent mowing, reseeding); land conversion to arable, and abandonment leading to scrub encroachment. Forestry and biomass sourcing is not identified as a driver of grassland loss. Where woody biomass is harvested from grasslands, it is usually as part of restoration management (removal of encroaching shrubs and trees) rather than as conversion to plantation. Permanent grassland in Germany has declined by about 12% since 1991 and is currently around 4.7 million ha, but has been broadly stable in recent years. CAP rules (2014 “greening”, CAP 2023) restrict conversion of permanent grassland; several Länder prohibit or tightly control such conversion, and any

	proposed change undergoes nature-conservation and planning checks. In rare cases of afforestation on grassland, appropriate assessments and authorisation processes apply, especially where there is potential impact on protected habitats or species. Given these patterns, the likelihood that woody biomass feedstock is sourced from land that was highly biodiverse grassland in January 2008 and has since been converted is very low. While individual violations cannot be entirely excluded, there is no evidence of systematic conversion of valuable forests, wetlands, peatlands or highly biodiverse grasslands after 2008. Critical Review Based on Secondary Sources Secondary sources (FAO FRA 2020, Thünen reports, National Poplar Commission documents, national peatland and wetland strategies, CAP implementation reports, Natura 2000 Article-17 reports) provide a consistent picture; Germany has stable forest area, high levels of natural regeneration and no expansion of plantation forests for biomass. Planted forests are largely historical and increasingly managed towards more natural, mixed structures. The area under Short Rotation Coppice (SRC) remains small and static, used mainly on agricultural land, with no evidence of expansion into forest, wetland, peatland or highly biodiverse grassland after 2008. Germany's governance quality is high; illegal land conversion is detectable and prosecutable. Environmental NGOs and public interest litigation add further control, and planning and assessment procedures (UVPG, §34 BNatSchG, BauGB) systematically screen projects that could affect protected habitats. Taking the legal framework, institutional controls, data and independent assessments together, the risk that biomass used in the Supply Base originates from land that in January 2008 was forest, wetland, peatland or highly biodiverse grassland and has since lost that status due to land conversion is negligible.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.2.2	Ecosystems, their health, vitality, functions and services in the Supply Base shall be maintained or enhanced.
Supply Base Verifiers	Legislation Federal Climate Adaptation Act (2024) Federal Forest Act (BWaldG) Federal Soil Protection Act (BBodSchG) State Laws Water Resources Act (WHG) URLs

	Amtsgericht (Local Court) – Wikipedia https://de.wikipedia.org/wiki/Amtsgericht BD-R-2: Restoration of natural flood plains | Umweltbundesamt https://www.umweltbundesamt.de/en/monitoring-on-das/cluster/biodiversity/bd-r-2/indicator Better flood protection | IGB https://www.igb-berlin.de/en/news/better-flood-protection Belowground Biodiversity Relates Positively to Ecosystem Services of European Forests https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2019.00006/full BLE EUTR Reporting www.ble.de/SharedDocs/Downloads/DE/Wald-Holz/EUTR_Reporting-2022.html BLE Startseite www.ble.de/DE/Startseite/startseite_node.html BMEL Home www.bmel.de/EN/Home/home_node.html BMEL - Forest Management Sustainability Goals www.bmel.de/EN/topics/forests/forests-in-germany/forest-management-sustainability-goals.html BMEL - Forest Strategy 2020 www.bmel.de/EN/topics/forests/forests-in-germany/forest-strategy-2020.html BMEL - German Forests - Forests for Nature and People www.bmel.de/SharedDocs/Downloads/EN/Publications/german-forests.pdf?__blob=publicationFile&v=7 BMEL - Report Old Deciduous Forests www.bmel.de/SharedDocs/Downloads/EN/_Forests/report-old-deciduous-forests.pdf?__blob=publicationFile&v=3 BMEL - Waldzustandserhebung (Forest Condition Survey) German www.bmel.de/DE/themen/wald/wald-in-deutschland/waldzustandserhebung.html BNatSchG (Federal Nature Conservation Act) www.gesetze-im-internet.de/bnatschg_2009/ Bundesfinanzministerium (BMF) www.bundesfinanzministerium.de/Web/EN/Issues/Taxation/taxation.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg BZST (Federal Central Tax Office) www.bzst.de/EN/Home/home_node.html Challenges and Opportunities of Aligning Forest Function Mapping and the Ecosystem Service Concept in Germany - MDPI https://www.mdpi.com/1999-4907/9/11/691 CITES Germany Profile https://cites.org/eng/parties/country-profiles/de Climate adaptation strategies in Germany | Climate Adaptation Platform https://climateadaptationplatform.com/climate-adaptation-strategies-in-germany/

	Clean Energy Wire - German forests needed for climate action remain in poor condition www.cleanenergywire.org/news/german-forests-needed-climate-action-remain-poor-condition-report Continuous-cover forestry – the appropriate concept for climate change adaptation of forests in Germany? - ResearchGate https://www.researchgate.net/publication/389063084_Continuous-cover_forestry_-_the_appropriate_concept_for_climate_change_adaptation_of_forests_in_Germany Conference Forest Europe Ministerial Documents https://conference.foresteurope.org/ministerial-documents/ Eionet (European Topic Centre on Biological Diversity) - Article 17 Reporting (Germany Habitats) https://www.eionet.europa.eu/etcs/etc-be/activities/reporting/article-17/outcomes-2001-2006 Forest Condition Survey - Thünen-Institut https://www.thuenen.de/en/institutes/forest-ecosystems/fields-of-activity/soil-protection-and-forest-health/crown-condition-survey Climate change and forest adaptation - Thünen-Institut https://www.thuenen.de/en/fachinstitute/waldoekosysteme/projekte/wichtige-projekte/climate-change-and-forest-adaptation Forest management and Forest adaptation - Thünen-Institut https://www.thuenen.de/en/thuenen-topics/forest-management-and-wood-use Federal Climate Adaptation Act (Bundes-Klimaanpassungsgesetz) English www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Gesetze/kang_en_bf.pdf Forest Condition in Europe: The 2023 Assessment. ICP Forests Technical Report https://www.miteco.gob.es/content/dam/miteco/es/biodiversidad/temas/recursos-geneticos/ICPForests_TR2023_lowres.pdf Forest Condition in Europe: The 2021 Assessment. ICP Forests Technical Report https://www.icp-forests.org/pdf/ICPForests_TR2021.pdf Forest ecosystems vitality monitoring (ICP forests, Level I) - ResearchGate https://www.researchgate.net/publication/353391522_Forest_ecosystems_vitality_monitoring_ICP_forests_Level_I_with_special_emphasis_to_the_affected_part_of_the_sample_trees_in_the_Republic_of_Serbia Forests and forest management contribute to the Federal Government's sustainability goals https://www.bmleh.de/EN/topics/forests/forests-in-germany/forest-management-sustainability-goals.html Forstpraxis - Rettet die Buchen (Save the beeches) www.forstpraxis.de/rettet-die-buchen-farbanschlag-auf-forwarder-22782 General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ GENRES Rare Tree Species www.genres.de/en/sector-specific-portals/trees-and-shrubs/rare-tree-species

	German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html ICP Forests Brief No 5 - Tree health is deteriorating in the European forests https://icp-forests.org/pdf/ICPForestsBriefNo5.pdf Landgericht (Regional Court) – Wikipedia https://de.wikipedia.org/wiki/Landgericht Loss of vitality in German forests by municipalities https://bitapps.fi/2023-10-30-vitality-heat-map.html (PDF) Managing floodplain-forest restoration in European river landscapes https://www.researchgate.net/publication/223983664_Managing_floodplain-forest_restoration_in_European_river_landscapes_combining_ecological_and_flood-protection_issues (PDF) Review of the flood risk management system in Germany https://www.researchgate.net/publication/304573481_Review_of_the_flood_risk_management_system_in_Germany_after_the_major_flood_in_2013 SAFE – Sensitivity and Adaptation of Forests in Europe under Global Change https://www.umweltbundesamt.de/en/topics/climate-energy/climate-change-adaptation/adaptation-tools/project-catalog/safe-sensitivity-adaptation-of-forests-in-europe Species+ https://www.speciesplus.net// The Role of Forest Biodiversity in the Sustainable Use of Ecosystem Goods and Services in Agro-Forestry, Fisheries, and Forestry https://www.ffpri.go.jp/event/2010/20100426cbd-cop10/documents/proceedings.pdf Thünen Institute EUTR Coverage www.thuenen.de/en/thuenen-topics/markets-trade-certification/kontrolle-international-gehandelter-hoelzer-und-holzprodukte/90-percent-of-wood-imports-are-covered-by-the-eutr Thünen Institute EUTR Project www.thuenen.de/en/institutes/forestry/projects-1/the-european-timber-regulation-and-its-effects Thünen Institute Publication (literatur.thuenen.de) https://literatur.thuenen.de/digbib_extern/dn058648.pdf Thünen Institute Publication (Hitze, Hagel, Sturm) www.thuenen.de/media/ti/Newsroom/Presse/Pressemitteilungen/2015/2015-06-26/150626_HitzeHagelSturm.pdf UNDRIP (UN Declaration on Rights of Indigenous Peoples) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf Umweltbundesamt (UBA) - Flood prevention https://www.umweltbundesamt.de/en/topics/water/extreme-events-climate-change/floods/flood-prevention Umweltbundesamt (UBA) - Main Page www.umweltbundesamt.de/ Umweltbundesamt (UBA) - Monitoring Report 2023

	www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/das-monitoringbericht_2023_bf_korr.pdf Umweltbundesamt (UBA) - Zukunftsfähiger Wald (Sustainable Forest) www.umweltbundesamt.de/themen/zukunftsfaehiger-wald-nachhaltige-holznutzung
Risk Rating justification	This indicator should be read together with indicators 1.1.1 (legislation on feedstock sourcing and biomass production), 2.1.1 (identifying biodiversity), and 2.1.2 (evaluating threats and impacts). Here the focus is specifically on whether the legal and policy framework requires the maintenance and enhancement of forest ecosystem services, and how this plays out in practice. Policies and laws Forest ecosystem services in Germany cover the full spectrum of supporting, provisioning, cultural and regulating functions. Supporting services include nutrient cycling, soil formation, habitat provision, biodiversity, stability and resilience. Provisioning services comprise timber, pulpwood, energy wood, non-wood forest products such as berries and mushrooms, game and, very importantly, drinking water. Cultural services cover recreation, tourism, health and well-being, aesthetic landscape values, and forests as barriers against visual and noise pollution or as filters for air pollutants. Regulating services include protection against storms and heavy rain, mitigation of floods and erosion, landslide prevention, regulation of ground and surface water quantity and quality, natural pest and disease control, carbon sequestration and microclimate regulation, for instance cooling during heat waves. The Federal Forest Act (Bundeswaldgesetz, BWaldG) and the state forest laws (Landeswaldgesetze) provide the core legal mandate. They define the functions of forests in terms of use, protection and recreation. Through forest function mapping, the protection and recreation functions are spatially identified: water protection forests, soil protection forests, forests protecting against erosion and floods, forests important for recreation and for nature and landscape conservation, and forests serving as gene reserves or wildlife habitat. This mapping embeds ecosystem services directly in forest planning and administration. It does not explicitly list all services, such as timber production, non-timber products, hunting or forests as carbon sinks, but it provides the legal hooks for regulating the most sensitive supporting and regulating services. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) and implementing regulations complement this framework by protecting species, habitats and ecosystems which underpin biodiversity-related services. By designating nature reserves, national parks, biosphere reserves, Natura 2000 sites, protected biotopes and landscape elements, the Act seeks to maintain the ecological integrity of forest ecosystems, including their role in water regulation, soil protection and carbon storage. The transposition of the EU Habitats and Birds Directives obliges Germany to maintain or restore listed habitats and species at favourable conservation status. This includes forest habitat types that are crucial for regulating services, such as alluvial forests, bog woodlands and riparian forests.

	The Water Resources Act (Wasserhaushaltsgesetz, WHG) and the Federal Soil Protection Act (Bundesbodenschutzgesetz, BBodSchG) create additional legal obligations to protect water and soil, both essential to regulating and supporting services. Water protection zones around drinking-water abstractions impose strict restrictions on forest operations or, in inner zones, effectively exclude them. Along rivers, the WHG underpins programmes such as the “Blue Ribbon” initiative, which reconnects rivers with their floodplains. This directly aims at restoring the natural flood-regulating functions of riparian forests and wetlands. Soil protection rules, combined with forest laws, are intended to prevent compaction and erosion that would degrade the forest’s capacity to regulate water and nutrients and to sustain long-term production. At policy level, the Forest Strategy 2020, the National Biodiversity Strategy and the German Strategy for Adaptation to Climate Change all explicitly recognise that forests must simultaneously provide wood, conserve biodiversity, store carbon, protect water and soils and provide recreation. The Forest Strategy 2020 identifies adaptation to climate change, conversion of vulnerable conifer monocultures to mixed, structurally rich forests and the conservation of old deciduous forests as key measures that improve both biodiversity and ecosystem resilience. The German Strategy for Adaptation to Climate Change and the Federal Climate Adaptation Act (Bundes-Klimaanpassungsgesetz), adopted in December 2023 and in force since July 2024, require federal and state authorities to systematically assess climate risks, plan adaptation measures and include ecosystem-based solutions such as forest and peatland restoration in their responses. Climate and adaptation policies therefore confirm, and reinforce, the legal mandate that forest ecosystem services must be maintained and, where possible, enhanced. At the level of laws and policies, the risk that this mandate is missing or unclear is low. Relevant institutes and law enforcement A dense network of institutions is responsible for translating this legal mandate into monitoring, guidance and, ultimately, enforcement, although coverage and effectiveness differ markedly between public forests and large enterprises on the one hand and small private forests on the other. The Federal Ministry of Food and Agriculture (BMEL) sets federal forest policy, develops strategies such as the Forest Strategy 2020 and coordinates national monitoring. In cooperation with the federal states, BMEL runs the Forest Condition Survey (Waldzustandserhebung, WZE), which annually assesses crown condition for a representative sample of roughly ten thousand trees of the main species. The survey records defoliation, crown transparency and damage symptoms and is designed to detect trends in forest health over time. BMEL also coordinates Germany’s contribution to the International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests), which provides more detailed data on deposition, soil conditions and tree nutrition. In parallel, the Federal Forest Inventories (Bundeswaldinventuren, BWI) are conducted approximately every ten years. These national inventories measure stand structure, tree species composition, growth, mortality,

	deadwood and forest area. Earlier inventories documented a long period of increasing growing stock and expanding carbon pools; the most recent inventory, however, shows that, in the wake of severe droughts and massive bark beetle outbreaks, timber stocks have decreased and the net carbon sink has weakened significantly (turning into a net source of CO_2). These are central indicators for the condition of supporting and regulating services. The Thünen Institute of Forest Ecosystems, an independent federal research institute under BMEL, analyses the data from BWI, WZE and ICP Forests and investigates the impacts of drought, heat, storms and pests on forest structure and function. It has repeatedly concluded that the current composition and management of large parts of the German forest, particularly homogeneous conifer stands, are not sufficiently robust under projected climate scenarios. The institute promotes adaptive forest management approaches such as continuous cover forestry, higher species and structural diversity, increased deadwood and the retention of old trees, and calls for these to be more consistently embedded in forest legislation, guidelines and practice. The Federal Environment Agency (Umweltbundesamt, UBA) monitors environmental pressures that affect forests, including air pollutants, nitrogen deposition and climate change, and coordinates the monitoring of the German Strategy for Adaptation to Climate Change. Its monitoring reports show that, although the importance of ecosystem-based adaptation is recognised and programmes exist for forest, peatland and floodplain restoration, implementation lags behind the scale of climate-related impacts. In the forest sector, UBA points to the need for more rapid conversion to climate-resilient structures and closer integration of forest management with water and flood risk management. State forest administrations (Landesforstverwaltungen) are responsible for implementing forest law, planning and enforcement within each Land. In public forests and larger private holdings, they oversee forest management planning, ensure that forest functions and protection designations are adequately incorporated into plans, and monitor compliance with reforestation requirements, protection of watercourses and soils, and sustainable harvesting limits. In these contexts, ecosystem services are explicitly considered in medium-term forest management plans and in operational guidelines. For small private forests the picture is different. Many small owners fall below the thresholds at which formal forest management plans or regular supervisory reviews are mandatory. They are legally bound by forest and conservation law, but they are not systematically required to prepare integrated plans that weigh ecosystem services against short-term economic benefits. Advisory services provided by state forest services, forest owner associations and private consultants can help small owners to understand climate risks and adapt their management, but participation is voluntary and varies widely. Some owners make intensive use of these services and of subsidies for climate-adapted forest management; others manage their forests only occasionally and with limited technical knowledge, primarily reacting to damage events or market signals.

	Municipalities and water authorities add another layer. They delineate water protection zones and design and implement flood risk management and river restoration projects, often in cooperation with state environment agencies. Through these instruments they can restrict forest operations in sensitive water catchments, promote the restoration of riparian forests and reconnect floodplains, which directly enhances regulating services. However, these measures tend to focus on specific high-risk areas and major rivers, and they do not systematically cover all small private forest holdings. Performance in practice and critical reviews In practice there is a pronounced gap between the legal and policy mandate to maintain and enhance forest ecosystem services and the observed development of forest vitality, carbon balance and regulating functions. Monitoring data and independent assessments show that, despite the existence of adaptive strategies and instruments, German forests are under severe stress and that key services are deteriorating at system level. Forest vitality has declined markedly over the last decade. ICP Forests data and the WZE indicate that crown defoliation has increased, with around a third of the forest area classified with moderate to severe defoliation in recent years. Drought episodes, often combined with high temperatures, have weakened trees physiologically and increased their susceptibility to pests such as bark beetles. Storms and heatwaves have caused large-scale disturbances, particularly in Norway spruce, but also in pine, beech and oak. The WZE 2023 confirms that four out of the four main tree species show extensive crown damage and that, despite a wetter year, overall crown condition remains poor compared to pre-2018 levels. This directly signals a decline in supporting services such as ecosystem stability, natural regeneration capacity and long-term productivity. The Federal Forest Inventories (Bundeswaldinventuren, BWI) measure stand structure, tree species composition, growth, mortality, deadwood and forest area, and therefore provide key indicators for supporting and regulating services. The latest inventory with reference year 2022 indicates that compared with 2017, the carbon stock in living biomass has fallen by about 41.5 million tonnes; the outflow of living biomass through storms, drought and bark beetle damage now exceeds increment, so that German forests have become a net source of CO_2 instead of a sink. At the same time, average increment has dropped by around 16% to 9.4 m³ per hectare and year, mainly because climate-sensitive spruce stands and other even-aged conifer plantations have suffered extensive damage. These results confirm what long-running monitoring programmes have been warning for decades: structurally simplified, drought-sensitive forest types and delayed adaptation to climate change are not compatible with the requirement to maintain and enhance forest ecosystem services. The current inventory therefore does not merely document “natural events”, but quantifies the consequences of long-recognised risks that were addressed too slowly in forest policy and practice, particularly in the conversion of vulnerable conifer monocultures. Economic assessments underscore the scale of the problem. Since 2018,

	climate-related extreme events – including droughts, heatwaves and severe floods – have caused tens of billions of euros in damage in Germany, with forests among the affected sectors. The catastrophic floods of 2021 in Rhineland-Palatinate and North Rhine-Westphalia showed that existing flood defences and land-use configurations, including the condition of upstream forests and floodplains, were insufficient to prevent loss of life and property. Adaptation strategies now formally recognise the role of forests and restored floodplains in mitigating flood risks, but implementation of large-scale, coherent restoration and of forest-based natural flood protection is still progressing slowly. The German Strategy for Adaptation to Climate Change and its 2023 Monitoring Report explicitly state that the adaptation of forests to climate change is urgent and that measures such as conversion of vulnerable conifer monocultures, enhancement of species and structural diversity and the preservation of old deciduous forests need to be scaled up. The monitoring shows that, across all ownership types, recommended climate-resilient practices and adaptation strategies are not consistently translated into concrete measures on the ground. In many private forests, especially those of small owners with limited expertise and financial capacity, this is compounded by economic constraints: after severe forest damage there can be insufficient income for the reestablishment of the forests. Where salvage operations and regular harvesting are carried out without careful planning of soil and water protection, without retention of habitat trees and deadwood and without attention to species and structural diversity, the result can be incremental degradation of ecosystem services: increased surface runoff and erosion, lower water infiltration and storage, reduced carbon storage, loss of habitat complexity and reduced recreational quality. In forests already weakened by drought and pests, additional disturbances from intensive or poorly timed operations can push ecosystems beyond thresholds from which recovery is slow or uncertain. There is evidence that close-to-nature management, continuous cover, mixed stands, retention of deadwood and habitat trees and careful protection of soils and watercourses can stabilise or improve ecosystem services. Taken together, these findings support a differentiated risk conclusion. At the level of laws and policies there is a clear and robust mandate to maintain and enhance forest ecosystem services. However, actual outcomes show that parts of the forest estate, especially vulnerable plantations and low-diversity stands, fail to maintain key services such as vitality, resilience and carbon sequestration. For decades, research and numerous policy discussions have identified the need for more resilient forests. However, it is only in recent years—after severe incidents—that the approach is shifting from mere recommendations to mandatory and economically incentivized action for all forest owners. Despite having the necessary knowledge, financial resources, a robust legal and organizational framework, mitigating the risks was not sufficiently prioritised. Forest ecosystem services such as flood prevention have only recently begun to be implemented.
Risk Rating	Specified Risk

Germany Whole country	Indicator
2.2.3	Soil quality in the Supply Base shall be maintained or enhanced
Supply Base Verifiers	Legislation Federal Forest Act (BWaldG) Federal Nature Conservation Act (BNatSchG) Soil Protection Act (BBodSchG) Fertilizer Legislation (DüV) Fertilizer Ordinance (DüMV) State Forest Laws (Landeswaldgesetze) URLs Gesetze im Internet www.gesetze-im-internet.de Thünen Institute - National Soil Surveys www.thuenen.de/en/thuenen-topics/soil/monitoring-national-soil-surveys-in-forests-and-agricultural-land Umweltbundesamt (Federal Environmental Agency) - Soil Protection www.umweltbundesamt.de/en/topics/soil-agriculture/soil-protection# Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz (BMUV) - Federal Nature Conservation Act www.bmuv.de/gesetzesdokument/bundesnaturschutzgesetz-bnatschg Ecologic Institute www.ecologic.eu/18624 Forestry in Germany www.forstwirtschaft-in-deutschland.de/index.php?id=139&L=1 Robin Wood www.robinwood.de/news/more-nature-conservation-federal-forest-act Bundesministerium für Ernährung und Landwirtschaft (BMEL) - Forest Policy and Laws www.bmel.de/DE/Wald-Fischerei/Wald/_Texte/Waldpolitik-und-Gesetze.html Kuratorium für Waldarbeit und Forsttechnik e.V. (KWF) www.kwf-online.de Harz National Park www.nationalpark-harz.de Springer Link (Scientific Article) link.springer.com/article/10.1007/s00334-014-0488-7 Deutsche Welle (DW) www.dw.com/en/germany-can-non-native-trees-save-the-forests/a-59139547 Thünen Institute - National Forest Soil Survey www.thuenen.de/en/institutes/forest-ecosystems/fields-of-activity/soil-protection-and-forest-health/national-forest-soil-survey Blumwald Thünen - BZE Links https://blumwald.thuenen.de/bze/ressourcen/weiterfuehrende-links BMEL - Environmental Forest Monitoring www.bmel.de/EN/topics/forests/forests-in-germany/environmental-forest-

	monitoring.html
Risk Rating justification	Policies and laws The German legal and regulatory framework unequivocally mandates the maintenance and, where necessary, enhancement of forest soil quality. The Federal Forest Act (Bundeswaldgesetz, BWaldG) sets the foundation for sustainable and multifunctional forest management and explicitly includes soil conservation. Forest use must be conducted so that forest functions are preserved; this covers the avoidance of soil erosion, soil compaction and long-term nutrient depletion. Activities such as harvesting, skidding and road construction have to be planned and carried out so that soils remain productive and stable, and the Act obliges reforestation and appropriate land-use practices to secure the long-term production function of forest soils. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) defines broader environmental requirements at national level. Article 5 (Agriculture, forestry and fisheries) requires that forest management practices avoid soil degradation and contribute to the conservation of habitats and ecological functions, which necessarily includes the maintenance of soil conditions. Soil protection is also an explicit objective where habitats and biotopes depend on specific soil properties, for example nutrient-poor, acidic or hydromorphic soils that support characteristic plant communities. Several further federal laws are directly relevant for forest soils and are binding for all forest owners. The Federal Soil Protection Act (Bundes-Bodenschutzgesetz, BBodSchG) establishes general obligations to avoid harmful changes to soil and to remediate contaminated or degraded soils. Fertiliser legislation (Düngemittelgesetz and Düngeverordnung, DüV; Düngemittelverordnung, DüMV) regulates the use of fertilisers, including in forestry, and restricts nutrient applications to protect soils and water bodies. In practice, conventional fertilisation is largely excluded from forest management, and the use of fertilisers and pesticides in forests is tightly limited under agricultural and forestry law. Each federal state has its own forest law (Landeswaldgesetz), which supplements the Federal Forest Act with more detailed provisions. These include explicit rules for soil conservation, such as restrictions on clear-cutting, requirements for the layout and maintenance of forest roads and skid trails, and the obligation to maintain buffer strips along water bodies. State legislation usually requires that the choice of tree species and silvicultural system is adapted to site conditions, including soil type and water balance, and that the natural characteristics of the site are not impaired beyond what is necessary to achieve sustainable yields. Operational and management instruments translate these legal requirements into practice. Forest management plans (Forsteinrichtung) are mandatory for most public forests and larger private forests and are widely used as the planning basis for harvesting and silviculture. They include information on site conditions, including soil, and define measures to avoid erosion and compaction, for example by limiting the use of heavy machinery at sensitive times and on sensitive sites. Silvicultural guidelines and technical instructions set minimum ages and diameters for felling, define acceptable skid-trail spacing and permissible ground pressure for machinery, and prescribe

	additional precautions on steep slopes, in wet sites and in water protection areas. Soil protection is also integrated into protection-forest regulations and into water law: forests in drinking-water protection zones are subject to strict constraints, and many forested riparian zones are managed with soil and water protection as primary objectives. Relevant institutes and law enforcement Forest authorities at federal and state level share responsibilities for ensuring that soil-related legal requirements are complied with. The Federal Ministry of Food and Agriculture (BMEL) defines national forest policy and commissions national monitoring programmes, while the states are responsible for implementation and day-to-day supervision of forest operations. Forest supervision (Forstaufsicht) is exercised by officers of the competent forest departments. They monitor forest activities in both private and public forests, check that harvesting, skidding and road works comply with forest, nature conservation and soil protection law, and can order corrective measures where they see risks to soil stability or productivity. Where necessary, they cooperate with the police and other enforcement bodies. Violations can lead to fines and obligations to restore damaged sites. Nature conservation and environmental agencies complement this structure. They review forest operations that may affect protected habitats, erosion-prone slopes or water protection zones, and can impose conditions or prohibit certain methods if they pose an unacceptable risk to soils or water bodies. Water authorities establish and regulate water-protection zones, including forest soils that are important for drinking-water recharge, and can restrict forest operations in these zones. Scientific monitoring plays a central role in assessing whether soil quality is actually being maintained or improved. The Federal and State Working Group on Forest Soil Condition Surveys (Bodenzustandserhebung im Wald, BZE Wald) coordinates periodic forest-soil inventories. These surveys analyse parameters such as pH, base saturation, organic carbon, nitrogen, heavy metals and other pollutants, and provide a spatially explicit picture of forest-soil condition and trends. The National Forest Soil Inventory, commissioned by BMEL, complements this with a comprehensive survey that extends beyond forests into other land uses and allows national assessment of soil acidification, eutrophication and contamination. The second National Forest Soil Inventory (around 2006–2008) reported significant reductions in sulphur-related acidification due to lower sulphur emissions, but also showed that many forest soils remain strongly acidified and that nitrogen deposition often still exceeds critical loads, with risks of further acidification and nitrate leaching; in some regions, further acidification was recorded between the first and second inventories. International and European programmes, such as ICP Forests and related soil monitoring under the Air Convention, provide additional data on atmospheric deposition and soil chemistry and help to link forest-soil condition to air-pollution policies. Research institutions, in particular the Thünen Institute and several universities, analyse these data and develop recommendations on soil-conserving silviculture, machine technology and

	adaptive forest management in the context of climate change. Federal environment reporting links these findings with broader climate-impact assessments, emphasising that increased drought frequency, heatwaves and extreme events are already affecting soil moisture regimes and tree vitality in German forests. Technical organisations such as the Kuratorium für Waldarbeit und Forsttechnik (KWF) test harvesting systems and machinery, evaluate their effects on forest soils under operational conditions and publish process-oriented recommendations for minimising compaction and rutting. Their guidelines are used by public forest enterprises and many private contractors in planning and executing harvesting operations. Performance in practice and critical reviews The evidence shows a mixed picture: the legal mandate to maintain and enhance soil quality is clear and widely acknowledged, and some soil parameters have improved at national scale, but there is a legacy of degradation and ongoing pressure that is not yet fully overcome. Historically, intensive, production-oriented forestry in the twentieth century caused substantial soil damage in many regions. Large-scale conversion to conifer monocultures on sites that were not well suited to these species, combined with high stocking densities, heavy use of machinery and insufficient attention to soil structure and nutrient balances, led to compaction, erosion and nutrient depletion. This legacy is visible in several national parks and protected areas that were established on former state production forests. In the Harz National Park, for example, soil compaction and nutrient depletion from decades of spruce-dominated management and storm- and beetle-related salvage logging have contributed to poor regeneration conditions in some areas. In the Bavarian Forest and Eifel national parks, intensive spruce cultivation on inappropriate sites in the past has left highly acidified, nutrient-depleted soils that now slow the restoration of more natural mixed forests. These examples illustrate that the requirement to maintain or enhance soil quality was not met everywhere in practice, and that past decisions continue to constrain current restoration efforts. National soil monitoring indicates that some aspects of soil quality have improved, but also that significant vulnerabilities persist. The second National Forest Soil Inventory found that declining sulphur emissions have led to reduced acid input and gradual recovery of pH and base saturation in parts of the soil profile. At the same time, many forest soils in Germany remain strongly acidified, and nitrogen inputs from agriculture, traffic and other sources often still exceed critical loads, maintaining pressures towards eutrophication and further acidification and increasing the risk of nitrate leaching to groundwater. In some regions, acidification indicators even worsened between the first and second soil inventories. These results show that, despite clear legal requirements and emission-control policies, soil chemistry is still far from a stable, favourable condition in many forest sites. Operational practice has evolved. In public forests and in many larger private forests, soil-conserving harvesting techniques are now standard. Skid trails are permanently designated and spaced to limit the proportion of compacted

	area; machines with lower ground pressure are used; harvests on wet soils are postponed or restricted; and buffer strips and no-go zones are applied in riparian areas and on steep slopes. Forest management plans explicitly refer to soil sensitivity, and silvicultural guidelines promote continuous-cover and mixed-species systems that maintain permanent canopy cover and root networks, thereby stabilising soils and reducing erosion risk. In water-protection forests, additional restrictions on chemical use and machine access further protect soil functions. When storms, droughts or bark beetle outbreaks damage stands, affected owners may focus on rapid salvage logging to limit financial losses, sometimes using contractors and machinery that are not optimally adapted to site conditions. Where planning is ad hoc and technical guidance is limited, protection measures such as strict concentration of traffic on pre-planned skid trails, seasonal restrictions on heavy machinery or avoidance of operations on saturated soils are not always fully applied. In such situations, compaction, deep rutting and disturbance of the humus layer can still occur, particularly on sensitive soils. These difficulties are compounded by the fact that climate-related damage has created large, degraded areas in both public and private forests, so owners have to cope simultaneously with loss of standing volume, regeneration costs and the need to protect remaining soil functions. These challenges are not limited to private forests: state and municipal forests have also experienced widespread disturbance in recent years due to climate-related damage, and large-scale salvage operations have sometimes stretched the capacity of forest services to control soil impacts everywhere. Nevertheless, public forest enterprises generally have greater access to forestry specialist, technical guidelines and modern machinery, and are more often certified, so they are better placed to apply soil-protection standards. Certification schemes such as FSC and PEFC require explicit soil protection measures, including limitations on clear-cut size, planning of extraction routes, and restrictions on operations that would cause serious erosion or compaction; compliance is audited by independent third parties. Where such schemes are in place, they provide an additional control layer that reduces the likelihood of serious soil damage. By contrast, in uncertified small private forests without formal management planning, soil protection depends more directly on the knowledge, motivation and financial capacity of individual owners and on the reach and effectiveness of advisory and supervision structures. Overall, the combination of strong legal requirements, explicit technical standards and extensive monitoring supports the conclusion that maintaining and enhancing soil quality is a central, binding objective in German forestry. National data show partial successes, particularly in reducing sulphur-related acidification, but also highlight continuing vulnerabilities where high nitrogen deposition, climate-induced disturbance and operational pressures coincide. The legacy of past intensive management and the practical constraints faced by many small private owners mean that soil quality cannot be assumed to be maintained or enhanced in all stands at all times, even though the general direction of policy and practice is towards improved soil protection. In conclusion, German law and technical guidance set a clear and binding

	requirement to maintain – and in parts improve – forest soil quality, and national soil monitoring shows partial success (for example reduced sulphur-related acidification), but also persistent vulnerabilities and localised damage. The recent wave of climate-related disturbances and associated salvage logging has led to large areas being harvested before reaching ecological maturity, increased use of heavy machinery and, in some cases, compaction, rutting and humus disturbance. These effects occur in public and private forests, but small private owners with limited expertise and income from damaged stands can face particular difficulties in financing salvage and regeneration operations. The resulting pressure on soil quality, together with reduced timber revenues that could otherwise support sustainable practices is therefore a serious indirect consequence of the current forest crisis. However, this indicator focuses on the direct requirement that soil quality in the Supply Base shall be maintained or enhanced. Here, the combination of a legal framework, operational rules, supervision structures and systematic soil monitoring provides safeguards, and remaining concerns are primarily captured and addressed under other indicators that already classify high-risk situations. For this indicator, the residual risk related to soil quality is assessed as low, with the more critical, crisis-related aspects treated as Specified Risk in the biodiversity, ecosystem condition and stand-resilience indicators.
Risk Rating	Low Risk

Germany Whole country	**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.
Supply Base Verifiers	Legislation Forest Management Guidelines (Forstwirtschaftliche Richtlinien) Federal Nature Conservation Act (BNatSchG) Renewable Energy Sources Act (EEG) Federal Forest Act URLs Bundesamt für Naturschutz (BFN) www.bfn.de/fileadmin/MDB/documents/themen/monitoring/BNatSchG.PDF Umweltbundesamt (UBA) http://www.umweltbundesamt.de/themen/nachhaltigkeit-strategieninternationales/ European Commission - Natura 2000 http://ec.europa.eu/environment/nature/natura2000 BFN - National Strategy http://www.bfn.de/fileadmin/MDB/documents/themen/landwirtschaft/nationale_strategie.pdf Waldwissen - Biomass and Nutrient Removal www.waldwissen.net/technik/holzernte/boden/lwf_biomasse_naehrstoffentzu

	g Bayerische Landesanstalt für Wald und Forstwirtschaft (LWF) www.lwf.bayern.de/ Destatis - Sustainable Development Indicators www.destatis.de/EN/Themes/Society-Environment/Sustainable-Development-Indicators/Publications/Downloads/data-relating-indicator-report-2021.html
Risk Rating justification	Policies and laws The legal and policy framework for forestry and nature conservation in Germany explicitly requires that harvesting, including the removal of forest residues and stumps does not cause long-term degradation of soils, biodiversity or ecosystem functions. The Federal Forest Act (Bundeswaldgesetz, BWaldG) sets the overarching objective to maintain, protect and sustainably manage forests, and explicitly refers to maintaining and increasing biological diversity. It requires that forests are managed so that the natural features of the site, including soil and water, are not impaired beyond what is necessary to achieve sustainable yields. This principle covers nutrient cycles and structural elements such as deadwood and stumps, which are essential to ecosystem functioning. State forest laws (Landeswaldgesetze) translate these principles into more detailed regional provisions, including restrictions on clear-cutting, rules on skidding and road building, and specific requirements to protect sensitive sites. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) regulates the protection of species, habitats and ecosystems and applies to forest and non-forest land. It designates and protects ecologically important areas, including forests of high conservation value and protected open habitats such as heaths and bogs. Removal of woody vegetation, residues or stumps in these protected habitats is only permissible where it supports conservation objectives (for example, keeping heaths open) and must not damage habitat structure or species; removal that harms these ecosystems would be illegal. Within Natura 2000 sites, the “no deterioration” rule and the requirement for appropriate assessment apply to forestry projects that may significantly affect Annex I habitats or species. Large-scale or unusual interventions, such as extensive stump extraction or major changes in biomass removal regimes, can trigger environmental impact assessment requirements under the Environmental Impact Assessment Act and the EU EIA and Habitats Directives. The Forest Management Guidelines (Forstwirtschaftliche Richtlinien), elaborated under the responsibility of the Federal Ministry of Food and Agriculture (BMEL) and further detailed at state level, operationalise these legal requirements. They define sustainable use of biomass, including forest residues, and require that sufficient organic material is left on site to maintain soil fertility, nutrient balance and habitat functions. They distinguish forest residues as the above-ground biomass that remains after timber harvesting (branches, tops, small low-grade logs, shrubs and undergrowth) and normally exclude stumps and roots. The guidelines stipulate that residues may only be removed up to levels compatible with site nutrient budgets and conservation objectives, and that in nutrient-poor, shallow or otherwise sensitive soils, as well as in habitats of high conservation value, residue removal is restricted or

	prohibited. Stump removal is generally uncommon in German forestry and, where considered, is subject to special scrutiny because of its potential impact on soil structure and deadwood habitats. Forest regulations and silvicultural guidelines translate these principles into concrete technical rules. They regulate the timing and methods of harvesting, layout of skid trails, use of machinery, and creation of buffer zones to minimise compaction, erosion and disturbance. They specify that biomass removal must be adapted to site conditions and that a defined proportion of residues, especially the nutrient-rich fractions (needles, leaves, fine twigs), must remain in the forest. Certification standards (FSC, PEFC) add explicit requirements to retain deadwood, habitat trees and a proportion of residues, and to refrain from stump extraction except in well-justified cases. The Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz, EEG) promotes the use of biomass, including forest residues, for energy but does so within a sustainability framework. It does not override forest and nature conservation law; biomass used for energy must be sourced in a way that respects the ecological limits set by BWaldG, BNatSchG and soil and water protection legislation. The Federal Soil Protection Act (Bundes-Bodenschutzgesetz, BBodSchG) underlines that land-use practices, including harvesting and residue removal, must avoid soil contamination, erosion, compaction and long-term fertility loss. These legal and policy instruments also extend, with adaptations, to trees and woody vegetation outside forests. BWaldG principles on sustainable management, BNatSchG provisions on habitat and species protection, EU Habitats and Birds Directives, and EIA rules apply to removal of tree residues and stumps in non-forest areas, especially where protected habitats or Natura 2000 sites are affected. Relevant institutes and law enforcement The same institutional architecture that governs sustainable forest management, soil protection and biodiversity conservation also covers residue and stump removal. At the federal level, the Federal Ministry of Food and Agriculture (BMEL) is responsible for forest policy and issues framework guidelines for sustainable forest management, including recommendations and limits for biomass and residue use. The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) is responsible for nature conservation and environmental policy and oversees implementation of EU biodiversity and environmental legislation that constrains residue and stump removal in protected areas or sensitive habitats. The Federal Agency for Nature Conservation (Bundesamt für Naturschutz, BfN) provides scientific guidance on habitat and species protection, including the role of deadwood and coarse woody debris, and contributes to setting thresholds and recommendations for biomass removal in relation to biodiversity objectives. State forest authorities implement forest law, silvicultural guidelines and forest management planning. They carry out forest function mapping, approve or review forest management plans where required, and supervise harvesting operations. Forest supervision (Forstaufsicht), carried out by

	officers of the forest administration, monitors operations in both public and private forests, including small private forests, and can intervene if residue removal or stump extraction would infringe forest, soil or nature conservation law. State nature conservation authorities and protected area administrations assess and approve management measures in protected forests and in protected open habitats (heaths, bogs, species-rich grasslands), where removal of woody vegetation and residues is often part of conservation management but must be planned and executed in a way that maintains or enhances habitat conditions. Monitoring of nutrient status and soil conditions is conducted through the Forest Soil Condition Surveys (Bodenzustandserhebung im Wald, BZE) and related programmes. The Federal and State Working Group on Forest Soil Condition Surveys defines parameters and methods, while the Thünen Institute maintains central databases and analyses data. These programmes assess nutrient stocks, pH, organic matter and deposition loads and are used to evaluate whether biomass and residue removal are compatible with maintaining soil fertility. State forest research institutes and universities conduct targeted studies on the effects of residue and stump removal on growth, nutrient balances and biodiversity, and their findings are used to refine guidelines. Enforcement relies on inspections by forest authorities, nature conservation authorities and, where relevant, soil and water protection agencies. In protected areas or for large or unusual interventions (for example removal of woody vegetation in protected open habitats or extensive stump extraction for construction projects), environmental impact assessment or specific permits may be required. Violations can lead to fines, obligations to restore damage, or restrictions on future operations. Public visibility and stakeholder attention, particularly in non-forest biomass harvesting in open landscapes, increase the likelihood that harmful practices are reported to authorities. Performance in practice and critical reviews In practice, removal of harvest forest residues and stumps in Germany is integrated into standard harvesting operations and is generally limited and selective. Whole-tree harvesting is not the norm; residues are usually a by-product of roundwood harvesting. Forest residues are removed in connection with thinning, selective felling and final harvests, primarily as an integrated part of logging. They are used for biomass feedstock or firewood, and in some cases woody vegetation is removed from protected open habitats such as heaths and bogs as part of conservation management to maintain open character. In these habitats, removal must be carried out in a manner that protects the ecosystem; where this is not the case, it would constitute a breach of conservation law. Quantitatively, residues represent a fraction of the above-ground biomass and are only partly removed. For coniferous forests, around 10–15% of the total above-ground biomass typically remains as forest residues during ordinary harvesting operations (20–30% in first commercial thinnings but only 4–5% in final felling). In broadleaved forests, the share of residues left can be around 25%. Forest regulations and certification standards often require that

	a part of the residues remains on site, particularly the fine fractions and nutrient-rich components. In practice, many forest owners leave most residues in spruce and pine forests, and when broadleaved trees are harvested, removal of branchwood is often delayed until after leaf fall so that leaves, which contain a large proportion of nutrients, are returned to the soil. The ecological context in Germany is characterised by long-term atmospheric deposition of nitrogen and other pollutants. For decades, critical loads for eutrophying elements have been exceeded in almost all terrestrial ecosystems and critical loads for acidifying compounds have been exceeded in a significant proportion of forest soils. This has led to nutrient imbalances, acidification and altered species composition in both ordinary forests and high-value nature reserves. Against this background, carefully planned removal of part of the biomass, including some residues, can stabilise or improve nutrient balances in some stands, particularly in conifer-dominated forests on sensitive soils. By removing needle-rich material and part of the branches, the input of acidic and nitrogen-rich litter can be reduced, nutrient cycles can be adjusted and the transition to more diverse, mixed stands can be facilitated. This is why, in some cases, residue removal is considered a tool for ecological restoration rather than a threat. At the same time, the concept of closed nutrient cycles underpins caution. In natural forests without external inputs or outputs, nutrients absorbed by trees are returned to the soil via litterfall and deadwood. Intensive use of biomass, including residues, can disturb this balance and lead to nutrient export that exceeds replenishment by weathering and deposition. German forestry and forest science have long recognised this risk. The BZE and other soil monitoring programmes indicate that, overall, nutritional conditions of trees are still classified as generally good, but that this depends on maintaining sufficient organic matter and nutrients in the forest. This is reflected in guidelines that limit residue removal on nutrient-poor sites and in the widespread practice of leaving substantial fractions of residues on site. The demand for energy wood has increased the value of weak assortments and crown material, and energy policy emphasising bioenergy has prompted discussions about possible overuse of residues. However, under current conditions in Germany, removal of residues is modest relative to the total biomass and increment. Annual roundwood harvest is significantly below the annual increment (roughly 80 million m³ harvested compared with over 100 million m³ increment), and there is a positive trend in total biomass and organic matter in many forests. Environmental literature and recent internet-based research do not find cases where excessive residue removal has been identified as a widespread or systemic problem in German forestry. Concerns about overharvesting residues are frequently raised in academic and policy debates as theoretical risks, but concrete examples of ecosystem damage from residue extraction are difficult to find. Where residues and stumps are removed in protected open habitats (heaths, bogs) to control woody encroachment, operations are embedded in conservation plans that aim to maintain or enhance habitat characteristics. Here, the risk lies in technical execution: excessive disturbance, soil compaction or damage to microhabitats can occur if machinery is used

	inappropriately or under unfavourable conditions. Planning and supervision by protected area managers, as well as the requirement for environmental impact assessment or specific authorisations in sensitive sites, are intended to prevent such outcomes. In private forests, residue removal decisions can be influenced by economic considerations and site conditions. Many small owners lack detailed nutrient budget calculations or formal management plans, but they are bound by the same legal constraints as large owners and often rely on professional contractors who apply standard practices derived from certified operations. Forest owners also have a economic interest in maintaining soil fertility, since declining productivity would reduce future income. This interest, together with legal requirements and certification spill-over, tends to limit excessive residue removal even where formal planning is less developed. FSC and PEFC certification audits assess whether forest managers comply with requirements on deadwood retention, habitat trees and limits on residue removal, and whether operations are adapted to site conditions. Since many professional harvesting contractors work mainly in certified forests, they tend to apply the same practices (for example, retaining defined amounts of residues and avoiding stump removal) in uncertified stands. Specialists caution that intensified biomass use could, in principle, lead to nutrient depletion and reduced biodiversity if not properly controlled. They also note that, given the legacy of deposition and acidification, residue removal is often treated with suspicion and viewed mainly as a risk, while its potential role as a positive management tool in specific contexts is sometimes underestimated. Existing laws, guidelines and monitoring systems are designed to keep utilisation within ecological limits.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.2.5	Quality and quantity of ground water, surface water and water downstream shall be maintained or enhanced.
Supply Base Verifiers	Legislation Federal Forest Act (BWaldG) Federal Immission Control Act (BImSchG) Federal Water Act (Wasserhaushaltsgesetz, WHG) Groundwater Ordinance Soil Protection Act (BBodSchG) EU Groundwater Directive EU Water Framework Directive (WFD) Water Resources Act (WHG) URLs Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz (BMUV) - National Water Strategy www.bmuv.de/fileadmin/Daten_BMU/Pools/Broschueren/nationale_wasserstr

	ategie_2023 MDPI (Scientific Publisher) www.mdpi.com/2571-8789/6/2/40 Bundesministerium für Ernährung und Landwirtschaft (BMEL) www.bmel.de Gesetze im Internet www.gesetze-im-internet.de/ Umweltbundesamt (UBA) www.umweltbundesamt.de Bundesministerium für Umwelt (BMU) www.bmu.de Niedersächsischer Landesbetrieb für Wasserwirtschaft, Küsten- und Naturschutz (NLWKN) www.nlwkn.niedersachsen.de/startseite/ FSC Deutschland www.fsc-deutschland.de PEFC Deutschland www.pefc.de NLWKN - Water Management www.nlwkn.niedersachsen.de/startseite/wasserwirtschaft/
Risk Rating justification	Policies and laws The legal framework imposes a direct and explicit obligation to maintain and improve the quality and quantity of groundwater, surface water and water downstream, and applies to all forestry activities irrespective of ownership or certification status. The central instrument is the Federal Water Act (Wasserhaushaltsgesetz, WHG), which transposes the EU Water Framework Directive (WFD) into German law. The WHG requires that all water bodies achieve and maintain “good status”, covering the ecological and chemical quality of surface waters and the quantitative and chemical status of groundwater, with the current implementation horizon set for December 2027. It includes general obligations for all activities that may affect water, including land use and forestry, to avoid pollution, deterioration of ecological status, and significant changes in the natural water balance. The Groundwater Ordinance implements the EU Groundwater Directive and sets uniform quality standards for pollutants such as nitrates and pesticides. he Federal Forest Act (Bundeswaldgesetz, BWaldG) defines forests as multifunctional systems with “use”, “protection” and “recreation” functions. Under §12, forests with protection functions include forests that protect against damaging environmental influences in the sense of the Federal Immission Control Act (BImSchG), as well as forests that protect against erosion by water and wind, desiccation, damaging run-off of precipitation and avalanches. Through forest function mapping (Waldfunktionskarten), forest areas important for water protection (drinking water catchments, floodplain forests, riparian forests, water protection zones) are identified and integrated into management planning. Silvicultural guidelines derived from BWaldG and the Federal Nature Conservation Act (BNatSchG) specify that the natural features of the site (soil, water, flora, fauna) must not be impaired beyond

	what is necessary to achieve sustainable yield, including explicit technical rules for felling, skid-trail layout, road building and operations near water. State forest laws and water laws complement this with more detailed rules, for example restrictions on clear-cutting, requirements for buffer strips along watercourses, rules for drainage and culverts, and technical standards for road construction in water-sensitive areas. These rules apply equally to public and private forests, including small private ownerships without formal management plans. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) provides an additional layer of protection for water-related habitats. Protected biotopes include riparian forests, swamp forests, floodplain forests and wetlands, and the “no deterioration” and appropriate assessment provisions for Natura 2000 sites (BNatSchG §§33–34) apply to forestry operations that could affect water-dependent Annex I habitats or water-dependent species. The Water Resources Act and the Soil Protection Act (Bundes-Bodenschutzgesetz, BBodSchG) require that water and soil damage is notified and can trigger remediation obligations. Operationally, forest management plans and silvicultural guidelines incorporate water protection measures, including the designation of buffer zones along rivers, streams and lakes where logging and use of heavy machinery are restricted; the protection and restoration of wetlands and riparian zones within forests; and planning processes that must include a risk analysis for potential impacts on water flows, erosion and sedimentation using data from forest inventories and forest function maps. Certification schemes (FSC, PEFC) add further requirements, such as mandatory buffer strips along watercourses, restrictions on operations in water protection zones and the use of biodegradable hydraulic oils and fuels. Relevant institutes and law enforcement Policy development and implementation for water protection is shared between environment and agriculture ministries and executed largely at state level. At federal level, the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) is the lead authority for water policy and WFD implementation. It coordinates national river basin management plans, transposes EU water legislation and sets the framework for water quality standards. The Federal Ministry of Food and Agriculture (BMEL) is responsible for forest policy and, through forest monitoring programmes, contributes to the assessment of how forest condition and management influence water resources. State environmental agencies (for example, state environment and nature conservation agencies) are the main enforcement bodies for the WHG and related water legislation. They assess water body status, approve or condition projects that may affect water (including certain forest roads, bridge and culvert works, drainage or restoration projects), and can impose fines or remediation measures in case of violations. In some states, specialised water authorities oversee groundwater protection zones and drinking water catchments and may impose additional restrictions on forest management in

	these areas. State forest authorities (Forstbehörden) and forest services oversee implementation of BWaldG and state forest laws, including forest function mapping and forest management planning. They are responsible for ensuring that harvesting operations, skid-trail networks and forest roads comply with water and soil protection rules and with the water-related requirements in silvicultural guidelines. Forest supervision (Forstaufsicht) monitors activities in both public and private forests and, together with environmental agencies, can halt operations or demand corrective measures if rules are violated. Water utilities, drinking water suppliers and municipal water management bodies play an important role wherever forests serve as water catchments. They often cooperate with forest owners through contractual agreements to secure water quality, by financing forest conversion to mixed stands, reducing soil disturbance, extending buffer zones, or designating no-use areas above sensitive aquifers and in headwater catchments. Monitoring and technical support are provided by institutions such as the German Environment Agency (Umweltbundesamt, UBA), which reports on water body status and pressures at national level, and by research institutes such as the Thünen Institute, which analyse linkages between forest condition, soil processes and water quality. Forest soil and deposition monitoring (BZE Wald, ICP Forests) and the National Forest Inventory contribute relevant data on acidification status, base saturation and stand structure, which influence leaching and run-off patterns. Certification bodies for FSC and PEFC audit compliance with water-related standards in certified forests, including buffer zones, restrictions on chemical use and requirements for biodegradable oils and fuels in forest machinery. Many federal and state forest administrations conduct random fluid checks in machines to verify the use of biodegradable hydraulic oils, which indirectly reduces contamination risks across both certified and uncertified operations, as contractors typically do not switch products between jobs. Public oversight is non-negligible in non-forest biomass harvesting and in visible operations near settlements and recreational waters. Operations in open landscapes and along rivers are carried out “under the eye of the public”, which increases the likelihood that visible breaches of water protection rules (for example, rutting into streams, pollution incidents) are reported to authorities. Performance in practice and critical reviews In forested areas, the direct impact of forestry on water quality and quantity is generally well controlled by the legal framework, technical standards and supervision, but there are documented pressures and implementation gaps, particularly at the landscape and downstream scale, which are more strongly driven by other sectors and by climate change. Forest management itself is, in relative terms, a water-protective land use. Forest soils have high infiltrative capacity, reduce surface run-off and erosion, and provide natural filtration that benefits both groundwater and surface water. Many of Germany’s drinking water abstraction areas are located under or near forests and benefit from these protective functions. Forest function

	mapping has identified large areas where water protection is a primary or important function, and forest management in these areas is more restrictive, with emphasis on maintaining continuous cover, minimising soil disturbance, protecting riparian zones and avoiding contamination. On the operational side, forest authorities have established buffer strips along watercourses as standard practice in many regions. Restrictions on heavy machinery in wet conditions, on stream crossings and on skid-trail density are widely applied. Use of biodegradable hydraulic oils and fuels is now the norm for professional harvesting contractors, significantly reducing the risk of oil spills entering streams or infiltrating soils. According to sector experience, most roundwood harvests are supervised at least once by a responsible forester or client, and biomass extraction (tops, branches, low-grade wood) is typically treated as a side-stream of these supervised operations rather than as an independent, unsupervised activity. Nevertheless, water monitoring under the WFD shows that Germany has not yet achieved “good status” for many water bodies. Not a single surface water body currently reaches “good chemical status”, and only around two thirds of groundwater bodies achieve good chemical status; about a quarter of groundwater bodies exceed nitrate thresholds. These deficits are largely attributed to agriculture, wastewater and historical pollution, but they form the context in which forestry is operating: downstream waters are under significant pressure, and any additional sediment or nutrient inputs from forest operations are less tolerable than they might appear in isolation. Climate change and forest damage add further complexity. Severe droughts, heatwaves and bark beetle outbreaks have led to large-scale dieback of spruce and other stands, especially since 2018. Large salvage logging operations, new skid trails and temporally increased road use in damaged areas can, if poorly planned, increase erosion and alter local run-off regimes, particularly on steep slopes and in erosion-prone soils. Where canopy cover is abruptly removed over large areas, interception and evapotranspiration patterns change, which can temporarily modify local water balances, although in forested catchments this is often secondary compared to broader climatic and agricultural drivers. Case-specific concerns have been documented in regions like Lower Saxony, where intensive coniferous forestry on acidified soils has reduced base saturation and buffering capacity, raising concerns that mobilised aluminium and other metals could leach into groundwater. Results from the National Forest Soil Inventory and deposition monitoring show that sulphur-related acidification has declined, but nitrogen deposition and low base saturation remain issues in some forest soils. Where these soils coincide with sensitive aquifers, careful management of tree species choice, fertilisation (largely excluded in forests), liming and harvesting intensity is required to avoid undesired effects on water chemistry. Water quantity is under growing pressure nationally. Germany has lost significant volumes of water per year since 2000, and the years 2019–2021 recorded record low groundwater levels at many measuring points. Forests themselves mitigate some of these trends by shading, infiltration and storage, but when large areas of forest are damaged or converted to sparse stands,

	their buffering capacity is reduced. The restoration of riparian forests, floodplains and wetlands – for example through river restoration projects and programmes to reconnect rivers with their floodplains – is progressing but still lags behind the needs identified in adaptation and WFD implementation reports. The role of forests in natural flood retention and in safeguarding water resources is therefore increasingly recognised and addressed under broader ecosystem services and climate adaptation indicators, rather than being a problem of direct non-compliance in day-to-day forest operations. For small private forests, the situation is more heterogeneous. Legal obligations under WHG, BWaldG, BNatSchG and state laws apply equally, but owners without management plans and professional advice may be less systematic in planning buffer zones, skid-trail networks and timing of operations. However, even here, several factors limit risk: most small owners rely on professional contractors who apply standard machinery and practices shaped by certification requirements and work frequently in public and certified forests; public visibility is high when operations occur near settlements and water bodies; and serious breaches of water protection rules are subject to fines and remediation. There is no evidence of a structural pattern of illegal or systematically harmful forestry-related impacts on water quality in small private forests, although individual cases of rutting into streams, damaged banks or poorly designed crossings do occur and are documented by authorities and NGOs. Overall, direct forestry impacts on water quality and quantity in forested catchments are largely kept within acceptable limits by law, technical guidance and supervision. The more serious challenges relate to achieving WFD “good status” against the backdrop of climate change, diffuse agricultural pollution, groundwater depletion and forest decline.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.2.6	Air emissions shall comply with national legislation or in the absence of national legislation with industry best practice.
Supply Base Verifiers	Legislation EU Regulation 2016/1628 Federal Immission Control Act (Bundes-Immissionsschutzgesetz, BImSchG) German Road Traffic Licensing Regulations (StVZO) Technical Instruction on Air Quality Control (TA Luft) URLs ClientEarth www.clientearth.org/ Environmental Action Germany (DUH) www.duh.de/ EU Regulation 2016/1628 (NRMM Emissions) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R1628

	Federal Immission Control Act (BImSchG) www.gesetze-im-internet.de/bimschg/ Federal Ministry for Food and Agriculture (BMEL) - Forest Strategy www.bmel.de/EN/topics/forests/forests-in-germany/forest-strategy-2020.html Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection (BMUV) – Speech www.bmuv.de/rede/speech-by-the-german-environment-minister-steffi-lemke-to-world-health-summit-2022 Federal Motor Transport Authority (Kraftfahrt-Bundesamt, KBA) www.kba.de German Environment Agency (Umweltbundesamt, UBA) - Air Topics www.umweltbundesamt.de/en/topics/air Tagesschau - Environmental Action Germany (DUH) Lawsuit www.tagesschau.de/inland/innenpolitik/umwelthilfe-klage-100.html Technischer Überwachungsverein (TÜV) www.tuv.com UNFCCC - Germany's National Inventory Document (NID) https://unfccc.int/sites/default/files/resource/2024-04-15_DE_NID_2024_UNFCCC_english.pdf
Risk Rating justification	This indicator is specifically about air emissions caused by forestry and biomass sourcing activities in and immediately around the forest: exhaust gases from forest machinery, prescribed burning or burning of harvest wastes in the forest (where allowed), and, to a lesser extent, emissions from transporting biomass away from the forest. It is not about emissions from industrial or energy installations burning biomass, nor about the effects of air pollution on forest ecosystems. Policies and laws The central legal instrument is the Federal Immission Control Act (Bundes-Immissionsschutzgesetz, BImSchG). It is the core of German air quality regulation and applies to all relevant emission sources in forestry and biomass sourcing, including diesel-powered harvesters, forwarders, skidders, chainsaws, and timber trucks. BImSchG requires that emissions of pollutants such as particulate matter, nitrogen oxides, sulphur dioxide and volatile organic compounds are minimised and that harmful environmental impacts are avoided. The Technical Instruction on Air Quality Control (Technische Anleitung zur Reinhaltung der Luft, TA Luft) complements BImSchG by specifying technical requirements and limit values. While TA Luft is mainly directed at installations, it also frames the general conditions under which open burning of forest residues or prescribed burning could be authorised as an air-pollution-relevant activity. In practice, such burning in forests is very rare and tightly restricted; where it occurs (for example, small-scale prescribed fire for habitat management or fuel reduction), it is subject to approval procedures that take air quality into account. EU Regulation 2016/1628 on non-road mobile machinery (NRMM) applies directly to forestry machines. It sets mandatory stage-based emission limits (Stage V) for nitrogen oxides, hydrocarbons, carbon monoxide and particulate

	matter from engines installed in harvesters, skidders, forwarders and similar equipment. Germany implements these standards through the BImSchG system and technical type-approval rules, so that new forestry machines used in the supply base must comply with the EU emission stages. The German Road Traffic Licensing Regulations (Straßenverkehrs-Zulassungs-Ordnung, StVZO) set technical standards and exhaust emission requirements for vehicles used on public roads, including timber trucks transporting roundwood and forest chips out of the forest. Compliance with these emission standards is a precondition for registration and legal road use. The Federal Forest Act (Bundeswaldgesetz) and state forest laws define sustainable and proper forest management but do not themselves regulate air emissions. Instead, they interact with BImSchG and TA Luft by requiring that forest operations comply with all applicable environmental law. Where national legislation does not explicitly detail a specific forestry procedure (for example, how to organise machine movements on a site), industry best practice and professional guidelines fill the gap, but always under the overarching obligation to minimise emissions and avoid harmful air-pollution effects. Relevant institutes and law enforcement The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) is responsible for air quality policy and for implementing BImSchG and TA Luft. It issues ordinances, updates technical rules and coordinates Germany's obligations under EU air quality directives and international air pollution agreements. The German Environment Agency (Umweltbundesamt, UBA) provides technical and scientific support. It compiles national emission inventories, including emissions from non-road mobile machinery and road transport that are relevant for forestry and biomass sourcing, evaluates trends and provides input on whether further tightening of limits or new measures are needed. Enforcement of air-emission rules for forestry machinery and timber transport is primarily carried out by state-level authorities. State environmental agencies are responsible for enforcing BImSchG and TA Luft where these apply, for example when considering authorisations or restrictions on prescribed burning or open burning of residues. They can set conditions, prohibit practices that would cause excessive smoke or dust, and intervene if air-quality-related nuisances or hazards occur. For vehicles, the Federal Motor Transport Authority (Kraftfahrt-Bundesamt, KBA), together with local road traffic authorities and the police, enforces the StVZO requirements. Forestry and agricultural vehicles and trailers must pass type approval and periodic inspections, usually carried out by notified bodies such as TÜV. During these inspections, compliance with emission standards is checked alongside safety aspects. This applies both to dedicated forest machines used on roads (for example, self-propelled machinery that must occasionally travel between sites) and to timber trucks used to move biomass away from forests. Forest authorities at state level supervise forest use in general. While they are not air-quality regulators, they are responsible for ensuring that forest

	operations comply with forest law and with cross-referenced environmental obligations. In practice, this includes verifying that prohibited burning of residues does not occur, that any prescribed fire is properly authorised, and that machine use follows general environmental requirements. Regular field visits for forest supervision and nature or water protection provide opportunities to identify and correct any improper practices that could lead to avoidable smoke or dust emissions. Non-governmental organisations such as Environmental Action Germany (Deutsche Umwelthilfe, DUH) and other environmental groups scrutinise the implementation of air quality law at sector level. Their main focus is on transport and larger emission sources, but they also monitor diesel standards, non-road machinery regulation and general enforcement intensity, which indirectly affects the forestry and biomass sourcing segment. Performance in practice and critical reviews In the supply base, the minimum performance requirement for forestry and biomass sourcing actors is that all machines and vehicles they use comply with the relevant EU and national emission standards and that burning of forest residues or prescribed fire is carried out, if at all, only under strict conditions that avoid undue air pollution. New harvesters, forwarders and other forest machines placed on the market are fitted with Stage V engines, and type approval and inspection procedures check compliance before these machines can be operated legally. Timber trucks must meet the respective road-vehicle emission standards throughout their service life. Typical practice in German forestry is characterised by the almost complete absence of open burning of harvest residues in forests. Branches, tops and other material are usually left on site to decompose, mulched, or extracted as part of integrated harvesting operations for material or energy use elsewhere. This means that local smoke plumes and particulate emissions from on-site burning, which can be significant in some countries, are practically not a feature of German forestry. Where prescribed fire or specific burning measures are used—for example in habitat management on heathland or for fuel reduction—these are limited in scale, subject to approval and supervised, with timing and weather conditions chosen to minimise smoke impacts on nearby settlements and roads. The main air-emission contribution from forestry and biomass sourcing therefore comes from diesel engines in machinery and timber transport. Here, German forestry operates within the same regulatory framework as agriculture and construction: modern non-road mobile machinery and road vehicles, subject to EU emission stages and national inspection regimes. Professional forest enterprises and contractors, who often work both in public and private forests and in certified and uncertified areas, typically work with a shared machine fleet. As older equipment is replaced, the average emission level of the fleet declines in line with stricter standards, and there is no evidence that forestry systematically relies on non-compliant machinery. National emission inventories compiled by UBA show that emissions of many regulated air pollutants have decreased significantly since 1990, including emissions from non-road machinery and road transport. Forestry represents

	only a small fraction of national emissions, and within that fraction, the move to cleaner engines and the absence of slash burning align with the general downward trend. There is no indication in the available literature that forestry and biomass sourcing in Germany are a prominent source of non-compliance with air quality standards. Critical perspectives from NGOs such as DUH highlight the need for rigorous enforcement of emission standards across all sectors, including non-road mobile machinery, and call for faster replacement of older diesel engines and better control of real-world emissions. Official bodies such as UBA and BMUV regularly review the effectiveness of existing measures, commission research on non-road machinery and mobile sources, and propose adjustments where gaps are identified. In this context, forestry and biomass sourcing are covered as part of the broader group of diesel-driven outdoor activities; the discussion is about ensuring consistent enforcement and continued technological improvement, rather than about specific forestry-related loopholes or uncontrolled burning practices.
Risk Rating	Low Risk

Germany Whole country	**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.
Supply Base Verifiers	Legislation Chemical Prohibition Ordinance Federal Immission Control Act Plant Protection Act (PflSchG) Sustainable Use of Pesticides Directive (2009/128/EC) URLs EURACTIV - Integrated Pest Management in Germany www.euractiv.com/section/agriculture-food/news/germany-bets-on-integrated-pest-management-for-halving-pesticide-use/ Federal Ministry for Food and Agriculture (BMEL) - National Action Plan www.bmel.de/EN/topics/farming/plant-production/NAP-sustainable-use-plant-protection-products.html German Environment Agency (Umweltbundesamt, UBA) www.umweltbundesamt.de/ German Federation for the Environment and Nature Conservation (BUND) - Pesticides in Forestry www.bund.net/umweltgifte/pestizide/forstwirtschaft/ National Action Plan (NAP) - Integrated Pest Management www.nap-pflanzenschutz.de/integrierter-pflanzenschutz/pflanzenschutzmassnahmen
Risk Rating justification	The German framework mandates (Integrated Pest Management) IPM through national implementation of the EU's Sustainable Use of Pesticides

	Directive, strictly regulates chemical use via the Plant Protection Act, and explicitly bans older, harmful substances (like organophosphates since 2010), thereby enforcing both parts of the statement. Applicable laws, regulations and policy frameworks Integrated Pest Management (IPM) Mandate: The Sustainable Use of Pesticides Directive (2009/128/EC), which is directly implemented in German law, mandates that all EU member states promote IPM as a strategy to reduce pesticide use and mitigate environmental impacts. Forest Management Guidelines and the National Action Plan (NAP) on sustainable pesticide use in Germany incorporate and enforce IPM principles. National Chemical and Pesticide Regulation: The Plant Protection Act (PflSchG) is the core national law, requiring permits and imposing strict restrictions on the use of pesticides and herbicides in forestry. It also supports IPM practices. The Chemical Prohibition Ordinance regulates hazardous chemicals and their application. The Federal Immission Control Act regulates emissions resulting from the use of chemical treatments. Older, harmful pesticides, such as organophosphates, have been banned since 2010, directly supporting the statement that "Banned pesticides shall not be used." Industry Standards: FSC and PEFC standards, referenced in the verifiers, reinforce the legal requirements, with FSC even imposing a near-total ban on pesticide use. Identification of institutional roles and oversight functions (incl. law enforcement) Primary Enforcement/Policy: The Federal Ministry of Food and Agriculture (BMEL) holds the primary responsibility for enforcing regulations related to pesticide use. Monitoring and Approval: The Federal Office of Consumer Protection and Food Safety (BVL) and the German Environment Agency (UBA) are involved in monitoring compliance and providing technical recommendations for sustainable pest management. Local Enforcement: Regional and local Environmental Agencies (Umweltämter) are responsible for enforcing regulations at the operational level, including monitoring for chemical runoff and pesticide overuse in public and private forests. Support Network: The establishment of networks like the Service Center for Integrated Forest Pest Management in Forests (SiPWa) highlights institutional commitment to providing expert advice and supporting the implementation of IPM. Analysis of practical performance by minimum and typical actors Minimum Performance (Legal Requirement): All actors must operate under an IPM approach as mandated by the Sustainable Use of Pesticides Directive

	and the Plant Protection Act. Chemical treatments are only permitted with specific permits and must comply with the strictures of the Plant Protection Act and the Chemical Prohibition Ordinance. Banned substances must not be used. Typical Performance (Industry Best Practice): There is a clear shift towards sustainable and integrated practices, promoting site-appropriate tree species, preserving old habitat trees, and increasing biodiversity to naturally resist pests. Chemicals are applied judiciously, typically as a last resort in state and municipal forests, after other cultural and biological methods have been exhausted. Biological control methods are preferred, especially in protected areas. Private forests are encouraged to adopt resilient practices through financial subsidies and expert advisory services. Critical review based on secondary sources NGO Criticism on Implementation: NGOs like the German Federation for the Environment and Nature Conservation (BUND) and others advocate for stricter controls and greater transparency in chemical use. While acknowledging that IPM has successfully reduced pesticide use, they highlight that insufficient implementation can still lead to environmental concerns, such as chemical runoff, and point to the high vulnerability of remaining monocultures. Ecosystem Impacts: The BUND and other sources note the impact of pesticides on non-target organisms (insects, birds, mammals), which disrupts ecosystems and can lead to pest resurgence—a critical perspective that underscores the necessity of strict IPM adherence. Official Reporting: The "2023 National Action Plan report" confirms the ongoing efforts, tracking the transition towards IPM and confirming the limited possibilities of using chemical pesticides due to stricter regulations and reduced public acceptance. Official research (UBA) provides recommendations to strengthen sustainable management.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.2.8	Waste shall be disposed of in an environmentally appropriate manner.
Supply Base Verifiers	Legislation Circular Economy Act (Kreislaufwirtschaftsgesetz - KrWG) EU Waste Framework Directive (2008/98/EC) Federal Forest Act Federal Immission Control Act (BImSchG) Federal Nature Conservation Act (BNatSchG) Federal Soil Protection Act (BBodSchG) URLs

	Bundeswaldgesetz (Federal Forest Act) www.bundeswaldgesetz.de/inhalt/gesetz/ Deutsche Recycling Service GmbH www.deutsche-recycling.de Deutsche Welle/Plastic Levy www.dw.com/en/germany-plans-plastic-levy-to-fund-litter-cleanup/a-63623789 Ecologic Institute www.ecologic.eu/ Federal Ministry for the Environment, Climate Action, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) www.bmuv.de Federal Ministry of Food and Agriculture (BMEL) www.bmel.de/EN/Home/home_node.html German Federal Statistical Office (Destatis) www.destatis.de/EN/Home/_node.html ICLG: Environment & Climate Change Laws and Regulations – Germany Chapter www.iclg.com/practice-areas/environment-and-climate-change-laws-and-regulations/germany Monitoring Bioeconomy: Forests and wood www.monitoring-biooekonomie.de/en/topics/origins/forests-and-wood MÜLLweg! DE App https://muell-weg.de/ Umweltbundesamt (UBA): Soil protection law www.umweltbundesamt.de/en/topics/soil-agriculture/soil-protection Umweltbundesamt (UBA): Waste management www.umweltbundesamt.de/en/topics/waste-resources/waste-management BMUV Publication/Waste Management http://www.bmuv.de/fileadmin/Daten_BMU/Pools/Broschueren/abfallwirtschaft_2023_en_bf.pdf
Risk Rating justification	Applicable laws, regulations and policy frameworks The principle of environmentally appropriate waste disposal is legally codified through several layers of legislation: Circular Economy Act (Kreislaufwirtschaftsgesetz - KrWG): This Act, which implements the 2008 Waste Framework Directive (EU Directive 2008/98/EC), is the central pillar of German waste policy. It mandates the waste hierarchy (prevention, reuse, recycling) and imposes strict controls on the disposal of materials that could harm the environment, such as chemicals and machinery residues. It specifically requires wastes generated by companies and personnel to be removed and properly disposed of through recycling facilities whenever possible. Federal Forest Act: Requires forest owners to prevent environmental harm and mandates sustainable forest management, obligating them to address any activity, including pollution, that damages the forest. Federal Soil Protection Act (BBodSchG): Sets requirements to prevent soil degradation, contamination, and erosion, ensuring that waste disposal does not undermine forest health.

	Federal Immission Control Act (BImSchG): Restricts activities like open burning to prevent air pollution and protect public health, allowing exceptions only under specific, strictly regulated conditions requiring prior local approval. Federal Nature Conservation Act (BNatSchG): Reinforces these protections by requiring that all forest management practices, including waste disposal, contribute to the preservation of natural habitats and ecosystems. Responsibility for oversight and enforcement is distributed across multiple governmental and local bodies Enforcement Authorities (State and Local): State Environmental Agencies (Landesumweltämter) oversee compliance at the state level, conducting inspections and enforcing pollution prevention. Lower Nature Conservation Authorities (Untere Naturschutzbehörden) enforce nature conservation laws locally. Forestry Oversight: Forestry Authorities (Forstbehörden) ensure that forestry operations comply with environmental regulations, focusing on waste management and pollution control to protect forest ecosystems. Police/Law Enforcement: May be involved if the improper disposal of waste constitutes a criminal activity. Expert and Advisory Role: The German Environment Agency (Umweltbundesamt, UBA) provides scientific and technical expertise, develops environmental strategies, and issues guidelines, but does not directly enforce laws. Analysis of practical performance by minimum and typical actors The legal framework translates into specific responsibilities and consequences for actors: Typical Actors (Forest Owners): Are required to maintain forest health. If waste is left by a third party and negotiations fail, the owner is responsible for reporting the issue to the relevant environmental or forestry authorities. Crucially, under the Federal Soil Protection Act, the landowner is usually required to manage and finance the cleanup if the responsible polluter cannot be identified. Minimum Actors (Companies/Personnel): Are mandated to remove and properly dispose of all generated wastes, prioritizing recycling. Enforcement in Practice: Local ordinances and state laws impose penalties for littering. Internet searches confirm concrete cases where forest harvesting companies were penalized for leaving industrial or consumer wastes onsite, demonstrating active enforcement. Budgetary and Reporting Efforts: The government has implemented budgetary measures, such as the planned plastic levy (projected to generate up to €450 million annually), specifically to support municipalities in their cleanup efforts. Digital tools like the “Müllweg! DE” app streamline the process for citizens to report illegal dumping directly to the appropriate authorities, facilitating a quicker practical response. Critical review based on secondary sources The critical review highlights an effective yet sometimes challenging system: Effectiveness of Legislation and Enforcement: The existence of concrete

	penalties for companies and the development of sweeping legislation like the KrWG and BBodSchG show a strong commitment to the goal. The legal infrastructure is comprehensive, covering air, soil, nature, and the lifecycle of waste. Challenge of Unidentified Polluters: A key practical and financial challenge is the default requirement for the landowner to manage and finance cleanup when the polluter is unknown. While the landowner can seek compensation later if the polluter is identified (via the Environmental Liability Act and civil laws), this initial burden indicates a gap in immediate state support, which may hinder the speed or completeness of cleanup efforts. Proactive Strategy: The implementation of the plastic levy and the MÜLLweg! DE app indicates a proactive, multi-level strategy to address the ongoing problem of littering and illegal dumping, improving citizen involvement and providing dedicated public funding for remediation.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation Federal Climate Adaptation Act (2024) Federal Forest Act (BWaldG) Federal Forest Inventory (BWI) Federal Soil Protection Act (BBodSchG) Forest Strategy 2020 State Laws Water Resources Act (WHG) URLs Bundeswaldgesetz (BWaldG) - Inhaltsverzeichnis www.gesetze-im-internet.de/bwaldg/ Federal Institute for Occupational Safety and Health (BAuA) www.baua.de Federal Ministry of Food and Agriculture (BMEL) www.bmel.de Naturwald Akademie www.naturwald-akademie.org PreventionWeb (Global Knowledge Sharing Platform) www.preventionweb.net/files/27772_dasgesamtenbf1-63.pdf Remote Sensing Solutions GmbH (RSS GmbH) www.rssgmbh.de Umweltbundesamt (UBA): Forstwirtschaft www.umweltbundesamt.de/daten/land-forstwirtschaft/forstwirtschaft#--2 Wald und Holz NRW (Forestry Agency of North Rhine-Westphalia) www.wald-und-holz.nrw.de

	Waldklimafonds: Hintergrund und Ziele www.waldklimafonds.de/hintergrund-und-ziele/waldklimafonds-in-kuerze Waldklimafonds: Startseite www.waldklimafonds.de/ Waldreport (Citizen Reporting Tool/Platform) www.waldreport.de
Risk Rating justification	Policies and laws German forest policy is explicitly built around the principle that harvesting levels must be sustainable and justified with reference to inventory and growth data. The Federal Forest Act (Bundeswaldgesetz, BWaldG) is the central legal instrument. It requires that forests are managed “properly and sustainably”, that forest functions and productivity are maintained, and that forest area is preserved. In practice this means that planned fellings must be compatible with the long-term productive capacity of the forest and must not exceed what the site can sustainably produce. The Act forbids conversion of forest to other land uses without authorisation and obliges reforestation of cleared areas within an appropriate period, so that harvesting does not lead to permanent loss of production forest. The BWaldG is complemented by state forest acts and silvicultural guidelines. These specify that management must be based on site conditions, that species choice must be adapted to the site, and that soil fertility and other natural features must not be impaired beyond what is necessary for sustainable yield. Clear-cutting is either prohibited or tightly regulated and coupled with reforestation obligations. Harvesting rules (minimum ages and diameters, limits on regeneration felling, rules for thinning, layout of skidding trails) are defined in detail in technical guidance and are designed to keep harvesting in line with growth and to avoid depleting standing stock. Forest inventories and planning are the main formal tools for justifying harvesting levels with data. The Federal Forest Inventory (Bundeswaldinventur, BWI) is legally required roughly every ten years and is regulated in the BWaldG. It covers all forests in Germany and records forest area, tree species composition, age structure, timber stock, increment, mortality, deadwood and many structural variables. Previous national inventories had reference years 1987, 2002 and 2012. The fourth inventory (BWI 4) has reference year 2022; data collection finished in 2023 and the main results were published by the Federal Ministry of Food and Agriculture (BMEL) end of 2024. The inventory data underpin strategic modelling tools such as WEHAM (Waldentwicklungs- und Holzaufkommensmodellierung). WEHAM uses BWI data and assumptions about growth, mortality, climate and management to simulate forest development and wood potentials under different scenarios. It is used by the federal government, states and stakeholder organisations as the reference for what level of removals is compatible with long-term sustainable yield at national and regional scale. At operational level, public and larger private forests are required to prepare management plans or mid-term framework reports (Forsteinrichtung) at intervals of about ten to twenty years. These plans are based on stand-level inventories and growth estimates and define allowable cuts, silvicultural

	systems, regeneration methods and special constraints (for example in protection forests or conservation areas). They are explicitly designed to keep harvesting within sustainable levels and to implement the legal requirements of the BWaldG and state forest acts. Small private forests are not legally obliged to prepare formal management plans, but they are still bound by the general legal duties of sustainable management, reforestation and maintenance of forest functions. Relevant institutes and law enforcement Several institutions share responsibility for providing the necessary data and for supervising whether harvesting remains compatible with sustainable yield. The Federal Ministry of Food and Agriculture (BMEL) is responsible for forest policy at federal level and for the Federal Forest Inventory. It commissions the BWI, publishes the national results and uses them in policy documents such as the “Wald in Deutschland” reports and forest strategies. The Thünen Institute of Forest Ecosystems carries out the scientific work for the BWI on behalf of BMEL: it designs the sampling framework, carries out analysis and modelling, and develops tools such as WEHAM that translate inventory data into long-term scenarios for wood supply and forest condition. At state level, forest authorities (Forstbehörden) and state forest services have a dual role. They manage state forests and at the same time supervise compliance with forest law in private and municipal forests through forest supervision (Forstaufsicht). They check whether Forsteinrichtung plans in public and large private forests respect sustainability requirements and they can intervene if legal provisions are violated, for example if reforestation obligations are not fulfilled or if unauthorised clear-cuts or conversions take place. For municipal forests, management is usually carried out or supervised by state foresters, so harvesting and regeneration are closely controlled. For small private forests without formal management plans the authorities still have powers to act in cases of obvious non-compliance with forest law. Forest planning and supervision is supported by various technical and research bodies. State forest research institutes and universities analyse BWI data at regional level and provide guidance on sustainable cutting levels and climate-adapted management. Independent organisations such as Naturwald Akademie and companies such as Remote Sensing Solutions GmbH use satellite data (for example Sentinel-2 within the Copernicus programme) to map forest damage, changes in canopy cover and biomass losses after storms, drought and bark beetle outbreaks. Their analyses do not have regulatory force, but they provide additional, up-to-date information on where harvesting and disturbance have significantly reduced standing stock, and are used in public debates and advisory work. There is no general harvesting permit system in Germany. The legal owner can harvest or sell harvesting rights without applying for an individual cutting licence, as long as the activities remain within the framework of forest and nature conservation law and reforestation and conversion rules are met. The control of sustainable levels therefore occurs ex ante through long-term planning based on inventory data in public and many larger private forests,

	and ex post through supervision, tax controls and, where necessary, sanctions. Performance in practice and critical reviews On paper, the combination of legal requirements, national inventory and planning instruments clearly fulfils the formal requirement that harvesting levels shall be justified by inventory and growth data. In practice, however, the last decade has been dominated by climate-related disturbance and salvage logging, which complicates the picture and raises critical questions about long-term sustainability. At national aggregate level, the BWI and official statistics still show that average removals remain below average increment. For the period between 2002 and 2012, the third Federal Forest Inventory reported an average annual increment of about 121.6 million cubic metres and an average annual use of only 95.9 million cubic metres, leading to a further build-up of standing stock and deadwood. The fourth inventory with reference year 2022 confirms that Germany still has high growing stock by European standards (around 3.7 billion cubic metres on 11.5 million hectares of forest). The results also indicate, however, that growth has slowed and that in heavily damaged regions timber stocks have declined significantly since 2012. Harvest statistics from the Federal Statistical Office show how strongly recent harvesting has been shaped by disturbance. Total fellings rose sharply during and after the drought and bark beetle years; damaged timber (Schadholz) accounted for a very high share of removals, peaking at well over half of total fellings around 2020 and still representing about 37.9 million cubic metres, or roughly half of all felling, in 2023. In 2019 alone, about 70 million m³ of damaged timber were felled, compared with typical annual fellings below 80 million m³, and in several years more than half of the total harvest volume consisted of calamity timber rather than planned fellings. Large areas of mainly spruce, but also some other conifers, were cleared or heavily thinned long before reaching the rotation ages assumed in earlier planning and modelling. The situation is particularly severe in spruce-dominated regions such as the Harz, parts of Thuringia, Saxony and North Rhine-Westphalia, where large, contiguous areas of mature spruce were effectively clear-felled as emergency sanitation after drought and beetle infestation. In these hotspots, state reports and remote-sensing analyses indicate that annual fellings locally exceeded increment. Against this background, the tension under this indicator is not a classic case of planned overharvesting, but a regionally acute, climate-damage driven spike in fellings. For forest owners, this situation has had two main consequences. A very high proportion of the wood harvested and sold has been salvage wood of reduced quality and value. Transport and handling costs for low-value, urgently harvested timber are high, while market prices are often low due to the glut of material. As a result, forest owners, public and private, face reduced net income and, in some cases, financial losses, while large areas now require reforestation or regeneration under more difficult ecological conditions. The capacity of owners, especially small private owners, to

	finance climate-adapted reforestation at the necessary scale is limited, even with public support programmes. The long-term economic impact is primarily linked to the loss of timber that died or was harvested prematurely, before reaching maturity. This reduces the future supply of sawlogs and other high-value assortments, increasing pressure on remaining forests and on the search for alternative feedstock for the processing industry that generates most added value. The old German economic concepts related to production forests have backfired, resulting in great losses, with the most severe economic impact still to come, due to the loss of sawlog quality wood production. There is an urgent and overdue need for concrete reforms, mandatory regulations, and actionable programs to adapt to climate change and to “avoid significant negative impacts on forest productivity and ensure long-term economic viability”. BWI 4 and official reports from BMEL and research institutes acknowledge these problems. They show that, despite major areas of damage, total forest area has remained broadly stable and that, overall, standing stock at national level is still high compared with other European countries. At the same time, they document that increment has declined, and that the structure of the forest has changed markedly, with fewer mature conifer stands. Remote sensing analyses and mapping by organisations such as Naturwald Akademie highlight that, in some parts of central and eastern Germany, canopy cover losses have been extensive and that local growing stock has dropped sharply due to disturbance and subsequent salvage felling. Adaptation warnings have been circulating for decades. The German Strategy for Adaptation to Climate Change of 2008, and other policy papers before and after, clearly described the expected problems for forestry under a warmer, drier climate and called for diversification of species, reduction of pure spruce stands and more climate-adapted silviculture. Nevertheless, reforms of forest law and of support programmes for private forestry have been slow and incomplete. Research into adaptation concepts and recommendations for climate-resilient management has advanced quickly, but there are still very few binding legal requirements that would oblige small private owners to change their management in line with these concepts. Many adaptation measures remain voluntary, linked to subsidy programmes that are not always attractive or accessible for all owners. Decades of unsuitable silvicultural decisions, combined with recent forest disturbances, have caused such high levels of tree mortality that total biomass loss has, in some years, exceeded forest growth. As a result, German forests have temporarily shifted from being a net carbon sink to a net CO_2 source, even though harvest volumes alone still remain below the average increment recorded in the national forest inventory. From the perspective of this indicator, the crucial point is that the legal and institutional system does require harvesting to be planned and justified with inventory and growth data. At the same time, in regions with severe disturbance the actual pattern of harvesting has been driven more by crisis response than by the planned, sustainable harvest levels that were modelled on the basis of earlier inventory data. One could argue that in such heavily affected regions the indicator could be classified as Specified Risk. However,

	the underlying problem is not deliberate overharvesting beyond known sustainable levels, but the historical over-reliance on vulnerable species and delayed adaptation. These aspects are more directly addressed under the indicators dealing with forest ecosystem services, forest health, and biodiversity protection, which are already assessed as Specified Risk. That said, a weak point is the low frequency of the national forest inventory. Developments since 2012 were not documented in official inventory data until the 2012–2022 results appeared at the end of 2024. Key decisions must be taken with a information lag of up to twelve years.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.2.10	Harvested areas shall be regenerated
Supply Base Verifiers	Legislation Federal Forest Act (BWaldG) State Forest Laws URLs Bundeswaldgesetz (BWaldG) - Inhaltsverzeichnis www.gesetze-im-internet.de/bwaldg/ Federal Institute for Occupational Safety and Health (BAuA) www.baua.de Federal Ministry of Food and Agriculture (BMEL) www.bmel.de Naturwald Akademie www.naturwald-akademie.org PreventionWeb (Global Knowledge Sharing Platform) www.preventionweb.net/files/27772_dasgesamtenbf1-63.pdf Remote Sensing Solutions GmbH (RSS GmbH) www.rssgmbh.de Umweltbundesamt (UBA): Forstwirtschaft www.umweltbundesamt.de/daten/land-forstwirtschaft/forstwirtschaft#--2 Wald und Holz NRW (Forestry Agency of North Rhine-Westphalia) www.wald-und-holz.nrw.de Waldklimafonds: Hintergrund und Ziele www.waldklimafonds.de/hintergrund-und-ziele/waldklimafonds-in-kuerze Waldklimafonds: Startseite www.waldklimafonds.de/ Waldreport (Citizen Reporting Tool/Platform) www.waldreport.de
Risk Rating justification	The indicator is verified by core principles of German forest law, which mandate reforestation to maintain forest functions and timber supply. However, the current practical performance is defined by the massive, costly, and financially constrained regeneration efforts following years of climate-related damage.

	Applicable laws, regulations and policy frameworks The legal and policy framework makes the regeneration of forest areas mandatory: Federal Forest Act (BWaldG): This law is founded on the principle of sustainable forest management, which intrinsically requires that the forest's productivity be maintained. Regeneration is essential to ensuring that the volume of timber removed does not exceed natural growth rates in the long term. State Forest Laws: State-level legislation often defines the specifics and deadlines for this mandate. For instance, some states require areas clear-felled or unstocked due to damage (salvage harvests) to be reforested with trees within a set period (e.g., 3 to 5 years). Climate Change Adaptation: Policy frameworks, driven by research, push for regeneration to promote resilient forests, characterized by a diverse mix of tree species and ages, often requiring a strategic shift in planting rather than simply replacing the harvested species. This shift is viewed as essential to "avoid significant negative impacts on forest productivity". Identification of institutional roles and oversight functions Multiple institutions are responsible for ensuring the regeneration mandate is met: Forestry Authorities (Forstbehörden): These are the primary bodies that enforce the regeneration mandate. They are responsible for evaluating the strategic plans (Forsteinrichtung) of larger owners, which detail future harvesting and reforestation measures, and for ensuring compliance with state-level reforestation deadlines. Federal Ministry of Food and Agriculture (BMEL) / Federal Ministry for the Environment (BMUV): These ministries previously managed the German Forest Climate Fund, which supported projects aimed at enhancing forest climate resilience and adapting forests to climate change—actions that heavily rely on the successful regeneration of areas with more suitable tree species. Organizations like the Naturwald Akademie and Remote Sensing Solutions GmbH use technology (e.g., satellite data) to track reforestation progress and the extent of damage across the country, providing critical data to support the oversight function. Analysis of practical performance by minimum and typical actors The actors are engaged in large-scale regeneration, but under duress: Typical Actors (Forest Owners): Are the actors primarily responsible for ensuring their harvested and damaged areas are regenerated. The scale of this task is currently immense, as for years, more than half of the timber harvests have been salvage wood (damaged trees), resulting in vast areas that require urgent, large-scale reforestation. Practical Performance: There is a positive trend toward more resilient forests, driven partly by improved management practices and partly by the forced conversion resulting

	from climate-induced die-back. Owners are moving towards more diverse stands, reflecting the regeneration mandate's environmental goals. Due to the damage, forest owners face higher costs and severely decreased income from salvage wood. This creates financial challenges and a reduced capacity for sustainable redevelopment (regeneration) of the affected areas. Critical review based on secondary sources The legal obligation to regenerate is clear, yet the economic reality stemming from "great losses" and climate damage challenges the ability of owners to comply fully and promptly. Regeneration is not a simple, cost-neutral task; it involves major investment in replanting climate-adaptive species. The critical analysis points out that reforms of programs aimed at encouraging private smallholders to adopt climate-adaptive practices have been insufficient. Furthermore, the phasing out of the Forest Climate Fund (phasing out post-January 2024 review) removes a dedicated source of funding for these crucial adaptation and regeneration efforts. The regeneration mandate exists and is followed, but the long-term success of regenerating large, damaged areas is in some cases under pressure, due to strained financial capacity of some forest owners.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
2.2.11	The impacts of natural processes such as fires, pests and diseases shall be managed.
Supply Base Verifiers	Legislation Chemical Prohibition Ordinance Federal Forest Act (BWaldG) Federal Immission Control Act (BImSchG) Federal Nature Conservation Act (BNatSchG) Fire Protection Regulations Plant Protection Act (PflSchG) Sustainable Use of Pesticides Directive (2009/128/EC) URLs BMEL - NAP Sustainable Use of Plant Protection Products www.bmel.de/EN/topics/farming/plant-production/NAP-sustainable-use-plant-protection-products.html BMEL-Statistik - Forest Fire Statistics www.bmel-statistik.de/forst-holz/waldbrandstatistik Bund für Umwelt und Naturschutz Deutschland (BUND) - Pesticides www.bund.net/umweltgifte/pestizide/forstwirtschaft/ Euractiv - Integrated Pest Management www.euractiv.com/section/agriculture-food/news/germany-bets-on-integrated-pest-management-for-halving-pesticide-use/ Forest Research Institute Baden-Württemberg (FVA-BW) www.fva-bw.de/en/top-meta-navigation/departments/forest-protection/pest-

	monitoring-and-prognosis German Aerospace Center (DLR) www.dlr.de/en/latest/news/2022/01/20220221_concern-about-german-forests National Action Plan for Sustainable Pesticide Use (NAP) www.nap-pflanzenschutz.de/integrierter-pflanzenschutz/pflanzenschutzmassnahmen Network for Forest Risk and Crisis Management https://forstliches-risikomanagement.de/ Statista - Area Burned by Wildfire www.statista.com/statistics/1328091/area-burned-by-wildfire-in-germany/ Umweltbundesamt (UBA) www.umweltbundesamt.de/ Waldwissen - Forest Fire Monitoring www.waldwissen.net/en/forestry/forest-protection/forest-fires/forest-fire-monitoring
Risk Rating justification	Policies and laws German forest and nature conservation law clearly requires that the impacts of fires, pests and diseases are managed so that forest functions are maintained or restored. At the same time, the current scale of damage shows that, over decades, forest policy and practice did not do enough to reduce vulnerability to these disturbance agents. The Federal Forest Act (Bundeswaldgesetz, BWaldG) sets the overarching framework. It obliges forest owners to manage forests properly, sustainably and in a way that maintains their stability and protective functions. Forests must be protected against harmful influences; the Act and derived silvicultural guidelines require that forest functions (production, protection, recreation and biodiversity) are retained. This includes duties to reforest after damage and to maintain stands that are as stable and resilient as possible. State forest laws specify these obligations in more detail, for example by requiring owners to combat serious pest outbreaks, to remove particularly dangerous trees, and to implement fire prevention measures in high-risk areas. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) complements this by requiring the conservation and, where necessary, restoration of habitats and species. This includes forest habitats, protected biotopes and Natura 2000 sites. Pest and fire management measures must therefore be designed so that they do not themselves cause disproportionate harm to protected species and habitats. In practice, this means that sanitary felling, clear felling of infested stands and construction of fire breaks must be weighed against obligations to maintain habitat continuity, deadwood and structural diversity. The Plant Protection Act (Pflanzenschutzgesetz, PflSchG) regulates the use of plant protection products, including in forests. It requires that pesticides are used only when necessary and in a way that minimises risks to human health and the environment, and it anchors the EU requirement to prioritise integrated pest management (IPM) over routine chemical control (see indicator 2.2.7). Fire prevention and control are governed by a combination of state forest and fire protection legislation and technical guidelines. States define forest-fire

	danger classes, require the maintenance of access roads and water points for fire-fighting, regulate activities that may ignite fires (for example burning of residues, use of machinery during high fire danger) and can impose temporary bans or restrictions in periods of extreme risk. Federal and state rules on civil protection and disaster management determine how professional fire brigades, volunteer brigades and forest services cooperate in large wildfire events. At European level, directives on the sustainable use of pesticides and on habitats and species protection interact with national law. The Habitats and Birds Directives restrict the use of clear-cut sanitation and large-scale pesticide applications in Natura 2000 forest habitats; operations must be compatible with conservation objectives and cannot lead to long-term deterioration of listed forest habitat types. In policy terms, several strategy documents recognise that disturbances are strongly shaped by past management. The “Wälder in Zeiten des Klimawandels” (Forests in Climate Change) position paper of the Federal Agency for Nature Conservation (BfN) criticises that the Federal Forest Act has been shaped too cautiously since 2006, and that forest and nature conservation law should more clearly prioritise ecological functions and structural diversity to increase resilience to storms, drought, insects and fire. The paper calls for stronger legal steering away from even-aged conifer production forests on inappropriate sites towards more heterogeneous, mixed and structurally rich forests. In summary, the legal framework does not treat fires, pests and diseases as “purely natural” events, but as risks whose impacts must be managed by appropriate forest structure, protection measures and post-disturbance responses. The provisions are strong; the question, however, is how effectively they have been implemented. Relevant institutes and law enforcement Responsibility for managing the impacts of fires, pests and diseases is shared between federal ministries, state forest authorities, specialised forest-protection services, research institutes and operational emergency services. At the federal level, the Federal Ministry of Food and Agriculture (BMEL) is the central authority for forest policy. It coordinates national strategies for forest protection, funds research and monitoring, and publishes forest reports that assess damage from drought, insects and storms. The Federal Forest Inventory (BWI) and the Forest Condition Survey (Waldzustandserhebung, WZE), both under BMEL with scientific support from the Thünen Institute, provide basic data on stand structure, vitality and damage trends that underpin risk assessments and management strategies. Each federal state has a state forest administration and forest protection service. These bodies are responsible for implementing federal and state law on forest protection, issuing forest protection warnings, advising owners and, where necessary, ordering or supervising sanitation measures. They monitor pest populations (for example bark beetles in spruce) using trapping and field surveys, assess storm and drought damage, and coordinate the removal of highly infested stands to slow further spread. In many states, specialised

	forest research institutes or forest experiment stations (for example FVA Baden-Württemberg, LWF Bavaria, NW-FVA in central Germany) develop and test risk-reduction silviculture, bark-beetle management strategies and fire-prevention concepts, and translate them into guidelines for practice. The Plant Protection Service at federal and state level oversees implementation of the Plant Protection Act in forests. It approves plant protection products, defines conditions for their use and monitors compliance with IPM requirements. Monitoring of invasive quarantine pests, such as the Asian long-horned beetle, is carried out by these services in cooperation with forest authorities and municipalities, and infested trees must be removed and destroyed under official supervision. The Federal Agency for Nature Conservation (BfN) provides scientific expertise and policy advice on how disturbance management should be reconciled with nature conservation objectives, particularly in protected areas and Natura 2000 sites. BfN's assessments emphasise that increasing forest heterogeneity and reducing the share of vulnerable monocultures is an essential element of risk management, and that current legal practice has not fully achieved this. For risk and crisis management at operational level, there is a German-speaking "Netzwerk Forstliches Risiko- & Krisenmanagement", which connects forest research institutions, administrations and forest owners. It develops tools (for example risk checklists for small forest enterprises), organises training courses and exchanges experience on dealing with climate-related risks and disturbance crises. The aim is to support especially small private owners, who often lack their own specialist staff, in preparing for and managing events such as bark-beetle outbreaks or large storm damage. Forest fires are fought by professional and volunteer fire brigades, working closely with forest authorities. Technical early-warning systems, such as optical sensor systems (OSS) for automated smoke detection, are deployed in high-risk regions and are complemented by patrols and aerial surveillance in extreme danger periods. States define procedures for risk classes, patrol flights and inter-agency cooperation. Enforcement in a narrow legal sense (fines, orders, bans) plays a more limited role than technical and advisory support. Forest owners are legally responsible for managing their stands, but practical forest-protection decisions are often guided, and in large public forests co-designed, by state forest services and their guidelines. Where pest or fire management conflicts with nature conservation rules (for example in protected areas), nature conservation authorities can set conditions or prohibit certain measures. Performance in practice and critical reviews Small areas affected by storms, insects or local fires are a normal part of forestry and can be managed within usual silvicultural practice. However, the extent and duration of damage in the last decade go far beyond this understanding: the ongoing large-scale salvage operations are outside the scope of usual forestry, and point to a breakdown of the previous concepts of sustainable forestry. The last decade has shown that the legal and institutional system has not

	succeeded in preventing very large disturbance impacts. The scale and pattern of damage demonstrate that current problems are not simply “natural disturbances”, but the interaction of a warmer, drier climate with forest landscapes that were made vulnerable by decades of management decisions, particularly extensive spruce production forests on sites where spruce is not ecologically well adapted. The Waldbericht der Bundesregierung 2021 states that severe storms, extreme drought and massive bark-beetle infestations have led to “massive forest damage” across Germany and that more than 277,000 hectares of forest need to be reforested. It describes reforestation as a “generational task” that presents many owners with enormous economic and logistical challenges. The Thünen Institute estimated the economic damage caused by the extreme years 2018–2020 at around 12.7 billion euros. Harvest statistics show how far pest and drought damage have dominated actual management. Damaged timber (Schadholz) rose from 5.5 million m³ in 2014 to 46.2 million m³ in 2019 and 60.1 million m³ in 2020. In 2020, damaged timber accounted for almost 75% of total fellings in Germany; even in 2023, damaged wood still made up over half (around 55%) of the harvest, with 27.2 million m³ felled due to insect damage alone. Regionally, the impacts are even more drastic. In some federal states, such as North Rhine-Westphalia, more than a quarter of the pine forest area was lost within three years; in some districts, more than two-thirds of conifer stands died or had to be clear-felled. In the Harz mountains, around 28% of spruce died within three years; large, contiguous areas of former spruce forest now consist of dead stands, clear-cuts and regeneration areas. These losses are directly linked to the dominance of even-aged spruce monocultures on sites that became much too dry and warm under recent climate conditions. Forest science and policy documents had warned for decades that such stands are inherently unstable under climate change, but conversion to more mixed and site-appropriate forests was too slow and often not enforced in private forests. The BMEL Forest Condition Survey (Waldzustandserhebung) and other monitoring confirm a sharp deterioration in crown condition and vitality of major species since 2018, with spruce, pine and beech particularly affected by drought stress and secondary pests. In several years, the combination of harvest and dieback has led to total carbon losses from forests exceeding net growth, so that the forest sector temporarily turned from a net carbon sink into a net source, even though planned harvest levels still remained nominally below average increment. This illustrates that disturbance impacts are now on a scale that overwhelms traditional concepts of “sustained yield” based purely on increment and planned fellings. Forest fire statistics show a similar pattern of stress. The number of forest fires in 2023 (1,059) was slightly below the long-term average of 1,157, but the area burned was about 44% higher than the long-term average of 859 hectares (since 1991). In peak years such as 2018 and 2019, burned areas were far above the usual 200–300 ha per year. These fires are almost entirely human-induced; climate change, with hotter and drier summers, increases the length and intensity of fire seasons, while the presence of large volumes

	of dry deadwood and dense conifer stands in some regions amplifies risk. From the perspective of this indicator, several critical points emerge: forest protection systems are highly active but predominantly reactive; large-scale sanitation felling, removal of infested stands and reforestation projects show that authorities and owners respond to crises, but these measures do not change the fact that the underlying risk level, created by stand structure and species composition, was allowed to build up over many decades; legal and policy instruments to promote risk-reducing silviculture (mixed species, structural diversity, site-appropriate species, reduced game densities) have been implemented insufficiently. The BfN position paper on forests in climate change criticises that the Federal Forest Act and related legislation have not fully used the federal competence to steer forest management towards greater heterogeneity and resilience, and that economic objectives often dominate over ecological ones in practice. In many small private forests, participation in advisory services and risk-management networks is voluntary, and there are still very few binding obligations to convert high-risk spruce and pine stands on unsuitable sites, or to adjust game densities so that natural regeneration of more diverse stands can succeed. As a result, large areas entered the recent drought period with stand structures that were known to be vulnerable. Certification schemes (FSC, PEFC) promote diversification and limit pesticide use, but the recent damage shows that certification alone has not been sufficient to ensure a timely structural shift towards more resilient forests; certified areas have also suffered extensive bark-beetle and drought damage. Taken together, the performance picture is that of a well-developed legal and institutional forest-protection system that is nevertheless struggling to manage the impacts of fires, pests and diseases under climate change, because the underlying forest structures are the result of long-term management choices that anticipated and reduced these risks too slowly and insufficiently.
Risk Rating	Specified Risk

Germany Whole country	**Indicator**
2.2.12	Genetically modified trees shall not be used.
Supply Base Verifiers	Legislation EU Directive 2001/18/EC EU Directive 2015/412 Forest Reproductive Material Act (FoVG) Genetic Engineering Act (GenTG) URLs BCH - National prohibitions https://biosicherheit-bch.de/BCH/EN/NationalDecisions/NationalProhibitions/NationalProhibitions_node.html

	BMEL - German Forests https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/german-forests.pdf?__blob=publicationFile&v=7 BVL - Comprehensive approval procedures for genetically modified organisms https://www.bvl.bund.de/SharedDocs/Flyer/nach_Abteilungen_en/Flyer_Gentechnik_en.pdf?__blob=publicationFile&v=5 BVL - Germany - Genetic engineering https://www.bvl.bund.de/EN/Tasks/06_Genetic_engineering/02_Consumers/07_Legal_Framework/01_Germany/Germany_node.html BVL/BCH - National prohibitions https://www.bvl.bund.de/BCH/EN/NationalDecisions/NationalProhibitions/NationalProhibitions_node.html BVL - ZKBS page https://www.bvl.bund.de/DE/Arbeitsbereiche/06_Gentechnik/1_Aufgaben_im_Bereich_Gentechnik/01_GT_Arbeiten_Anlagen/03_ZKBS/zkbs_node.html DFG - General Aspects https://www.dfg.de/resource/blob/169098/gentechnikrecht-en-0604.pdf DRZE - Genetic Engineering Act https://www.drze.de/en/research-publications/in-focus/genetically-modified-foods/modules/genetic-engineering-act European Commission - Future EU rules on plant and forest reproductive material https://food.ec.europa.eu/plants/plant-reproductive-material/legislation/future-eu-rules-plant-and-forest-reproductive-material_en European Commission - GMO authorisations for cultivation (incl. opt-out overview) https://food.ec.europa.eu/plants/genetically-modified-organisms/gmo-authorisation/gmo-authorisations-cultivation_en EUR-Lex - DIRECTIVE 2001/18/EC (PDF, consolidated) https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02001L0018-20210327 EUR-Lex - Directive 2001/18/EC https://eur-lex.europa.eu/eli/dir/2001/18/oj/eng EUR-Lex - Directive (EU) 2015/412 (PDF) https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A32015L0412 EUR-Lex - Proposal on forest reproductive material (COM/2023/415) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52023PC0415 Euractiv - Germany joins ranks of anti-GMO countries https://www.euractiv.com/news/germany-joins-ranks-of-anti-gmo-countries/ Forest Genetic Resources in Germany - GENRES.de https://www.genres.de/fileadmin/SITE_MASTER/content/Publikationen/Forest_Genetic_Ressources-2010.pdf Forstvermehrungsgutgesetz (FoVG) - Gesetze im Internet https://www.gesetze-im-internet.de/fovg/BJNR165800002.html Gentechnikgesetz (GenTG) - Gesetze im Internet https://www.gesetze-im-internet.de/gentg/BJNR110800990.html

	Government.nl - EU GM Regulatory Framework (report) https://www.government.nl/binaries/government/documenten/reports/2023/03/20/the-eu-gm-regulatory-framework-on-green-biotechnology-under-revision/1.+The+EU+GM+Regulatory+Framework+on+Green+Biotechnology+under+Revision.PDF Integration of Nature Protection in Forest Policy in Baden-Württemberg (Germany) https://efi.int/sites/default/files/files/publication-bank/projects/badenwuerttemberg.pdf Legislation.gov.uk - Directive 2001/18/EC https://www.legislation.gov.uk/id/eudr/2001/18 Monsanto Uprooted: Germany Bans Cultivation of GM Corn - DER SPIEGEL https://www.spiegel.de/international/germany/monsanto-uprooted-germany-bans-cultivation-of-gm-corn-a-618913.html National prohibitions - BCH https://biosafety.be/content/eu-regulatory-framework-deliberat-e-release-gmos Plants2Market - Genetic engineering in Germany https://www.plants2market.com/en/blog/news-4/genetic-engineering-in-germany-183 Stadt Waldenbuch - Applying for a licence for the construction and operation of genetic engineering facilities https://www.waldenbuch.de/,Len/-/dienstleistungen/applying-for-a-licence-for-the-construction-and-operation-of-genetic-engineering-facilities/vbid6024099 USDA FAS - Biotechnology and Other New Production Technologies Annual (Germany) (PDF download) https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Biotechnology+and+Other+New+Production+Technologies+Annual_Berlin_Germany_GM2025-0023.pdf ZKBS - Official site https://zkbs-online.de/ ZKBS - Gene Drive Risk Assessment (GDRA) final report (PDF) https://bfn.bsz-bw.de/files/1822/GDRA2021.pdf
Risk Rating justification	Policies and laws In Germany, the commercial cultivation of genetically modified organisms (GMOs) in the open environment is constrained by EU authorisation requirements for deliberate release and placing on the market, combined with Germany's long-standing restrictive policy on cultivation. Under Directive 2001/18/EC, any deliberate release or cultivation of a GMO in the environment requires prior authorisation and an environmental risk assessment; this framework applies to all GMOs, including any genetically modified tree intended for outdoor planting. Since 2015, Member States have had an additional EU legal route to restrict or prohibit GMO cultivation in their territory via the "opt-out" mechanism introduced by Directive (EU) 2015/412. Germany has used this mechanism by requesting that applicants exclude the entire German territory from the geographical scope of GMO cultivation authorisations, thereby preventing cultivation nationally even where an EU cultivation authorisation could exist.

	At federal level, the Genetic Engineering Act (Gentechnikgesetz, GenTG) provides the core national framework for genetic engineering activities and risk prevention in Germany. It applies broadly to genetically modified organisms (including trees), and it structures requirements for authorisation, risk assessment, protective measures and oversight for GMO-related activities. For forestry planting material, the Forest Reproductive Material Act (Forstvermehrungsgutgesetz, FoVG) governs the production and marketing of forest reproductive material used for forest establishment and regeneration. In practice, FoVG requirements operate alongside (not instead of) GMO law; any planting of GM trees in forests would still trigger the GMO authorisation regime for deliberate release and environmental risk assessment. At EU level, legislative work on plant and forest reproductive material has been under revision. On 5 July 2023, the European Commission adopted legislative proposals for a Regulation on plant reproductive material and a Regulation on forest reproductive material, intended to replace and streamline older frameworks. These proposals can influence the regulatory context for forest planting material, but they do not remove the separate requirement that any GMO (including a GM tree) must comply with EU GMO authorisation and risk assessment rules for outdoor release. Relevant institutes and law enforcement Several federal bodies have defined roles in GMO governance. For deliberate releases (field trials) and parts of the regulatory process for GMOs placed on the market, Germany identifies the Federal Office of Consumer Protection and Food Safety (BVL) as a competent authority within the national implementation architecture; it also publishes information on national prohibitions and implementation of the opt-out approach. For environmental risk assessment and nature conservation expertise, the Federal Agency for Nature Conservation (BfN) contributes specialist input relevant to environmental protection and precautionary decision-making on GMOs, including emerging technologies such as gene drives. Scientific advisory functions are also present via the Central Commission for Biological Safety (ZKBS), an expert panel that evaluates GMOs and provides scientific opinions and safety-related recommendations relevant to genetic engineering work. Enforcement and implementation are shared across governance levels. Federal law provides the overarching framework (e.g., GenTG and associated provisions), while competent authorities at Länder level implement and enforce requirements on the ground (inspection, licensing implementation, and compliance control within their jurisdictions). This division is material because any outdoor use (trial or cultivation) would require regulatory handling that is both federally framed and practically executed through Länder administration. Performance in practice and critical reviews In practice, Germany has not been a location of commercial forestry use of

	genetically modified trees, and the regulatory threshold for any outdoor deployment of GM trees is high. Any move from laboratory or greenhouse work to outdoor testing would constitute a deliberate release and would require a formal authorisation procedure and environmental risk assessment under EU and German GMO law, in a policy environment that has repeatedly prevented cultivation in the open environment. Germany has had very limited historical cultivation of GM plants and has moved toward zero cultivation. One prominent example is GM maize MON810: Germany imposed a cultivation ban in 2009. A later external reporting summary states that no genetically modified plants have been cultivated in Germany since 2012 (neither commercially nor for research cultivation outdoors), consistent with an overall pattern of restrictive practice for open-environment cultivation. Regarding gene drives, Germany's governance discussions have focused on risk assessment and regulatory fit rather than deployment. BfN-supported work has produced substantive assessments of potential ecological risks and regulatory challenges of gene drive organisms (GDOs), illustrating the application of precaution and the complexity of prospective environmental risk assessment for self-propagating genetic systems. This strengthens the inference that, if gene-drive-modified organisms (including hypothetical tree-related applications) were proposed for outdoor use, they would face especially stringent scrutiny under existing GMO release rules. Critical review points that follow from the above are mainly structural rather than rhetorical. First, the decisive constraint for GM trees in forests is not the absence of a tree-specific prohibition, but the combination of (i) an authorisation-and-risk-assessment requirement for any deliberate release and (ii) Germany's demonstrated policy choices to prevent cultivation in the open environment, including use of the EU opt-out route. Second, ongoing EU legislative activity on forest reproductive material may change administrative processes for forest planting material and market rules, but it does not, by itself, remove the separate GMO authorisation regime that would be triggered by outdoor GM tree use. EU-level debate that could reopen the forestry GMO issue is currently driven mainly by the EU's work on "new genomic techniques" (NGTs) in plants: on 4 December 2025 the Council of the EU and the European Parliament announced a provisional political agreement on an NGT framework for plants, signalling potential future regulatory change that could also affect tree breeding if gene-edited trees were brought forward. In Germany, the most concrete "pro-use" activity is research rather than commercial forestry policy, e.g. the Thünen Institute (Forest Genetics) runs TreeEdit on genome editing and drought stress in trees; by contrast, nature-conservation authorities such as BfN continue to emphasise precaution and biodiversity/ecosystem-risk considerations (incl. work on gene-drive risk assessment), which is why any renewed push to plant GM or gene-edited trees outdoors would still face stringent risk assessment and political resistance.
Risk Rating	Low Risk

Germany Whole country	Indicator
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.
Supply Base Verifiers	Legislation United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement Regulation (EU) 2018/841 (LULUCF Regulation) Directive (EU) 2018/2001 (Renewable Energy Directive) Directive (EU) 2023/2413 (revision of the Renewable Energy Directive) Federal Climate Protection Act (KSG) URLs Deutsche Umwelthilfe v. Germany (LULUCF) - The Climate Litigation Database: https://www.climatecasechart.com/document/deutsche-umwelthilfe-v-germany-lulucf_edd9 Regulation (EU) 2018/841 (LULUCF Regulation): https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016PC0479 Renewable Energy Directive (RED II) - Institute for European Environmental Policy: https://ieep.eu/wp-content/uploads/2023/06/RED-Forest-Monitoring-IEEP-2023.pdf SBP-endorsed REDII Level A risk assessment for Article 29(7) LULUCF: https://sbp-cert.org/documents/consultation-documents/archive/sbp-endorsed-redii-level-a-risk-assessment-for-article-297-lulucf/ Thünen-Institut - Emissions of greenhouse gases from land use, land-use change and forestry (LULUCF): https://www.thuenen.de/en/thuenen-topics/climate-and-air/emission-inventories-accounting-for-climate-protection/treibhausgas-emissionen-durch-landnutzung-landnutzungsaenderung-und-forstwirtschaft-lulucf Thünen-Institut - National Forestry Accounting Plan for Germany – annotated and revised edition: https://literatur.thuenen.de/digbib_extern/dn064291.pdf
Risk Rating justification	This indicator resembles Article 29(7) of the EU RED. However, an approach

	with "Route A, B, or C" for LULUCF compliance can only be found in the SBP certification scheme. The EU RED revision in 2023 (REDIII) did not change the 29(7) requirements on how economic operators need to demonstrate compliance with LULUCF. An independent assessment approved by SBP confirms that Germany meets the land use, land-use change, and forestry (LULUCF) requirements outlined in the Renewable Energy Directive (EU RED), qualifying for compliance under “Route A”. This assessment remains valid. The latest developments in this field are studied in the EU RED Level B report for Germany. Germany maintains a dedicated National Energy and Climate Plan (NECP) framework and regularly reports to the European Environment Agency and the European Commission, including greenhouse gas inventories, projections, and progress reports on its climate and energy targets. The revised EU LULUCF Regulation sets an EU-wide target of 310 million tonnes of CO_2-equivalent in net removals from the LULUCF sector by 2030, and Germany has binding national removal targets under the Federal Climate Protection Act. While the quality and completeness of LULUCF accounting are high and independently reviewed at EU and UNFCCC level, several official analyses and expert bodies criticise the current German climate policy mix as insufficient to reach the longer-term reduction and sink targets. This concerns the effectiveness of mitigation policies. Policies and laws Germany’s LULUCF accounting rests on a layered framework of international, EU and national legislation. Under the Paris Agreement, Germany (via the EU) must submit a Nationally Determined Contribution and report annual greenhouse gas inventories, including the LULUCF sector, following IPCC guidelines. At EU level, Regulation (EU) 2018/841 on LULUCF, as revised in 2023, sets binding accounting rules for all land-use categories and raises the EU-wide net removals target to 310 Mt CO_2-equivalent by 2030. Member States must submit a National Forestry Accounting Plan and a Forest Reference Level (FRL); the European Commission has adopted Germany’s FRL decision, confirming that Germany’s forestry accounting is consistent with the regulation and based on documented past management practices and National Forest Inventory data. Nationally, the Federal Climate Protection Act (Klimaschutzgesetz, KSG) translates EU and Paris commitments into binding national targets, including a sectoral target for net removals from LULUCF (often cited as at least 25 Mt CO_2-equivalent in 2030) and overall climate neutrality by 2045. The Climate Action Plan 2050 and subsequent climate programmes set out measures for forests, peatlands and other land-use categories within this framework. The Federal Forest Act (BWaldG) and Federal Nature Conservation Act (BNatSchG) provide the underlying legal basis for sustainable forest management, conservation of forest area, and maintenance of forest ecosystem functions, which are preconditions for maintaining or improving the land-use carbon sink.

	These instruments are complemented by the National Energy and Climate Plan, the National Climate Protection Programme and CAP Strategic Plans, which integrate land-use measures with wider climate and energy policy and tie them explicitly to EU LULUCF and Effort Sharing obligations. Relevant institutes and law enforcement Responsibility for LULUCF accounting and compliance is clearly allocated and subject to external review. The German Environment Agency (Umweltbundesamt, UBA) coordinates the national greenhouse gas inventory and is the formal reporting body to the European Commission and the UNFCCC. The Johann Heinrich von Thünen Institute is the lead scientific institution for the LULUCF sector: it compiles activity data and emission factors, prepares the detailed UNFCCC Common Reporting Format (CRF) tables for land use and forestry, and develops the National Forestry Accounting Plan and Forest Reference Level. The Federal Ministry for Economic Affairs and Climate Action and the Federal Ministry for the Environment, together with the Federal Ministry of Food and Agriculture, set climate and forest policy and are responsible for implementing the KSG and the NECP. The European Commission and the UNFCCC review Germany's inventories and accounting: EU-level reviews of LULUCF reporting are scheduled for 2025, 2027 and 2032 under the revised LULUCF Regulation. If inconsistencies or non-compliance are identified, the Commission can require corrections and, in the longer term, enforce EU law through infringement procedures. Domestically, the KSG establishes a system of sectoral emission (and removal) budgets and monitoring. The Expert Council for Climate Issues (Expertenrat für Klimafragen) is an independent scientific body mandated to review UBA's emission data, assess projections and evaluate whether current policies are sufficient to meet KSG targets. If a sector repeatedly exceeds its annual budget, the government must adopt immediate programmes; in principle this also applies when the land-use sector deviates from its target trajectory. Performance in practice and critical reviews The national greenhouse gas inventory is submitted annually, includes all land-use categories, and is prepared using IPCC methodologies with documented uncertainty analysis and quality assurance. The EU has accepted Germany's Forest Reference Level and National Forestry Accounting Plan for the current commitment period, which is a central precondition for recognising sustainable forest management under Article 29(7) RED. At the same time, the performance of the LULUCF sector in terms of actual net removals has deteriorated markedly. In recent years, climate-related forest dieback and salvage logging have reduced the sink function of forests and, in several years, turned the land-use sector into a net CO_2 source. The massive forest damage described under other indicators is therefore reflected directly in the LULUCF accounts as reduced or negative net removals. Official projection reports and independent reviews highlight a significant gap

	between the legally binding targets and the current trajectory. Several assessments note that existing measures for strengthening natural carbon sinks are not sufficient to increase the sink and make it resilient in the long term, and that significant additional action is needed to meet the 2030 and 2045 objectives. The Expert Council for Climate Issues similarly concludes that the current policy mix is not enough to guarantee achievement of the 2030 climate targets, and warns that, without further measures, climate neutrality in 2045 is at risk, partly because forests and other land-use categories are projected to provide smaller net removals than assumed in earlier plans.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation EU LULUCF Regulation Federal Climate Protection Act (KSG) Forest Strategy 2020 Forest Strategy 2050 National Peatland Protection Strategy (2022) UNFCCC/Kyoto Reporting URLs BMEL - Forest Strategy 2020 www.bmel.de/SharedDocs/Downloads/DE/Broschueren/Waldstrategie2020.pdf BMEL - Forest Report of the Federal Government (Waldbericht der Bundesregierung) www.bmel.de/DE/themen/wald/waldbericht-der-bundesregierung.html BMEL - Fourth National Forest Inventory (BWI 2022) https://bwi.info BMEL-Statistik - Forest Fire Statistics www.bmel-statistik.de/forst-holz/waldbrandstatistik Bundeswaldinventur - Forest Binds CO2 www.bundeswaldinventur.de/en/third-national-forest-inventory/background-information/forest-bind-co2 Bund für Umwelt und Naturschutz Deutschland (BUND) – Pesticides www.bund.net/umweltgifte/pestizide/forstwirtschaft/ Federal Action Plan on Nature-based Solutions for Climate and Biodiversity – BMUV

	https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Naturschutz/ank_2023_kabinett_lang_en_bf.pdf Forest Research Institute Baden-Württemberg (FVA-BW) www.fva-bw.de/en/top-meta-navigation/departments/forest-protection/pest-monitoring-and-prognosis German Aerospace Center (DLR) – ForstEO www.dlr.de/de/eoc/forschung-transfer/projekte-und-missionen/forsteo German Environment Agency (UBA) – Greenhouse Gas Inventory (including LULUCF) https://www.umweltbundesamt.de/en/topics/climate-energy/greenhouse-gas-emissions ICOS - Forest carbon sinks under pressure https://www.icos-cp.eu/fluxes/2/forest-carbon-sinks-under-pressure Implementation of the National Peatland Protection Strategy (MoorNet) - Ecologic Institute https://www.ecologic.eu/18841 LWF - Biomass and Nutrient Removal www.lwf.bayern.de/ National Peatland Protection Strategy | Publication – BMUV https://www.bundesumweltministerium.de/en/publication/national-peatland-protection-strategy Naturwald Akademie – Waldmonitor (Forest Canopy Loss Mapping) https://waldmonitor.de Remote Sensing Solutions (RSS) – Forest Monitoring and Remote Sensing https://www.remote-sensing-solutions.com Statista - Area Burned by Wildfire www.statista.com/statistics/1328091/area-burned-by-wildfire-in-germany/ Strengthening Agriculture and Forestry to Combat the Climate Crisis https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/climate-crisis-strenthening-agriculture.pdf?__blob=publicationFile&v=3 The 2023 Climate Action Programme of the German Federal Government https://www.bundeswirtschaftsministerium.de/Redaktion/EN/Downloads/C/climate-action-programme-2023.pdf?__blob=publicationFile&v=2 Thünen-Institut - Emissions of greenhouse gases from land use, land-use change and forestry (LULUCF) https://www.thuenen.de/en/thuenen-topics/climate-and-air/emission-inventories-accounting-for-climate-protection/treibhausgas-emissionen-durch-landnutzung-landnutzungsaenderung-und-forstwirtschaft-lulucf Thünen-Institut - High greenhouse gas emissions from land use https://www.thuenen.de/en/thuenen-topics/climate-and-air/emission-inventories-accounting-for-climate-protection/hohe-treibhausgas-emissionen-aus-landnutzung UNFCCC - First Biennial Transparency Report https://unfccc.int/sites/default/files/resource/202411116_1sBieenial%20Transparency%20Report_Germany_fin.pdf UNFCCC - Germany´s Fourth Biennial Report on Climate Change https://unfccc.int/sites/default/files/resource/191220_%204%20Biennial%20Report_englisch_final%20_sauber.pdf

	UNFCCC - Submission under the United Nations Framework Convention on Climate Change and the Kyoto Protocol 2023 https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/29_2023_cc_submission_under_the_united_nations_framework_convention.pdf Unlocking the potential of peatlands and paludiculture to achieve Germany's climate targets https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2024.1380625/full Waldwissen - Forest Fire Monitoring www.waldwissen.net/en/forestry/forest-protection/forest-fires/forest-fire-monitoring
Risk Rating justification	Germany currently falls under Option B. Official reports and scientific analyses confirm that forest carbon stocks and, above all, the forest carbon sink have been reduced in recent years by large-scale forest disturbance, and that a high share of current harvesting consists of salvage operations. The Johann Heinrich von Thünen Institute, which prepares Germany's greenhouse-gas inventory for land use, land-use change and forestry (LULUCF), has reported that the LULUCF sector has been a net greenhouse-gas source in recent years and that the forest sink has weakened so much that the legally agreed climate-protection targets for this sector will be significantly missed even under favourable assumptions. At the presentation of the fourth Federal Forest Inventory in 2024, the Federal Ministry of Food and Agriculture (BMEL) confirmed that, because storms, drought and bark-beetle damage have destroyed more biomass than regrows, German forests have shifted from being a net carbon sink to a net CO_2 source, even though total standing wood stock (about 3.7 billion m³ on 11.5 million hectares) is still high by European standards. Remote-sensing analyses by German research institutions such as Naturwald Akademie and Remote Sensing Solutions GmbH show that roughly 900,000 hectares of canopy cover were lost between about 2017 and 2024, mainly in conifer forests, implying substantial regional losses of living biomass and carbon. The condition of Option A is no longer met. The decline is, however, linked to climate-amplified disturbance processes (drought, storms, pests and some fires) and insufficient adaptation, but not to planned overharvesting. Much of the wood mobilised comes from damaged or dying trees that would otherwise decay, and harvesting is combined with reforestation and forest conversion programmes aimed at restoring a more resilient carbon sink. Policies and laws In principle, German climate and forest legislation is aimed at maintaining and strengthening forest carbon stocks and at managing disturbance-related losses. The Federal Climate Protection Act (Klimaschutzgesetz) sets binding national greenhouse-gas reduction pathways and, for the LULUCF sector, prescribes a net-removal target for 2030. This target can only be met if forests function again as a substantial carbon sink, so the law implicitly requires that carbon losses from disturbance be limited and compensated

	through regeneration and adapted forest management. The national Climate Action Plan 2050 and subsequent climate programmes describe measures such as increasing the share of mixed and structurally diverse stands, protecting organic soils (including forest peatlands), and restoring degraded forests so that their sink function is rebuilt over time. The Federal Forest Act (Bundeswaldgesetz) and state forest laws formally oblige all forest owners to manage sustainably, maintain forest cover and reforest or allow natural regeneration after harvesting or disturbance, and to establish more resistant and resilient forests. In practice, however, these provisions remain very generic: there are no clear, binding legal obligations to diversify stands, reduce the share of vulnerable species or implement concrete climate-adaptation measures, especially in small private forests. The long-announced reform of the Federal Forest Act has been repeatedly delayed and is still politically contested; environmental authorities and NGOs criticise existing drafts as overly cautious and insufficiently focused on strengthening the ecological and climate-protective functions of forests, calling instead for stricter requirements on structural diversity and close-to-nature management. As a result, even in the current legal framework large disturbed areas must be restocked and cannot be permanently converted to other land uses, but the law does not enforce robust, climate-adapted restructuring of (private) forests. The Federal Nature Conservation Act and state nature-conservation laws protect high-carbon and high-biodiversity forest areas (for example in national parks, Natura 2000 sites and strict reserves), limiting harvesting and other interventions and thus securing important carbon stocks. Forest strategies at federal and state level explicitly link climate-change adaptation, biodiversity conservation and carbon storage, and many of them name the preservation and strengthening of the forest carbon sink as a key objective. Fiscal and programme instruments, such as the Forest Climate Fund and specific reforestation support schemes, have been used to co-finance salvage logging, site preparation and climate-adapted planting on heavily damaged areas, even though some of these funds are now being reduced or reshaped. Relevant institutes and law enforcement Several institutions together ensure that changes in forest carbon stocks are measured, reported and managed within this legal framework. The German Environment Agency (Umweltbundesamt, UBA) coordinates the overall national greenhouse-gas inventory and is responsible for reporting to the European Commission and the UNFCCC, including the LULUCF sector. The Johann Heinrich von Thünen Institute prepares the detailed inventory for land use and forestry. It quantifies carbon stocks and fluxes in living biomass, dead wood, litter and soils, as well as harvested wood products, using national forest inventory data, soil inventories and other monitoring. These data are used both for UNFCCC reporting and for EU LULUCF accounting, and they underpin the assessment that the forest sink has recently weakened to the point that the sector no longer meets its intended net-removal contribution.

	The Federal Ministry of Food and Agriculture (BMEL) and the Federal Ministry for the Environment (BMUV) set forest and climate policy, present the results of the Federal Forest Inventory, and coordinate national strategies that combine climate protection and forest adaptation. In public statements surrounding the latest Federal Forest Inventory, BMEL has acknowledged that damage from drought, storms and bark beetles has significantly weakened the forest carbon sink and that large-scale forest conversion and regeneration is now required. Forest and nature-conservation authorities in the federal states are responsible for implementing forest and nature protection laws on the ground. They approve and check forest management plans for public and larger private forests, enforce reforestation obligations after harvesting and disturbance, and apply protected-area rules that restrict carbon-relevant activities. They also administer support programmes for salvage operations and regeneration. Research institutions and NGOs, including the Naturwald Akademie and Remote Sensing Solutions GmbH, use satellite data (for example from the Sentinel-2 missions) to map disturbance and canopy loss over time. Their analyses have documented the rapid expansion of clear and severely thinned areas in central and eastern Germany, and their findings are being used by authorities and policymakers to assess the scale of biomass and carbon loss and to plan regeneration. Performance in practice and critical reviews For decades, the Federal Forest Inventories documented steadily rising growing stock and carbon stored in living forest biomass, supported by moderate felling rates. Between the 2002 and 2012 inventories, growing stock and carbon stock in living biomass increased further, and Germany was frequently cited, for example in FAO statistics, as one of the European countries with the highest per-hectare growing stock and a strong forest carbon sink. The third Federal Forest Inventory reported an average stand volume of roughly 336 m³ per hectare, with a marked increase in old stands and large-diameter trees, and FAO data indicated an increase of about eleven percent in carbon stock in living biomass between 2008 and 2020 while forest area was almost unchanged. Since around 2018, this trend has been disrupted by consecutive years of drought, heat, storms and bark-beetle outbreaks. Damage statistics from the forestry administration show that in the peak years around 2019–2020 damaged timber accounted for the majority of fellings, and that tens of millions of cubic metres of mainly spruce and other conifers had to be felled prematurely in salvage operations. The Federal Ministry of Food and Agriculture reported that roughly 277 thousand hectares of forest were so badly damaged that they required reforestation, and that in some years more than half of total roundwood removals consisted of salvage wood. Remote-sensing projects such as the ForstEO project, funded through the Forest Climate Fund, and mapping exercises by civil-society institutes like the Naturwald Akademie, have documented large contiguous areas of canopy loss, especially in spruce-dominated regions such as the Harz and parts of

	Thuringia, Saxony and North Rhine-Westphalia. These data indicate that in affected regions living biomass and carbon stocks have declined sharply, and that younger, more uniform stands and open areas awaiting regeneration have replaced many of the former high-carbon conifer stands. The fourth Federal Forest Inventory confirms that, although the total wood stock in Germany is still high, the forest carbon sink has weakened markedly. The Thünen Institute, which prepares the official greenhouse-gas inventory for land use, land-use change and forestry, has reported in recent inventory documents that, in several periods, including 2018–2022, forest land shifted from being a net carbon sink to a net source, because disturbance-related mortality and salvage felling released more carbon than was sequestered by new growth. Analysis for the Federal Climate Protection Act shows that, under current trends, the net-removal targets set for the LULUCF sector will be significantly missed unless additional measures are taken. In the peat-rich regions of northern and eastern Germany, drained organic soils under forestry and agriculture further contribute to this source function, although forests on peat and other organic soils form only a small fraction of the forest area and are increasingly the focus of restoration under the National Peatland Strategy. From a sourcing perspective, timber and biomass mobilised from the most affected forest areas are largely salvage wood: trees that are dead or dying and would otherwise decompose on site. Harvest statistics and reports show that a very high share of conifer roundwood placed on the market in recent years has come from such damaged stands, with much of it downgraded in quality and price. Many regeneration projects, as reported by the Federal Ministry of Food and Agriculture and several state forest services, explicitly aim at more mixed, structurally diverse and climate-resilient forests, often with a higher share of deciduous species, which should restore a reliable carbon sink over time and maintain high carbon stocks in soil and litter layers even where above-ground biomass has been temporarily reduced. Critical reviews by the Scientific Advisory Board for Forest Policy, the Federal Agency for Nature Conservation and various research institutes converge on the view that the recent decline in forest carbon stocks and sink strength is primarily the result of long-term management choices combined with accelerating climate change, rather than deliberate overharvesting in the narrow sense. They point in particular to the historic expansion of spruce on vulnerable sites, insufficient reduction of game densities, and slow legal adaptation as structural causes that made forests highly susceptible to drought and pests. These bodies recommend faster and more consistent policy responses: tightening legal requirements for climate-adapted silviculture, linking public funding more strictly to near-natural, site-appropriate forest development, improving the protection of old, near-natural deciduous forests and peat-rich soils, and strengthening monitoring through more frequent inventories and remote-sensing-based early-warning systems. See also indicator 3.2.3.
Risk Rating	Low Risk

Germany Whole country	Indicator
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.
Supply Base Verifiers	Legislation Federal Forest Act (BWaldG) Federal Nature Conservation Act (BNatSchG) National Peatland Protection Strategy State Forest Laws URLs 2021 update Implementation of bioenergy in Germany – 2024 update https://www.ieabioenergy.com/wp-content/uploads/2024/12/CountryReport2024_Germany_final.pdf Act on the Protection of Cultural Monuments https://www.kulturgutschutz-deutschland.de/SharedDocs/ExterneLinks/EN/Gesetze_en/DSchG_Laender/HE_DSchG.pdf?__blob=publicationFile Alternative forest management strategies to adapt to climate change: An economic evaluation for Germany - EconStor https://www.econstor.eu/bitstream/10419/274250/1/1855083817.pdf Background report provides data and facts for Germany's National Biomass Strategy https://www.oeko.de/en/news/latest-news/background-report-provides-data-and-facts-for-germanys-national-biomass-strategy/ BUND – Kritik an forstlicher Nutzung und Management in Natura-2000-Gebieten und Schutzgebieten https://www.bund.net/themen/wald/waldpolitik/ Forest Governance: Legal-Regulatory & Organizational Frame- work Conditions https://www.congreso.es/docu/docum/ddocum/dosieres/sleg/legislatura_10/spl_77/pdfs/17.pdf Forest Strategy 2020 - Bundesministerium für Ernährung und Landwirtschaft https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/ForestStrategy2020.pdf?__blob=publicationFile&v=4 Forestry in Germany - The Institute of Chartered Foresters https://www.charteredforesters.org/wp-content/uploads/2024/02/Forestry-in-Germany.pdf Forestry With a Difference: A Comparison Between Germany and Alberta https://albertawilderness.ca/wp-content/uploads/2024/12/20241200_ar_wla_forestry_germany_canada_cspatz.pdf Federal Republic of Germany - EUR-Lex https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62003CJ0098 Full article: Will intensity of forest regeneration measures improve volume production and economy? - Taylor & Francis Online

	https://www.tandfonline.com/doi/full/10.1080/02827581.2022.2085784 Germany's proposed biomass strategy poorly received by industry - Bioenergy Insight https://www.bioenergy-news.com/news/germanys-proposed-biomass-strategy-poorly-received-by-industry/ Germany's Forests: The Current Situation - DLG.org https://www.dlg.org/en/magazine/germanys-forests-the-current-situation Greenpeace – Waldschutzreport: Bewertung des Schutzes alter Wälder und Schutzgebiete in den Bundesländern https://www.greenpeace.de/publikationen/waldschutzreport-altwaelder-deutschland Healthy production systems are key to sustainable biomass supply - EU Science Hub https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/healthy-production-systems-are-key-sustainable-biomass-supply-2025-06-24_en Influence management and disturbances on the regeneration of forest stands - Frontiers https://www.frontiersin.org/journals/forests-and-global-change/articles/10.3389/ffgc.2023.1123215/full Integration of Nature Protection in Forest Policy in Baden-Württemberg (Germany) https://efi.int/sites/default/files/files/publication-bank/projects/badenwuerttemberg.pdf International Projects for Sustainable Forest Management - Bundesministerium für Ernährung und Landwirtschaft https://www.bmleh.de/SharedDocs/Downloads/EN/Publications/international-projects-sustainable-forest.pdf?__blob=publicationFile&v=8 RED III – challenges for the use of biomass - Brüning Group https://www.bruening-group.com/news-en/red-iii-new-rules-governing-the-use-of-biomass/ Supply Base Report: - claus rodenberg waldkontor gmbh - Sustainable Biomass Program https://sbp-cert.org/wp-content/uploads/2021/02/Supply-Base-Report-v1.3_First-Surveillance-Audit_claus-rodenberg-waldkontor-FINAL.pdf Supply Base Report: DSHwood A/S Third Surveillance Audit https://dshwood.com/wp-content/uploads/2025/09/supply-base-report-2025-stakeholder-consultation.pdf The German Forest Arter The 30-Year War - - Administrative page for SLU library https://pub.epsilon.slu.se/id/document/2680 The World Needs Forests - BMZ https://www.bmz.de/resource/blob/23678/a2dffcf2e79abfb1d73e3cd0ed09de88/materialie283-forest-action-plan-data.pdf Thünen-Institut - Facts and figures for the national biomass strategy https://www.thuenen.de/en/newsroom/news/detail/facts-and-figures-for-the-national-biomass-strategy
Risk Rating justification	This indicator is meant to exclude, for example, sourcing biomass from low-productive tundra forests in the north of Canada; or, for example, a

	destructive manner of biomass sourcing on a peatland. Regarding Germany, the intent of this indicator is fulfilled through the protection and special management of wetlands, peatlands, bog forests and other low-productive or difficult-to-regenerate sites. Such areas are designated as nature conservation areas, protection forests (Schutzwälder), Ramsar wetlands, Natura 2000 habitats or legally protected biotopes, where conservation, hydrological functions and carbon storage clearly take precedence over timber production. In these zones, regular commercial harvesting is absent or very tightly restricted; interventions are usually limited to safety measures or restoration and maintenance operations (for example, removing inappropriate conifer plantations from bogs or floodplains to restore wetland function). At the same time, the wording of this indicator “primary feedstock shall not be sourced” cannot be guaranteed in an absolute sense: even in strictly protected or low-productive sites, small volumes of wood sometimes arise from conservation operations. Strictly interpreted, this would contradict the “shall not” formulation and would point to Specified Risk. However, the indicator approaches that of several EU RED requirements: biomass sourcing must not interfere with conservation values, must not lead to carbon-stock loss or nature degradation; they may only occur where operations support the protection of vulnerable sites. Under such an interpretation, German practice corresponds to Low Risk. In combination with other indicators of the SBE and the EU RED Level B report, sufficient safeguards are in place to exclude biomass sourcing in vulnerable, low-productive ecosystems. Germany has about 11.4 million hectares of forest, and roughly one third of this area, around 4 million hectares, lies within some form of legally designated protected area such as nature reserves, landscape protection areas, national parks and Natura 2000 sites. Wetlands, marshes, bogs and other low-productive forest sites are strongly represented within this network: Germany has about 1.8 million hectares of peatlands (roughly 5% of its land area), of which large shares are designated as protected biotopes, Natura 2000 sites or Ramsar wetlands, and many are forested or partially forested. In practice this means that a substantial portion of the country’s low-productive, carbon-rich forest and semi-forest areas is subject to strict conservation or at least to significant use restrictions, so that regular timber production is limited and management is focused on hydrological restoration, habitat protection and cautious maintenance interventions rather than biomass extraction. From a strict textual point of view, the “shall not be sourced” formulation can never be fully guaranteed: even on low-productive or hard-to-regenerate sites, small volumes of wood can arise from necessary conservation, safety or hydrological works and may enter biomass supply chains as a by-product. This would formally imply Specified Risk. However, the scale and character of these interventions are fundamentally different from the indicator’s implicit concern: they are not exploitation of poor sites, but maintenance or restoration operations that help protect and restore carbon stocks, water regulation and biodiversity. Critiques of German climate policy and CO_2-

	reduction performance focus on slow implementation of peatland rewetting and wetland restoration, not on new pressures from forest biomass sourcing on low-productive sites. In other words, the main policy failure is insufficient restoration speed, not the conversion of fragile wetlands, bogs or low-productivity forests into biomass extraction zones. Against this background, the literal wording of the indicator would suggest Specified Risk, but with regard to actual sourcing practice and the strong protection regime for wetlands, bogs and other low-productive sites in Germany, the operational risk of non-conforming biomass sourcing is considered low. Policies and laws German law and policy create a dense protection regime for wetlands, bogs and other fragile or low-productive forest sites, which in practice prevents their use as regular biomass supply areas. The Federal Nature Conservation Act protects a wide range of wetlands, peatlands, riparian forests and bog woodlands as “legally protected biotopes”, prohibits their destruction or significant impairment and adds strict no-deterioration and appropriate-assessment requirements for Natura 2000 sites. Ramsar wetlands and other internationally important sites are embedded in this system and managed primarily for hydrological and biodiversity functions. National strategies for peatlands, wetlands and water management prioritise rewetting, restoration of floodplains and peat soils, and removal of inappropriate tree cover where it impedes wetland function, not the expansion of forestry on these areas. The Federal Forest Act and Länder forest laws require sustainable forest management, maintenance of forest cover and regeneration after harvest or disturbance. They also provide the legal basis for designating protection forests (Schutzwälder) on steep slopes, erosion-prone sites, water-protection areas and other locations where protective or ecological functions clearly outweigh timber production. In many such Schutzwälder and bog-forest types, clear-cutting is prohibited and interventions are confined to stabilisation and maintenance. Conversion of forest to other land uses requires a separate permit, which is generally refused where protection or conservation interests prevail. Although neither federal nor state forest laws explicitly list “low-productive forest” as a separate legal category, the combination of forest, nature-protection, water and peatland legislation results in de facto exclusion or strong restriction of commercial biomass harvesting from most low-productive or difficult-to-regenerate forest sites. Germany’s large network of protected areas reinforces this situation. National parks, biosphere reserves, strict forest reserves, “forests left to natural development” and numerous Natura 2000 sites cover a significant share of bog forests, wet woodlands and other low-productivity sites. Management plans in these areas give priority to natural dynamics, biodiversity and hydrological restoration, and frequently call for the removal of historical conifer plantations or drainage structures. Where trees are removed, this is done as a conservation measure, not for biomass production. Relevant institutes and law enforcement Several institutions jointly ensure that wetlands, bogs and other sensitive

	sites are identified, mapped and protected in a way that strongly limits biomass sourcing. The Federal Agency for Nature Conservation, together with Länder nature-conservation authorities, maintains national geodata on protected areas and legally protected biotopes, including peatlands, wetlands and bog forests, and acts as scientific adviser for the designation and management of Ramsar sites and Natura 2000 habitats. The Federal Ministry for the Environment and the Federal Ministry of Food and Agriculture set the overarching strategies for peatland protection, wetland restoration and forest policy, including the National Peatland Protection Strategy, water strategies and forest strategies that emphasise the conservation and restoration of high-carbon, low-productivity ecosystems. On the forestry side, the state forest authorities (Forstbehörden) exercise forest supervision, approve forest management and development plans, and enforce reforestation and protection-forest rules on public and private land. Where forests overlap with wetlands or peatlands, they must also observe nature-conservation and water-law obligations, with any significant project subject to environmental impact assessment and, in Natura 2000 sites, an appropriate assessment of conservation compatibility. Performance in practice and critical reviews In practice, primary feedstock sourcing in Germany is concentrated in regular production forests with normal or high site productivity. Many of the most fragile areas with low site productivity and high carbon stocks—such as bog forests, wet heaths, peat domes and floodplain wetlands—are either open wetlands without forest cover, historically converted to agriculture or settlement (and therefore no longer forest land), or placed under strict or near-strict protection where commercial harvesting is absent or limited to occasional interventions. Where forests remain on peat soils or in floodplains, recent projects have tended to remove plantations to restore wetland hydrology and habitat conditions, sometimes using the removed wood but with conservation as the primary objective. Environmental NGOs such as BUND and NABU similarly argue that many Natura 2000 sites and other protected areas suffer from underfunding, lack of staff, incomplete or weak management plans, and ongoing conflicting uses (intensive forestry, hunting, infrastructure), so that legal protection is not consistently translated into strict on-the-ground conservation. They highlight that in some forests with protection status, logging, road building and game management are still prioritised over habitat restoration, deadwood retention and natural forest development, and that this delays progress towards national goals such as 5% of forest being left to develop as “wilderness”. Several critical assessments point out that German protected areas are often well designated on paper but not always managed in line with their conservation aims. A Greenpeace ranking of forest protection in the federal states concludes that most federal states still have not achieved the National Biodiversity Strategy’s goals for strictly protected forest and that efforts to designate and effectively secure sufficiently large, unfragmented protected forest areas are inadequate. It also criticises the continued use of non-native tree species and the planting of Douglas fir and other exotics even in Natura

	2000 forest areas, which can undermine conservation objectives and the integrity of protected habitats. Biomass sourcing is classified as Low Risk under this indicator (specifically related to low-productive sites), because other indicators that address the management of protected areas and high-biodiversity sites in general are already assessed as Specified Risk. Biomass sourcing must respect the no-go areas defined in the EU RED and comply with the cascading principle (indicator 3.3.1.). Climate and energy policies must not be used as a pretext to authorise harvesting timber in forest habitats with high biodiversity value.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
3.2.3	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).
Supply Base Verifiers	Legislation EU Birds Directive EU Habitats Directive EU LULUCF Regulation European Court of Justice (ECJ) Federal Action Plan on Nature-based Solutions Federal Climate Protection Act (KSG) Federal Forest Act (Bundeswaldgesetz – BWaldG) Federal Nature Conservation Act (Bundesnaturschutzgesetz – BNatSchG) National Peatland Protection Strategy Program for Natural Climate Buffers URLs Act on the Protection of Cultural Monuments https://www.kulturgutschutz-deutschland.de/SharedDocs/ExterneLinks/EN/Gesetze_en/DSchG_Laender/HE_DSchG.pdf?__blob=publicationFile Agroberichten Buitenland https://www.agroberichtenbuitenland.nl/actueel/nieuws/2023/11/21/germany-is-promoting-peatland-restoration-as-part-of-national-climate-strategy Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg Bundesministerium für Umwelt, Klimaschutz, Naturschutz und nukleare Sicherheit (BMUV) (Federal Action Plan on Nature-based Solutions) https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Naturschutz/ank_2023_kabinett_lang_en_bf.pdf Bundesministerium für Umwelt, Klimaschutz, Naturschutz und nukleare Sicherheit (BMUV) (National Peatland Protection Strategy - Brochure/PDF) https://www.bundesumweltministerium.de/fileadmin/Daten_BMU/Pools/Broschueren/nationale_moorschutzstrategie_en_bf.pdf

	DW - Germany violated nature conservation law, rules EU top court https://www.dw.com/en/germany-violated-nature-conservation-law-rules-eu-top-court/a-66882782 Federal Nature Conservation Act (BNatSchG) www.gesetze-im-internet.de/bnatschg_2009/ Frontiers (Academic Journal) https://www.frontiersin.org/journals/climate/articles/10.3389/fclim.2024.1380625/full FSC National Risk Assessment for Germany (FSC-NRA-DE) - FSC Connect https://connect.fsc.org/document-centre/documents/resource/201 Hortidaily https://www.hortidaily.com/article/9579469/germany-is-promoting-peatland-restoration-as-part-of-national-climate-strategy/ Key points of a National Biomass Strategy (NABIS) https://www.bundesumweltministerium.de/fileadmin/Daten_BMU/Download_PDF/Naturschutz/nabis_eckpunkte_en_bf.pdf National Peatland Protection Strategy | Publication – BMUKN https://www.bundesumweltministerium.de/en/publication/national-peatland-protection-strategy RVO (Rijksoverheid/Netherlands Enterprise Agency) / EUROPE https://magazines.rijksoverheid.nl/lnv/agrospecials/2023/01/germany2 The 2023 Climate Action Programme of the German Federal Government https://www.bundeswirtschaftsministerium.de/Redaktion/EN/Downloads/C/climate-action-programme-2023.pdf?__blob=publicationFile Umweltbundesamt (UBA) / Federal Environment Agency (Germany) https://www.umweltbundesamt.de/en/press/pressinformation/paludiculture-more-climate-action-rewetted Umweltbundesamt - BIOMASS CASCADES Increasing resource efficiency by cascading use of biomass — from theory to practice (Summary) https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2017-06-13_texte_53-2017_biokaskaden_summary.pdf Umweltbundesamt - Biomass: Cascading use equals best life cycle assessment https://www.umweltbundesamt.de/en/press/pressinformation/biomass-cascading-use-equals-best-life-cycle UNFCCC - First Biennial Transparency Report https://unfccc.int/sites/default/files/resource/202411116_1sBieenial%20Transparency%20Report_Germany_fin.pdf
Risk Rating justification	For carbon stocks criteria, see also indicators 2.2.1, 3.2.1 and 3.3.1. For HCV criteria, see indicators 2.1.1, 2.1.2, 2.1.3 and 4.2.3. This indicator is conceptually aligned with the “no-go area” provisions of the EU Renewable Energy Directive (EU RED). In the EU RED Level B report for Germany, old-growth forests are explicitly treated as no-go areas: forest biomass from these areas is not eligible for compliance, regardless of how suitable the harvesting operation would be. The EU RED Level B assessment for Germany provides a detailed interpretation of these no-go categories; where biomass sourcing complies with this framework, the substantive requirements of this indicator are met.

	The current situation in Germany justifies classifying this indicator as Specified Risk at a national level, as the absolute “shall not be sourced from” condition cannot be guaranteed. For feedstock demonstrably sourced in line with the EU RED Level B assessment for Germany, assurance is provided that this requirement is met. Policies and laws German and EU legislation together create a dense framework that, in principle, excludes intensive biomass sourcing from forests with combined high carbon stock and high conservation value. The Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) transposes the EU Habitats and Birds Directives and provides the main legal basis for HCV protection in forests. It establishes Natura 2000 sites (FFH and SPA areas), strictly protected biotopes (including many bogs, fens and other wetlands), nature reserves, national parks, biosphere reserves and other categories that overlap strongly with forests of high ecological and often high carbon value. Activities that would significantly impair the conservation objectives in these areas are prohibited or subject to strict appropriate-assessment procedures. The Federal Forest Act (Bundeswaldgesetz, BWaldG) and state forest laws mandate sustainable, multifunctional forest management and require forest owners to maintain forest cover, reforest after harvest or disturbance, and respect protective and nature-conservation designations. They also recognise the protective and ecological functions of forests, which is directly relevant for HCV categories linked to ecosystem services and community needs. High-carbon peatland and wetland forests are covered by the National Peatland Protection Strategy and related climate policies, which explicitly aim to reduce emissions from drained peat soils and to restore their hydrology. These strategies recognise peatlands as major national carbon stores and commit to large-scale rewetting and conservation. In addition, federal strategies on forests and biodiversity (Forest Strategy 2020/2050, National Biodiversity Strategy, Federal Action Plan on Nature-based Solutions) explicitly highlight the need to strictly protect remaining near-natural and old forests and expand areas left to natural development. Overall, the legal picture is that forests with combined high carbon stock and high conservation value are supposed to be strictly protected or managed under very restrictive regimes. The topic is classified as Specified Risk in the EU RED Level B approach and therefore also here. The legal basis of Germany does not fully exclude the performance of harvesting operations in old growth forests. Relevant institutes and law enforcement The Federal Ministry for the Environment (BMUV) and the Federal Ministry of Food and Agriculture (BMEL) set the overall framework for forest, nature and climate policy, including the designation of national parks, biosphere reserves and implementation of EU RED sustainability criteria in German law. The Federal Agency for Nature Conservation (BfN) provides the scientific basis for identifying and mapping HCV areas (Natura 2000 sites, protected

	biotopes, “forests left to natural development”, Ramsar wetlands, etc.), and develops technical guidance such as the national framework for forests left to natural development (NaBiV 145). These datasets and concepts are used by states authorities to integrate HCV and high-carbon forests into spatial planning and forest management. State forest and nature-conservation authorities (Forstbehörden, Naturschutzbehörden) are responsible for applying BWaldG and BNatSchG on the ground. They approve forest management plans, enforce protected-area regulations, and check whether operations in or near designated areas are compatible with conservation objectives. For Natura 2000 sites, they must conduct appropriate assessments for plans or projects that may affect Annex I forest habitats or the species for which sites are designated. Scientific institutes, such as the Thünen Institute and the Nordwestdeutsche Forstliche Versuchsanstalt (NW-FVA), provide data on carbon stocks, age structure and areas left to natural development, and contribute to defining practical criteria for old-growth and near-natural forests in Germany. NW-FVA compiles nationwide balances of “forests left to natural development”, currently about 3.1% of the forest area, with a policy target of at least 5%. At EU level, the European Commission and the Court of Justice oversee the correct implementation of the Habitats Directive, including in German forests, and have already taken Germany to court for deficiencies in Natura 2000 designation and management. Performance in practice and critical reviews In German practice, forest are not categorised by level of carbon stock, but forests that combine high timber stocks with high conservation value (HCV) are known and mapped. They include old and near-natural deciduous forests, strict forest reserves and “forests left to natural development”, Natura 2000 forest habitats with Annex I status, and UNESCO-listed ancient beech forests. Forested peatlands also store large amounts of carbon underground. UNESCO World Heritage beech forests and strict forest reserves are effectively set aside from timber production and represent core HCS/HCV areas where sourcing of primary feedstock is ruled out. However, many ecologically important forest habitats remain under pressure. The EU Habitats Directive assessments rate a large share of Annex I forest habitats in Germany as being in “poor” or “bad” conservation status, indicating that their structure and species composition are not yet secure. Some of these habitats lie outside formally strict reserves, and even within protected areas management effectiveness varies. The EU has initiated infringement procedures against Germany for shortcomings in Habitats Directive implementation, including delayed site designation and inadequate conservation measures. Scientific advisory bodies and NGOs criticise that existing laws and draft reforms of the Federal Forest Act do not yet provide sufficiently strict, enforceable rules for the protection of old, near-natural deciduous forests and other HCV forest types, especially in the context of climate-adaptation logging. Climate adaptation arguments can be misused to justify heavy interventions

	in for example valuable beech forests, by replacing old, species-rich stands with more “resilient” tree species (like oak), which would conflict with the EU RED requirements. Environmental agencies, scientific advisory boards and nature NGOs issue sharp warnings about the current situation of German forests. The Federal Agency for Nature Conservation stresses that many old, near-natural deciduous forests and other structurally rich stands have already suffered severe damage from drought and bark beetles, and that their resilience is being overstretched by cumulative climate and management pressures. Several expert papers underline that these forests are irreplaceable for biodiversity and long-term carbon storage, but are still not sufficiently secured by strict, legally binding protection and by a coherent network of large process-protected areas. Environmental NGOs go further and argue that the existing Federal Forest Act, drafted in the 1970s, is fundamentally outdated. They criticise the government’s reform drafts as too weak and have even presented their own model law, demanding explicit legal protection for old, near-natural forests, binding limits on clear-cuts, stricter close-to-nature management and much tighter linkage of public subsidies to biodiversity and climate performance.
Risk Rating	Specified Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation Biomasseverordnung (BiomasseV) Charta für Holz 2.0 Erneuerbaren-Energien-Gesetz (EEG) National Biomass Strategy (NaBIS) Renewable Energy Directive (RED II / RED III) URLs Alles aus Holz – Rohstoff der Zukunft oder kommende Krise – WWF-Studie: https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Wald/WWF-Studie-Alles-aus-Holz.pdf Eckpunkte der Waldstrategie 2050 - Berichte über Landwirtschaft: https://buel.bmel.de/index.php/buel/article/download/297/492/2360 Gesamtökologische Bewertung der Kaskadennutzung von Holz – Umweltauswirkungen stofflicher und energetischer Holznutzungssysteme im Vergleich - IFEU: https://www.ifeu.de/fileadmin/uploads/Publikationen/Biomasse/Landwirtschaft/IFEU%202013_Umweltbewertung%20Holzkaskadennutzung.pdf Holzwerkstoff-Industrie ruft zum Aktionstag gegen Holzverbrennung auf – material+technik: https://www.material-

	technik.de/news/detail/news/holzwerkstoff-industrie-ruft-zum-aktionstag-gegen-holzverbrennung-auf Key points of a National Biomass Strategy (NaBiS) - BMUV/BMWK/BMEL: https://www.bundesumweltministerium.de/fileadmin/Daten_BMU/Download_PDF/Naturschutz/nabis_eckpunkte_en_bf.pdf Pressearchiv – Charta für Holz 2.0 - BMEL: https://www.charta-fuer-holz.de/charta-service/presse/pressearchiv Regional Risk Assessment for Denmark Trees Outside Forests - Sustainable Biomass Program: https://sbp-cert.org/wp-content/uploads/2025/02/SBP-RRA-EU-DK-TOF_v1.0-RRA-for-Denmark-TOF_Interim.pdf Umweltbundesamt – BIOMASS CASCADES: Increasing resource efficiency by cascading use of biomass — from theory to practice (Summary): https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2017-06-13_texte_53-2017_biokaskaden_summary.pdf Umweltbundesamt – Biomass: Cascading use equals best life cycle assessment: https://www.umweltbundesamt.de/en/press/pressinformation/biomass-cascading-use-equals-best-life-cycle Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (RED II) - EUR-Lex: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018L2001 Directive (EU) 2023/2413 amending Directive (EU) 2018/2001 (RED III) - EUR-Lex: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023L2413 Erneuerbare-Energien-Gesetz (EEG 2023) – Gesetz für den Ausbau erneuerbarer Energien - BMJ: https://www.gesetze-im-internet.de/eeg_2014/ Biomasseverordnung (BiomasseV) – Verordnung über die Erzeugung von Strom aus Biomasse - BMJ: https://www.gesetze-im-internet.de/biomassev_2001/ Nationale Biomassestrategie (NaBiS) – Bundesregierung: https://www.bundesregierung.de/breg-de/themen/klimaschutz/nationale-biomassestrategie-2269138 Charta für Holz 2.0 – Informationsseite - BMEL: https://www.charta-fuer-holz.de/ Umweltbundesamt – Nutzung von Biomasse: https://www.umweltbundesamt.de/themen/klima-energie/erneuerbare-energien/bioenergie/nutzung-von-biomasse Umweltbundesamt – Holznutzung und Kaskadennutzung: https://www.umweltbundesamt.de/themen/ressourcen-abfall/holz-nachhaltig-nutzen/kaskadennutzung-von-holz European Panel Federation (EPF) – Position on cascading use of wood: https://europanels.org/library/position-papers/ WWF European Policy Office – Forests and bioenergy: https://www.wwf.eu/what_we_do/forests/forest_bioenergy/
Risk Rating justification	In Germany, the cascading use of wood is formulated as a policy goal, but not as a generally binding legal obligation at the forest or mill gate. The EU Renewable Energy Directive requires Member States to take due account of cascading when designing biomass support schemes, and Germany has

	responded with subsidy rules and strategic documents that formally prioritise long-lived material uses. At the same time, Germany is a market economy with strong, often subsidised demand for energy wood (with end-users in both Germany and abroad). In recent years this demand has coincided with high levels of salvage logging. Under these conditions, the selection and sorting of wood qualities is often constrained by time and logistics, and there is a realistic chance that quality stemwood ends up as biomass. This combination of non-binding cascading principles, strong market incentives and crisis-driven harvesting results in classifying this indicator as Specified Risk for primary wood. Policies and laws At EU level, the cascading principle is embedded in the Renewable Energy Directive; Germany reflects this in the Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz, EEG) and the Biomass Ordinance (Biomasseverordnung, BiomasseV), which define which biomass categories can receive subsidies and under what conditions. In practice, these rules tend to channel support towards residues, waste wood and lower-grade primary biomass, but they do not create a legal ban on using quality wood for energy production. National and foreign biomass subsidy schemes can still draw industrial-grade wood away from the production of long-lived goods. The National Biomass Strategy (Nationale Biomassestrategie, NaBiS) was adopted jointly by several federal ministries and formulates the current federal position on biomass in general. Public statements on the strategy emphasise that the core guiding principle is cascading and multiple use: where technically and economically feasible, biomass should first be used materially, especially in long-lived products, and energy use should come at the end of the cascade, with a focus on waste and residues rather than on primary raw wood. The BMEL's "Charta für Holz 2.0" similarly promotes resource-efficient, long-lived material use of wood and explicitly references cascading as a way to maximise climate benefits. However, these documents do not establish a legal prohibition on the use of quality pulpwood or sawlog-grade timber for energy purposes. Climate and forest strategies, including the Forest Strategy 2050 and climate-action programmes, underline the importance of using wood in construction and other long-lived applications as a climate measure, but again in the form of targets and recommendations rather than hard rules. Germany's obligations under the EU LULUCF Regulation and the Federal Climate Protection Act add a further layer of climate logic: to meet binding net-removal targets for the land-use sector, the forest carbon sink and carbon stored in harvested wood products must be strengthened. This logically favours long-lived material uses over short-lived energy uses, but there is no direct legal rule that, in case of competition, a sawlog must not be burnt as biomass. In addition, the German framework cannot control biomass subsidy schemes in other countries. Even when German laws and regulations would be more restrictive, demand for biomass from neighbouring states or overseas could

	still pull industrial-grade wood from the Supply Base. Relevant institutes and law enforcement Several federal ministries and expert agencies are involved in shaping and overseeing the cascading principle, but enforcement is confined to the realm of subsidy conditions only. The Federal Ministry for Economic Affairs and Climate Action (BMWK) and the Federal Ministry of Food and Agriculture (BMEL) jointly set the strategic direction through the National Biomass Strategy and programmes such as the "Charta für Holz 2.0". They are responsible for the legal design of relevant support schemes, in particular the EEG and its implementing ordinances. The Federal Network Agency and funding agencies apply these rules when granting or withdrawing feed-in tariffs and other support. The German Environment Agency (Umweltbundesamt, UBA) plays a central advisory role. It regularly publishes analyses and scenario studies on biomass use and climate protection, comparing material and energetic pathways and consistently concluding that cascading — long-lived material use followed by energy use of residues — yields the highest climate and resource-efficiency benefits. These analyses have strongly influenced the National Biomass Strategy and related policy discussions. On the side of the wood and panel industries, sectoral organisations monitor conflicts between material and energetic uses and advocate for strict implementation of the cascading principle. Their input has also shaped EU-level provisions that restrict subsidies for burning industrial-grade roundwood and encourage priority for material uses. Actual law enforcement in a narrow sense is limited. Authorities can deny or revoke EEG support if a plant is found to be using feedstock that does not meet the eligibility criteria of the BiomasseV, such as burning industrial-grade logs under a tariff intended for residues. There is, however, no inspection regime that tracks the trade in wood products on the cascading use principle. Performance in practice and critical reviews In practice, Germany shows a mixed picture. On the one hand, cascading is established for secondary and tertiary wood flows (not in scope of this SBE). The wood-based panel industry, paper industry and waste-wood sector achieve high rates of reuse and recycling, and waste wood is widely used both in panels and as an energy source at the end of its life. On the other hand, for primary forest biomass, especially under the recent salvage-logging conditions, the cascading principle is only partially realised, and competition between material and energetic uses persists (in scope of this SBE). Environmental and industry sources in Germany have repeatedly warned that too much quality wood is being burned for energy production. WWF Germany, in its study "Alles aus Holz – Rohstoff der Zukunft oder kommende Krise", developed with the University of Kassel, describes the industrial combustion of wood for energy as the worst possible use of limited and valuable wood resources. The report uses Germany as a high-consumption example and explicitly calls for an end to misguided subsidy incentives that promote the direct burning of valuable wood assortments instead of

	prioritising material uses and waste reduction. Similar criticism comes from within the wood-processing sector. The Verband der Deutschen Holzwerkstoffindustrie (VHI), together with the Europäischer Holzwerkstoffverband (EPF), has warned in a public campaign that an increasing share of industrially usable wood is disappearing irreversibly in biomass power plants and commercial as well as private heating systems. In that statement, the VHI's managing director characterises state subsidies and tax breaks for burning wood under the label biomass as irresponsible and argues that they endanger the raw-material supply for the wood industry and threaten jobs. Since 2018, German forestry has been dominated by disturbance-driven salvage logging. Official statistics show that damaged timber reached on the order of 60 million cubic metres in 2020, accounting for nearly three quarters of total fellings that year; even in 2023, damaged timber still represented on the order of 38–39 million cubic metres, or roughly half of all felling. Large areas of spruce and other conifers have been cleared or heavily thinned well before their planned rotation age. In such crisis situations, operations are driven by the need to remove infested wood quickly and by limited storage and processing capacities. Although sawmills and panel mills take substantial volumes of salvage wood, industry reports and market analyses indicate that log quality, logistical bottlenecks and regional over-supply often lead to higher shares of stem wood flowing into energy uses than would be expected under a working cascading regime. High energy prices and strong demand for renewable energy, reinforced by subsidy schemes in Germany and other European countries, have increased the economic pull toward using wood chips and pellets as fuel. Industrial wood-processing sectors, by contrast, receive no subsidies and can be temporarily saturated. The combination of forest loss, repeated salvage operations and the use of roundwood as biofuel can erode the availability of quality assortments for the German wood-processing industry and increase the risk of supply shortages in the future. Analyses by federal expert bodies and independent institutes underline that, despite clear policy statements, the full potential of cascading for primary biomass remains underused. They highlight persistent structural conflicts between the energy and material wood sectors and warn that support schemes must be carefully calibrated. The National Biomass Strategy itself acknowledges that sustainable domestic biomass potential is limited and that efficiency and cascading are therefore essential, implicitly recognising that current practice does not fully match the desired hierarchy. From a risk-assessment perspective, the key point is that there is no general, enforceable legal rule in Germany that prevents quality stem wood from being used as fuel wood when market conditions favour that outlet. Though policy documents and many market actors support the cascading principle, there is a Specified Risk that feedstock sourcing is not compliant with this requirement in practice.
Risk Rating	Specified Risk

Germany Whole country	Indicator
4.1.1	Freedom of association and the right to collective bargaining shall be respected in the workplace.
Supply Base Verifiers	Legislation Basic Law (Grundgesetz, GG) Collective Bargaining Act (Tarifvertragsgesetz, TVG) EU's Corporate Sustainability Due Diligence Directive (2024) European Convention on Human Rights Germany's due diligence law (2023) ILO Convention No. 87 (Freedom of Association) ILO Convention No. 98 (Right to Organise and Collective Bargaining) Works Constitution Act (Betriebsverfassungsgesetz, BetrVG) URLs BMAS - Supply Chain Act https://www.bmas.de/EN/Europe-and-the-World/International/Supply-Chain-Act/supply-chain-act.html BMEL - NAP Sustainable Use of Plant Protection Products https://www.bmel.de/EN/topics/farming/plant-production/NAP-sustainable-use-plant-protection-products.html Bund für Umwelt und Naturschutz Deutschland (BUND) – Pesticides (Forestry) https://www.bund.net/umweltgifte/pestizide/forstwirtschaft/ Collective Agreement Act celebrates its 50th anniversary | Eurofound https://www.eurofound.europa.eu/en/publications/all/collective-agreement-act-celebrates-its-50th-anniversary Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_tvg/englisch_tvg.html Corporate sustainability due diligence (EU) - European Commission https://commission.europa.eu/business-economy-euro/doing-business-eu/sustainability-due-diligence-responsible-business/corporate-sustainability-due-diligence_en Corporate Sustainability Due Diligence Directive (EU) 2024/1760 - EUR-Lex https://eur-lex.europa.eu/eli/dir/2024/1760/oj/eng CSR in Deutschland (Federal Government portal) - Supply Chain Act https://www.csr-in-deutschland.de/EN/Business-Human-Rights/Supply-Chain-Act/supply-chain-act.html European Convention on Human Rights (text, PDF) https://www.echr.coe.int/documents/d/echr/convention_eng.pdf Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87) – NORMLEX https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312232:NO German employers must prepare for new collective bargaining obligations - Pinsent Masons https://www.pinsentmasons.com/out-law/news/german-employers-collective-

	bargaining-obligations German Labour Law - An Overview 2022 - Hogan Lovells (PDF) https://www.hoganlovells.com/-/media/project/english-site/our-thinking/pdfs/client_note_german_labour_law_update-2025_kn_lg.pdf Grundgesetz (Basic Law, GG) - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html Humpert and Others v. Germany [GC] (Judgment 14.12.2023) - HUDOC (ECtHR) https://hudoc.echr.coe.int/?i=001-229726 ILO - Observation (CEACR) adopted 2024, published 113th ILC session (2025) https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4416817,102643 Kohaut (2024) - The Demise of Works Councils in Germany (Discussion Paper) https://www.econstor.eu/bitstream/10419/299933/1/dp17005.pdf Labor Laws in Germany [A Complete Guide] – RemoFirst https://www.remofirst.com/post/guide-to-labor-laws-in-germany Labour and collective bargaining law - Die Arbeitgeber https://arbeitgeber.de/en/themen/arbeitsrecht-und-tarifpolitik/arbeits-und-tarifrecht/ Landesforsten Rheinland-Pfalz - Forstämter und Forstreviere https://www.wald.rlp.de/wir/unsere-strukturen/forstaemter-und-forstreviere Observation (CEACR) - adopted 2017, published 107th ILC session (2018) - NORMLEX (Germany) (Comment ID: 3343942) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:3343942,102643 Observation (CEACR) - adopted 2021, published 110th ILC session (2022) - NORMLEX (Germany) (Comment ID: 4118566) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4118566,102643 Ratifications of C150 - Labour Administration Convention, 1978 (No. 150) – NORMLEX https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11300:0::NO:11300:P11300_INSTRUMENT_ID:312295 Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (C87, C98) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:::::P11200_INSTRUMENT_SORT,P11200_COUNTRY_ID:2,102643 Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (Full List) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102643 Recent Developments in German Labor Law: Freedom of Association, Industrial Action, and Collective Bargaining https://mckinneylaw.iu.edu/practice/law-reviews/iiclr/pdf/vol9p47.pdf Reuters - Germany faces year of industrial strife as companies go into battle with workers (13 Feb 2025)

	https://www.reuters.com/markets/europe/germany-faces-year-industrial-strife-as-companies-go-into-battle-with-workers-2025-02-13/ Right to Organise and Collective Bargaining Convention, 1949 (No. 98) – NORMLEX https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312243 Table of Contents - European Working Group on Labour Law (Germany report, PDF) https://ewll.eu/wp-content/uploads/2019/08/EWLL-2015-collective-bargaining-german-report.pdf The right to strike in the public services – EPSU (PDF) https://www.epsu.org/sites/default/files/article/files/Germany%20-%20Right%20to%20strike%20in%20the%20public%20sector%20-%20EPSU%20format%20-%20Updated%20DB_0.pdf U.S. Department of State - 2023 Country Reports on Human Rights Practices/Germany https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/ Works Constitution Act (Betriebsverfassungsgesetz, BetrVG) - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_betrvg/englisch_betrvg.html
Risk Rating justification	Policies and laws Freedom of association and the autonomy of collective bargaining are constitutionally protected in Germany under Article 9(3) of the Basic Law (Grundgesetz). This protection covers forming and joining trade unions and employers' associations, and it renders agreements or measures that impair this right unlawful. For the forestry workforce in Germany, these constitutional guarantees apply to private-sector employment relationships and to public employees under collective agreements (Tarifbeschäftigte), including those working for state forestry bodies where staff are employed under ordinary labour law. Germany is bound by international labour standards relevant to this indicator through its ratification of the ILO fundamental conventions on freedom of association and collective bargaining, notably Convention No. 87 and Convention No. 98. These standards are implemented through German law rather than operating as stand-alone workplace rules, but they shape compliance expectations and the scrutiny applied to Germany's legal framework. Collective bargaining in Germany is structured primarily through the Collective Agreements Act (Tarifvertragsgesetz, TVG), which defines the parties to collective agreements and the binding effect of collective agreements on the members within their scope. Workplace representation alongside (not instead of) trade unions is governed by the Works Constitution Act (Betriebsverfassungsgesetz, BetrVG), which provides a legal basis for works councils (Betriebsräte) in eligible establishments and protects works council activity, including through offences provisions aimed at preventing obstruction. A long-standing, legally distinct regime applies to civil servants (Beamte).

	Beamte may join associations and unions, but their status is governed by public law principles (including Article 33(5) of the Basic Law) and their remuneration and key employment conditions are set by legislation rather than collective bargaining. Beamte are also subject to a general prohibition on strikes under German constitutional and administrative law. In German forestry this matters because parts of public forest administration include Beamte posts (e.g., in state forestry structures), while other forestry staff may be public employees under collective agreements or private-sector employees. Supply-chain due diligence rules can also be relevant where forestry enterprises operate through complex contracting and subcontracting. Germany's Act on Corporate Due Diligence Obligations in Supply Chains (in force since 1 January 2023) and the EU Corporate Sustainability Due Diligence Directive (in force since 25 July 2024) explicitly place human-rights due diligence expectations on in-scope companies, which typically include respect for freedom of association and collective bargaining in their value chains. These frameworks do not replace German labour law, but they can increase compliance pressure on larger forestry and timber actors and on purchasers using German forest supply bases. Relevant institutes and law enforcement Enforcement of freedom of association and collective bargaining in the forestry workplace relies mainly on judicial and institutional mechanisms rather than routine administrative inspection. The labour court system (Arbeitsgerichte, Landesarbeitsgerichte and the Federal Labour Court, Bundesarbeitsgericht) provides the primary forum for enforcing rights against anti-union discrimination, interference with works council activity, and disputes linked to collective agreements and industrial action. Constitutional questions, including the limits of collective bargaining autonomy and the special status of Beamte, can ultimately be reviewed by the Federal Constitutional Court (Bundesverfassungsgericht). For Beamte, disputes about status rights and strike prohibitions typically run through administrative courts rather than labour courts. Key institutional actors in practice include trade unions active in sectors that cover forestry-related work and in public services, employers and employers' associations that negotiate collective agreements, and works councils at establishment level where they exist. The Works Constitution Act includes mechanisms intended to protect works council formation and operation, including provisions addressing obstruction and the participation of trade union delegates in works council processes. On the government side, the Federal Ministry of Labour and Social Affairs (BMAS) leads labour policy at federal level and publishes guidance on supply-chain due diligence obligations, while enforcement of many workplace rules is implemented through Länder structures. For the international and European oversight layer, Germany reports under ILO supervisory procedures, and the ILO Committee of Experts (CEACR) issues observations and requests regarding conformity of German practice with Conventions No. 87 and No. 98, including the scope of restrictions applied to public servants.

	European human-rights review is also relevant: the European Court of Human Rights (ECtHR) adjudicates complaints under Article 11 ECHR (freedom of association), which has been central in recent litigation on Beamte strike restrictions. Performance in practice and critical reviews For the private forestry workforce and for public employees under collective agreements, the legal framework provides a clear route to forming and joining unions, engaging in collective bargaining through recognised bargaining parties, and taking protected industrial action when it is connected to collective bargaining objectives and conducted under the legal constraints developed in German case law. The existence of statutory works council rights can strengthen minimum workplace-level representation where forestry actors meet the legal thresholds and where employees are willing and able to establish councils. Where workers or representatives allege interference, remedies are primarily pursued through court processes and the enforcement of statutory protections. In German forestry, the most structurally significant limitation for this indicator is the Beamte regime in public forest administrations. Recent European human-rights case law has confirmed that Germany's general strike ban for civil servants can be compatible with the ECHR when viewed together with compensatory mechanisms and the overall civil-service framework. At the same time, ILO supervisory bodies have repeatedly treated Germany's status-based exclusion of civil servants from collective bargaining and strike action as a continuing point of tension with ILO principles, especially where restrictions apply broadly by status rather than narrowly by function. For forestry supply bases with public forest management components staffed by Beamte, this means the indicator is met for freedom of association in a narrow sense (membership and organisation), but collective bargaining and strike rights are restricted for those specific roles by design of the constitutional civil-service system. A separate critical strand concerns the practical ease of establishing and maintaining workplace representation in smaller or decentralised employers, which is relevant to forestry contracting structures. Recent academic work on German works councils has highlighted a longer-term erosion in works council presence and points to increasing employer opposition to works council formation in parts of the private sector; this line of critique typically argues that formal rights exist but can be difficult to realise in practice where establishments are small, where employment is fragmented, or where workers fear retaliation. Parallel contemporary reporting on industrial relations in Germany has also described a more conflictual environment in some sectors, with claims that some employers are testing the limits of negotiated arrangements, which increases the importance of effective dispute-resolution and enforcement pathways for minimum performance assurance. Taken together for German forestry, the minimum verifiable position is that the core rights are embedded in constitutional and labour-law architecture for private-sector forestry work and for public employees under collective

	agreements, with functioning judicial enforcement routes. The principal, clearly defined exception is the constitutionally anchored restriction on collective bargaining and strike action for Beamte, which can be relevant for parts of public forestry administration, and which remains the most persistent point of international supervisory criticism even after the ECtHR's confirmation of compatibility under the ECHR framework.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.1.2	Forced or compulsory labour shall not be used.
Supply Base Verifiers	Legislation Act Against Illegal Employment (SchwarzArbG) Abolition of Forced Labour Convention (ILO No. 105) Criminal Code (Strafgesetzbuch or StGB) (Specifically Sections 232, 232b) Forced Labour Convention (ILO No. 29) German Federal Law (Grundgesetz, GG) (Specifically Article 12(3)) ILO Fundamental Conventions Supply Chain Due Diligence Act (Lieferkettensorgfaltspflichtengesetz or LkSG) UN Guiding Principles (Framework) URLs 2024 Trafficking in Persons Report: Germany - U.S. Department of State https://www.state.gov/reports/2024-trafficking-in-persons-report/germany/ Abolition of Forced Labour Convention, 1957 (No. 105) – NORMLEX (text) https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312250 Act Against Illegal Employment (SchwarzArbG) - Gesetze im Internet https://www.gesetze-im-internet.de/schwarzarbg_2004/ Aufgaben und Befugnisse der Finanzkontrolle Schwarzarbeit (FKS) - Zoll https://www.zoll.de/DE/Fachthemen/Arbeit/Bekaempfung-der-Schwarzarbeit-und-illegalen-Beschaeftigung/Aufgaben-und-Befugnisse/aufgaben-und-befugnisse_node.html Basic Law for the Federal Republic of Germany - FRA (Art. 12 reference) https://fra.europa.eu/nl/law-reference/basic-law-federal-republic-germany-12 Basic Law for the Federal Republic of Germany - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html Basic Law for the Federal Republic of Germany - Wikipedia https://en.wikipedia.org/wiki/Basic_Law_for_the_Federal_Republic_of_Germany BAFA - Unternehmerische Sorgfaltspflichten in Lieferketten https://www.bafa.de/DE/Lieferketten/lieferketten_node.html BAFA - Vereinfachungen für Unternehmen beim Lieferkettengesetz (01.10.2025)

	https://www.bafa.de/SharedDocs/Kurzmeldungen/DE/Lieferketten/20251001_Vereinfachung_LksG.html Bundeswaldinventur - Forest Binds CO2 https://www.bundeswaldinventur.de/en/third-national-forest-inventory/background-information/forest-bind-co2 Bundestag - Keine Schwerpunktprüfungen der FKS in der Forstwirtschaft (18.11.2025) https://www.bundestag.de/presse/hib/kurzmeldungen-1127270 Bundestag - Nationaler Aktionsplan gegen Arbeitsausbeutung und Zwangsarbeit (Drucksache 20/14970, 13.02.2025) https://dserver.bundestag.de/btd/20/149/2014970.pdf Criminal Code (StGB) § 232 - Gesetze im Internet https://www.gesetze-im-internet.de/stgb/__232.html Criminal Code (StGB) § 232b - Gesetze im Internet https://www.gesetze-im-internet.de/stgb/__232b.html Direct Request (CEACR) - adopted 2015, published 105th ILC session (2016) - NORMLEX (Comment ID: 3253911) https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID:3253911 EVALUATION REPORT GERMANY - GRETA (Third evaluation round, 07.06.2024) https://rm.coe.int/greta-evaluation-report-on-germany-third-evaluation-round-focus-access/1680b04977 Forced Labour Convention, 1930 (No. 29) – NORMLEX (text) https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312174 Germany - European Commission - Migration and Home Affairs (Trafficking) https://home-affairs.ec.europa.eu/policies/internal-security/organised-crime-and-human-trafficking/together-against-trafficking-human-beings/eu-countries/germany_en German Forced Labour Compensation Programme - Oxford Public International Law https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e1731 Grundgesetz (GG) Art. 12 - Gesetze im Internet https://www.gesetze-im-internet.de/gg/art_12.html GRETA publishes its third report on Germany - Council of Europe (news) https://www.coe.int/en/web/anti-human-trafficking/-/greta-publishes-its-third-report-on-germany Human trafficking and exploitation | National Situation Report 2022 - BKA (PDF) https://www.bka.de/SharedDocs/Downloads/EN/Publications/AnnualReportsAndSituationAssessments/TraffickingInHumanBeings/traffickingInHumanBeingsReport2022.pdf?__blob=publicationFile&v=3 Illegal Employment | Handbook Germany : Together https://handbookgermany.de/en/illegal-employment ILO Fundamental Conventions (ratifications for Germany) – NORMLEX https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:::::P11200_INSTRUME

	NT_SORT,P11200_COUNTRY_ID:2,102643 Regulation (EU) 2024/3015 on prohibiting products made with forced labour (PDF) – EUR-Lex https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ%3AL_202403015 Supply Chain Due Diligence Act (LkSG) - Gesetze im Internet https://www.gesetze-im-internet.de/lksg/ The Illegal Employment of Foreigners in Germany - SE Legal https://se-legal.de/employment-lawyers-germany/illegal-employment-of-foreigners-german-lawyer/?lang=en Trafficking Directive amendment (Directive (EU) 2024/1712) – EUR-Lex https://eur-lex.europa.eu/eli/dir/2024/1712/oj UN Guiding Principles on Business and Human Rights (UNGP) (PDF) https://www.ohchr.org/sites/default/files/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf UNODC SHERLOC - Article 232-233 (German Criminal Code) https://sherloc.unodc.org/cld/legislation/deu/german_criminal_code/special_part_-_chapter_eighteen_/section_232-233a/article_232-233.html?lng=en What should you do if you are affected by trafficking in human beings? - hilfe-info.de https://www.hilfe-info.de/Webs/hilfeinfo/EN/Leaflets/29-merkblatt_menschenhandel.html
Risk Rating justification	Policies and laws Forced or compulsory labour is prohibited in Germany at constitutional level and by criminal law. Article 12(3) of the Basic Law (Grundgesetz, GG) prohibits forced labour, with the narrow exception of work required of persons deprived of liberty by a court judgment. Germany has also ratified the ILO Forced Labour Convention, 1930 (No. 29) and the ILO Abolition of Forced Labour Convention, 1957 (No. 105), and has ratified the 2014 Protocol to Convention No. 29; these commitments are implemented through German legislation and enforcement practice. Criminal law provides the core prohibition and sanctions. The Criminal Code (Strafgesetzbuch, StGB) criminalises trafficking in human beings for the purpose of labour exploitation and forced labour, and provides for significant custodial penalties. These offences apply across all sectors, including forestry, and cover both direct perpetrators and those who knowingly benefit from or facilitate exploitation under relevant participation/assistance rules. In addition to criminal law, Germany applies a framework aimed at preventing exploitative and illegal employment relationships that can be linked to forced labour risks. This includes the Act to Combat Undeclared Work and Illegal Employment (Schwarzarbeitsbekämpfungsgesetz, SchwarzArbG), which underpins inspections and investigations by customs authorities. For business-related prevention beyond Germany's borders, the Supply Chain Due Diligence Act (Lieferkettensorgfaltspflichtengesetz, LkSG), in force since 2023 (scope expanded in 2024), requires covered companies to identify and address human-rights risks in their own operations and supply chains, explicitly including forced labour/forced labour-like situations. EU-level developments add further pressure relevant to forest products placed on the

	EU market: the amended EU Anti-Trafficking Directive (Directive (EU) 2024/1712, updating Directive 2011/36/EU) strengthens the overall EU framework against exploitation, and Regulation (EU) 2024/3015 prohibits placing or making available products made with forced labour on the Union market (with full application after a transition period). For German forestry, this legal architecture means there is no lawful pathway for forced labour in forest operations, contracting, or service provision: any such conduct is prohibited and prosecutable, and illegal employment structures that can enable coercion are subject to inspection and sanction regimes. Relevant institutes and law enforcement Law enforcement for forced labour in Germany is primarily criminal-justice and inspection based. Police and public prosecutors at Länder level investigate and prosecute suspected forced labour and labour trafficking cases; larger or cross-regional cases are coordinated via Länder criminal investigation offices (LKA), and the Federal Criminal Police Office (Bundeskriminalamt, BKA) has a coordinating and analytical role for serious and cross-border organised crime patterns. A central operational actor for prevention and detection of labour exploitation is the customs administration's Financial Control of Undeclared Work unit (Finanzkontrolle Schwarzarbeit, FKS). Under SchwarzArbG and related rules, FKS carries out workplace controls, examines employment documentation and pay/working-time compliance, and investigates illegal employment structures. Since its mandate expansion, FKS also checks for indicators of exploitative working conditions and forced labour-like situations within the scope of its controls, with coordination between ministries and enforcement bodies. For forestry, this matters because forest work is frequently delivered via contractors and subcontractors, and exploitative arrangements (if present) would typically manifest through employment-status, pay, accommodation, dependency, debt or document-control patterns that enforcement bodies look for in other labour-intensive sectors. The Federal Office for Economic Affairs and Export Control (BAFA) is the competent authority for monitoring and enforcing the LkSG. It can receive complaints and initiate risk-based controls. However, BAFA's enforcement approach is influenced by political/administrative instructions; this is relevant when assessing the minimum credible level of deterrence and detectability for supply-chain linked forced-labour risks, including those arising through forestry service and contracting chains. Labour protection and occupational safety authorities at Länder level (often referred to as Gewerbeaufsicht, with varying names by Land) conduct inspections on working conditions within their remit and can impose administrative measures and refer suspected crimes to prosecutors. In forestry, occupational safety bodies and statutory accident insurance institutions play an additional practical role through prevention systems, requirements and field presence, though forced labour itself remains primarily a criminal-law and illegal-employment enforcement topic.

	Performance in practice and critical reviews For German forestry supply bases, the minimum-performance expectation is anchored in the strength and direct applicability of the constitutional prohibition, criminal offences, and the presence of inspection and criminal-investigation institutions with legal powers to intervene. A typical compliant forestry operator or contractor can only operate lawfully with voluntary employment relationships, lawful pay and social security arrangements, and without coercive practices; any credible allegation of forced labour would fall into criminal territory rather than a mere regulatory non-compliance issue. The residual risk scenario for a “minimum actor” in the forestry supply base is therefore not a lawful operator, but a small, opaque, or short-lived contracting chain (including subcontracting and posted/migrant labour arrangements) that also engages in undeclared work, unlawful deductions, dependency through accommodation/transport, document retention, threats, or other coercive controls. Forestry shares some structural vulnerability factors seen in other sectors (temporary crews, dispersed worksites, language barriers, labour intermediaries). Whether these risks are detected depends heavily on inspection reach, targeting choices, worker access to complaints channels, and victim identification capacity. Recent public and institutional reviews emphasise precisely these system-capacity questions. In its third evaluation report on Germany (published 7 June 2024), the Council of Europe’s GRETA calls for intensified efforts against trafficking for labour exploitation, including sufficient staffing and resources for the FKS, stronger monitoring of recruitment and temporary-work agencies, and improved victim access to justice and remedies. The German Institute for Human Rights’ monitoring work likewise highlights persistent implementation gaps (notably around identification/referral and coherent reporting/monitoring structures) and situates German measures within the updated EU framework against trafficking and exploitation. For forestry specifically, a concrete, recent point relevant to minimum-performance assessment is that the German government stated there were no nationwide FKS “priority focus” inspection campaigns in the forestry sector during 2015–2025. This does not imply absence of controls, but it does mean detection in forestry relies on general, risk-based controls and case-driven investigations rather than sector-wide targeted inspection programmes. From a minimum-performance perspective, that lowers confidence that exploitation patterns (if present in small contractor chains) would be systematically surfaced without external triggers (complaints, intelligence, or linked investigations in other sectors). Finally, supply-chain enforcement dynamics changed in 2025 in a way that is relevant to forced-labour risk management beyond the forest site itself: BAFA publicly stated it would stop checking company reports under the LkSG and would apply higher thresholds for imposing fines, focusing sanctions on severe violations. The legal prohibition of forced labour remains unchanged, and BAFA retains other tools (including complaint intake and risk-based controls), but this shift is a credible point of criticism in secondary reviews because it can reduce transparency and the perceived likelihood of

	administrative consequences for weaker due diligence practice in contractor and supplier chains that may touch forestry operations.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.1.3	Child labour shall not be used.
Supply Base Verifiers	Legislation Child Labour Protection Ordinance (Kinderarbeitsschutzverordnung, KindArbSchV) Constitutional Law (Grundgesetz, GG) (Specifically Article 104a) Criminal Code (Strafgesetzbuch) (Specifically Section 225) ILO Convention No. 138 (Minimum Age) ILO Convention No. 182 (Worst Forms of Child Labour) Youth Employment Protection Act (Jugendarbeitsschutzgesetz, JArbSchG) URLs Bund für Umwelt und Naturschutz Deutschland (BUND) - Pesticides www.bund.net/umweltgifte/pestizide/forstwirtschaft/ Criminalization of Severe Labour Exploitation in Germany https://fra.europa.eu/sites/default/files/fra_uploads/severe-labour-exploitation-country_de.pdf data.unicef.org - Monitoring the situation of children and women https://data.unicef.org/topic/child-protection/child-labour/ Euractiv - Integrated Pest Management www.euractiv.com/section/agriculture-food/news/germany-bets-on-integrated-pest-management-for-halving-pesticide-use/ German Criminal Code http://www.gesetze-im-internet.de/stgb/ Gesetze im Internet - Youth Employment Protection Act (JArbSchG) http://www.gesetze-im-internet.de/jarbschg/ Global March Against Child Labour https://globalmarch.org/ Human Rights Watch - Europe https://www.hrw.org/europe U.S. Department of State - 2023 Country Reports on Human Rights Practices/Germany https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/
Risk Rating justification	The prohibition of child labour is one of the core principles of the International Labour Organization (ILO), mandated by key fundamental conventions that Germany has ratified and implemented through comprehensive national law. For Germany the scope related to this indicator is: C138 (No. 138) Minimum Age Convention, 1973 Ratified (2006) and implemented in: Youth Employment Protection Act (Jugendarbeitsschutzgesetz, JArbSchG).

	C182 (No. 182) Worst Forms of Child Labour Convention, 1999. Ratified (2001) and implemented in: Criminal Code (**Strafgesetzbuch, StGB) (Section 225) and Youth Employment Protection Act (JArbSchG). Applicable laws, regulations and policy frameworks The German Federal Law (Grundgesetz), specifically Article 104a, prohibits any form of child exploitation, forming the basis for child protection laws. The German Criminal Code (Strafgesetzbuch), in Section 225, criminalizes engaging children in work harmful to their physical or mental well-being, with penalties up to a €500,000 fine or imprisonment. Germany has ratified all relevant ILO Conventions, including Convention No. 138 (Minimum Age) and Convention No. 182 (Worst Forms of Child Labour). The ILO's monitoring body (CEACR) receives regular reports on compliance (as confirmed by the Direct Request from 2012). Youth Employment Protection Act (Jugendarbeitsschutzgesetz, JArbSchG): This is the principal law, establishing the general minimum age for employment at 15 and strictly regulating work for minors under 18. Child Labour Protection Ordinance (Kinderarbeitsschutzverordnung, KindArbSchV): This ordinance supplements the JArbSchG by detailing specific rules for the employment of children (e.g., in family-owned businesses, during school holidays, or the entertainment industry), ensuring any work is age-appropriate and non-hazardous. Sanctions: The JArbSchG defines violations that transition from administrative offenses to criminal offenses if a minor employee's health is jeopardized. Identification of institutional roles and oversight functions (incl. law enforcement) The state is organized to prevent, detect, and prosecute child labor: Enforcement Agencies: Occupational health and safety authorities (Gewerbeaufsicht) monitor compliance with the JArbSchG at the state level. These authorities, alongside the police and public prosecutors, investigate and prosecute violations. The legal framework ensures that the state and businesses treat child protection as a mandatory compliance issue. The U.S. Department of State Human Rights Report (2023) confirms the government's effective enforcement of labor laws, including those pertaining to minors. Analysis of practical performance by minimum and typical actors The practical outcome confirms that child labor is not a factor in the German supply base. Child labor is virtually non-existent in Germany's formal economy due to strong cultural norms, effective enforcement, and deterrent penalties. The law allows only limited exceptions for light work that is non-harmful and does not interfere with school. No references were found regarding child labour in the forest sector of Germany by organizations like the Global March Against Child Labour or UNICEF. This indicates that while risks in general supply chains are continually monitored, the risk profile in the domestic forestry sector is

	negligible. Any employer attempting to use illegal child labor would be a clear outlier subject to criminal prosecution. Critical review based on secondary sources The prohibition of child labor is one of the most firmly established legal and social norms in Germany, as demonstrated by the ratification and implementation of ILO Conventions 138 and 182. The comprehensive scope of the Youth Employment Protection Act and the Child Labour Protection Ordinance goes beyond mere prohibition, actively managing the working conditions for minors under 18 to ensure safety and well-being, confirming the legal mandate is followed in practice.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.1.4	Workers shall not be discriminated in hiring, remuneration, access to training, promotion, termination or retirement.
Supply Base Verifiers	Legislation Constitutional Mandate (Article 3 of the German Basic Law / Grundgesetz) Dismissal Protection Act (KSchG) Equal Opportunities Act (Gleichstellungsgesetz) General Act on Equal Treatment (AGG) ILO Fundamental Conventions Remuneration Transparency Act (EntgTranspG) Severely Disabled Persons Act (SchwbG) URLs Bayerische Landesanstalt für Wald und Forstwirtschaft - Fem4Forest https://www.lwf.bayern.de/fem4forest BMEL - Sustainable Use of Plant Protection Products www.bmel.de/EN/topics/farming/plant-production/NAP-sustainable-use-plant-protection-products.html Booklet - Facts and Figures regarding women in forestry in Danube region - Forstfrauen https://www.forstfrauen.at/images/Fem4Forest/Booklet_-_Facts_and_Figures_regarding_women_in_forestry_in_Danube_region_226MB.pdf Bund für Umwelt und Naturschutz Deutschland (BUND) - Pesticides www.bund.net/umweltgifte/pestizide/forstwirtschaft/ Der Verein Frauen im Forstbereich - Wald-Wiki https://wald-wiki.de/klima_u_fowi/waldbewirtschaftung/selbst_ist_die_frau/frauen_im_forst?do=export_pdf Discrimination according to the General Act on Equal Treatment (AGG) https://www.folkwang-uni.de/en/home/hochschule/anti-discrimination-equal-opportunity/anti-discrimination/discrimination-according-to-the-general-act-on-

	equal-treatment-agg Does gender really matter? How demographics and site characteristics influence behavior and attitudes of German small-scale private forest owners https://www.researchgate.net/publication/390053156_Does_gender_really_matter_How_demographics_and_site_characteristics_influence_behavior_and_attitudes_of_German_small-scale-private_forest_owners Dr. Birgit Homann - WOFO-International Conference 2024 https://www.gozdis.si/f/img/File/dogodki/fem2forests-konferenca-2024/10_Birgit-Homann_FIF-Prasentation-WOFO_-Verein-Ziele-Geschichte.pdf Evaluation of the General Act on Equal Treatment - Antidiskriminierungsstelle https://www.antidiskriminierungsstelle.de/SharedDocs/forschungsprojekte/EN/AGG_Evaluation_en.html Europe Gender Pay Gap: Germany remains among EU states with highest disparity https://www.destatis.de/Europa/EN/Topic/Population-Labour-Social-Issues/Labour-market/gender_pay_gap.html Euractiv - Integrated Pest Management www.euractiv.com/section/agriculture-food/news/germany-bets-on-integrated-pest-management-for-halving-pesticide-use/ Forstfrauen - Conference Results https://forstfrauen.at/images/downloads/FiWH_Conference_Results_Upload_EN.pdf Frauen im Forstbereich e.V. http://forstfrauen.de/der-verein/ Frauen im Forstbereich e.V. | Homepage https://forstfrauen.de/ General Act on Equal Treatment (Allgemeines Gleichbehandlungsgesetz – AGG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_agg/englisch_agg.html Gender Pay Gap - German Federal Statistical Office - Statistisches Bundesamt https://www.destatis.de/EN/Themes/Labour/Labour-Market/Quality-Employment/Dimension1/1_5_GenderPayGap.html Gender Equality in the German Labor Market: - Current Challenges and Untapped Potential - Bertelsmann Stiftung https://www.bertelsmann-stiftung.de/fileadmin/files/BiW/BSt_Factsheet_Gender_Equality_German_Labor_Market.pdf Gender, human rights and disability inclusion in forestry - UNECE https://unece.org/sites/default/files/2023-12/FORESTA2023-COFFI-81-EFC-42-item-05-e-human%20rights%20gender-ANNOVAZZI-JAKAB.pdf Germany 2023 - Migration Policy Group https://www.migpolgroup.com/wp-content/uploads/2024/01/country-report-non-discrimination-DSBB23011ENN.pdf Green Forest Jobs in the Pan-European Region https://foresteurope.org/wp-content/uploads/2022/10/Thuenen-Green-Forest-Jobs-Report.pdf

	Oxfam Deutschland & PECO-Institut – Ausbeutung im Spargel-, Erdbeer- und Gemüseanbau in Deutschland (2023) https://www.oxfam.de/system/files/documents/230522_oxfam_erdbeerspargel_final.pdf Sixteenth Report by the German Government on its Human Rights Policy - Auswärtiges Amt https://www.auswaertiges-amt.de/resource/blob/2691368/7920aaa35cc8e05421898dcfae6806e2/241218-mrb-16-pdf-data.pdf The General Equal Treatment Act | IS-FOX https://www.is-fox.com/en/blog/the-general-equal-treatment-act The gender pay gap situation in the EU - European Commission https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/equal-pay/gender-pay-gap-situation-eu_en 2023 Country Reports on Human Rights Practices: Germany - State Department https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/
Risk Rating justification	Germany has a legal and institutional framework against discrimination that covers workers in forestry and wood-based industries. However, increased discrimination complaints (especially relating to origin and gender), and the particular vulnerability of some groups of workers (migrants, seasonal workers, women in male-dominated occupations) demonstrate that equal treatment is not achieved in practice and remains under critical observation by authorities, international bodies and civil-society organisations. Forestry in Germany is classified as Low Risk for this indicator, but with important caveats. Given documented cases of unequal treatment of foreign and seasonal workers in German agriculture, and the use of subcontracting and temporary labour in the forestry sector, there is a latent risk that similar issues could occur in forestry. Therefore, this indicator will be explicitly revisited annually to verify that the situation has not deteriorated. Policies and laws Germany has a legal framework prohibiting discrimination in employment covering this indicator. Constitutional basis – Article 3 of the Basic Law (Grundgesetz) guarantees equality before the law and explicitly forbids discrimination based on sex, parentage, race, language, homeland and origin, faith, religious or political opinions, and disability. The implementation of ILO C111 (Discrimination) and C100 (Equal Remuneration) is covered by: the General Act on Equal Treatment (Allgemeines Gleichbehandlungsgesetz, AGG) transposes ILO Convention No. 111 and relevant EU directives. It prohibits discrimination in hiring, remuneration, access to training, promotion, working conditions, termination and vocational guidance on grounds of race/ethnic origin, gender, religion or belief, disability, age or sexual identity; and the Remuneration Transparency Act (Entgelttransparenzgesetz, EntgTranspG) operationalises ILO Convention No. 100 by granting employees (in larger companies) a right to

	information about comparative pay and by encouraging employers to review pay structures. The Dismissal Protection Act (Kündigungsschutzgesetz, KSchG) protects employees against unjustified termination, including terminations based on protected characteristics. The law on severely disabled persons (SGB IX / formerly SchwbG) requires reasonable accommodation, representation of disabled employees and protective rules in dismissals. Federal and Federal State's Equal Opportunities Acts (Gleichstellungsgesetze) aim to increase the share of women and promote equal opportunities, especially in public service and state-owned sectors, including forestry administrations. These rules apply to all sectors, including forestry and the wood-processing industry. Collective agreements and works council structures (Betriebsräte) provide additional channels to address discrimination in larger forestry-related undertakings. Relevant institutes and law enforcement Enforcement and oversight are shared between specialised equality bodies, the courts and workplace-level institutions. Federal Anti-Discrimination Agency (Antidiskriminierungsstelle des Bundes, FADA) – FADA advises victims, supports strategic litigation, collects data and publishes reports and recommendations on discrimination in employment and other fields. It has reported a strong increase in consultation requests in recent years, including many cases related to the workplace and to ethnic origin, gender and disability. Labour courts and general courts – Alleged violations of the AGG, EntgTranspG or dismissal protection rules are dealt with by the labour courts (Arbeitsgerichte, Landesarbeitsgerichte, Bundesarbeitsgericht). Courts can award compensation and damages and declare dismissals invalid; this applies equally to forestry and wood-industry employers. Employer obligations and works councils – Employers must inform staff about the AGG, prevent discrimination and establish internal complaints procedures. In larger establishments, works councils (Betriebsräte) and, in some public bodies, staff councils and equal opportunities officers oversee compliance and can intervene if discriminatory practices occur. Public forest services of the federal states (Forstverwaltungen) are bound by the general civil service and equal opportunities rules; they often have gender equality plans and officers. Professional and advocacy networks such as Forstfrauen and the participation of German organisations in projects like Fem4Forest focus specifically on improving the position of women in forestry, providing mentoring, networking and awareness-raising within the sector. Trade unions and professional associations (e.g. IG BAU for parts of the forestry/wood value chain) can support members in discrimination cases and negotiate equality clauses in collective agreements. Overall, the institutional architecture to prevent and remedy discrimination is in place and applicable to forestry; the question is how well it works in

	practice. Performance in practice and critical reviews In practice, Germany shows a gap between the formal prohibition of discrimination and actual equality outcomes, especially regarding gender and origin. At national level, official statistics and international reports consistently document a significant gender pay gap and unequal career outcomes. According to Destatis, the unadjusted gender pay gap was around 18% in 2023, one of the higher values in the EU, reflecting both different job structures and unequal pay within comparable roles. The U.S. Department of State's 2023 human rights report on Germany likewise notes that women's gross hourly earnings remain considerably lower than men's, that women are under-represented in management and over-represented in lower-paid occupations, and that career breaks and the unequal distribution of unpaid care work significantly contribute to these disparities. The Federal Anti-Discrimination Agency (Antidiskriminierungsstelle des Bundes) reports a marked rise in discrimination complaints, with consultations relating to employment and to racist discrimination increasing strongly in recent years. Studies and integration monitoring at federal level point out that people with a migrant background face disadvantages in hiring and promotion, and that name- and origin-based discrimination continues to play a role in recruitment decisions. Available evidence shows that discrimination and unequal treatment of workers is a particularly serious issue in German land-based sectors in agriculture, with more indirect but still relevant indications for forestry. According to the 2023 report "Ausbeutung im Spargel-, Erdbeer- und Gemüseanbau in Deutschland" by Oxfam Deutschland and the PECO-Institut, many seasonal workers in German agriculture – mainly from Eastern and South-Eastern Europe – experience systematically worse conditions than German workers, including underpayment and unpaid overtime, excessive working hours, substandard and overcrowded accommodation, and strong dependence on employers or labour intermediaries. The report characterises these patterns as structural rather than exceptional and emphasises that residence status, language barriers and the constant threat of dismissal or non-reengagement make it very difficult for workers to enforce their rights or lodge complaints. It concludes that, although these practices are not always formally prosecuted as discrimination under the General Act on Equal Treatment, they amount in practice to de facto discrimination by origin and nationality in the German labour market, and it criticises weak enforcement, limited inspections and complex subcontracting chains that diffuse responsibility and make violations hard to prove. EU and national institutions similarly describe the problems of seasonal and temporary agricultural workers as systemic rather than isolated cases. For forestry specifically, direct evidence of court cases or formal findings of discrimination is scarce, but there are signals of inequality. The sector remains strongly male-dominated, with women under-represented in technical and leadership positions. The establishment of professional networks such as "Frauen im Forstbereich / Forstfrauen e.V." and participation of German

	organisations in projects such as Fem4Forest are themselves a reaction to these conditions: these initiatives repeatedly report traditional role images, a lack of female role models, work-life balance difficulties in field-based jobs and limited access to leadership positions as central barriers, and they call for better mentoring, more flexible working conditions and active equality policies in forest administrations and companies. Overall, the picture is one of a robust legal framework on non-discrimination that is only partially effective in practice: migrant workers face pronounced structural disadvantages, and in forestry there is a persistent gender imbalance and slower structural change, even though open, legally actionable discrimination is less frequently documented.
Risk Rating	Low Risk

Germany **Whole country**	**Indicator**
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
Supply Base Verifiers	Legislation Act on Working Hours (ArbZG) Act to Combat Illegal Employment (SchwarzArbG) Collective Bargaining Act (Tarifvertragsgesetz) ILO Fundamental Conventions Minimum Wage Act (MiLoG) Posted Workers Act (AEntG) Temporary Employment Act (AÜG) URLs agrarheute - Mindestlohn steigt 2024 www.agrarheute.com/management/betriebsfuehrung/mindestlohn-steigt-2024-landwirte-muessen-mehr-fuer-beschaeftigte-zahlen-613210 agrarheute - Zoll-Kontrollen www.agrarheute.com/management/recht/zoll-kontrollen-landwirtschaft-verdacht-schwarzarbeit-622804 Arbeitnehmer-Entsendegesetz (AEntG) - Gesetze im Internet http://www.gesetze-im-internet.de/aentg/ Arbeitnehmerüberlassungsgesetz (AÜG) - Gesetze im Internet http://www.gesetze-im-internet.de/a_g/ DFSZ (Deutschen Forst-Service Zertifizierung) http://www.alko-cert.de/zertifizierungen/dfsz Frauen im Forstbereich e.V. http://forstfrauen.de/der-verein/ Gesetze im Internet - Main Page http://www.gesetze-im-internet.de IG BAU (Industriegewerkschaft Bauen-Agrar-Umwelt) https://igbau.de/ Mindestlohngesetz (MiLoG) - Gesetze im Internet

	http://www.gesetze-im-internet.de/milog/ OECD - Gender Data www.oecd.org/gender/data/genderwagegap RAL-Gütegemeinschaft Wald und Landschaftspflege (Forestry and Landscape Management Quality Association) http://www.ral-ggwl.de Schwarzarbeitsbekämpfungsgesetz (SchwarzArbG) - Gesetze im Internet http://www.gesetze-im-internet.de/schwarzarbg/ U.S. Department of State - 2023 Country Reports on Human Rights Practices/Germany https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/ World Economic Forum (WEF) Reports http://reports.weforum.org
Risk Rating justification	The requirement that wages meet or exceed the legal minimum or industry norm is fully supported by ILO Conventions concerning minimum wage-fixing machinery and collective bargaining, all of which Germany has ratified. For Germany the scope related to this indicator is: C026 (No. 26) Minimum Wage-Fixing Machinery Convention, 1928 Ratified (1929) and implemented in: Minimum Wage Act (**Mindestlohngesetz, MiLoG). C099 (No. 99) Minimum Wage Fixing Machinery (Agriculture) Convention, 1951 Ratified (1954) and implemented in: Minimum Wage Act (MiLoG). C098 (No. 98) Right to Organise and Collective Bargaining Convention, 1949 Ratified (1956) and implemented in: Collective Bargaining Act (**Tarifvertragsgesetz, TVG). C131 (No. 131) Minimum Wage Fixing Convention, 1970 Not Ratified but the principles of consultation and comprehensive coverage are largely met by the MiLoG, the tripartite Minimum Wage Commission, and the underlying Social Code framework. Germany has a mandatory, uniform national minimum wage, and the forestry sector often exceeds it through collective agreements. However, practical enforcement faces challenges, particularly concerning the accurate remuneration of vulnerable seasonal migrant workers. Applicable laws, regulations and policy frameworks The principle of meeting or exceeding minimum pay is a binding legal requirement: Minimum Wage Act (MiLoG): Germany has a nationwide statutory minimum wage that applies uniformly to all sectors, including forestry, agriculture, and horticulture. The legal minimum wage rate is established and scheduled to increase to €12.41 per hour (Jan 2024) and €12.81 per hour (Jan 2025). This directly addresses the first part of the statement, providing a legal floor. Collective Bargaining Act (Tarifvertragsgesetz): This framework (verified previously) facilitates collective bargaining agreements (CBAs), which often set higher minimum wages than the statutory rate for specific sectors, including forestry. This addresses the "industry norms shall be met or

	exceeded" aspect of the statement. Act to Combat Illegal Employment (SchwarzArbG): This law provides the legal basis for combating undeclared work and illegal employment, which are often mechanisms used to evade minimum wage obligations. Posted Workers Act (AEntG) and Temporary Employment Act (AU¨G): These laws are relevant as they ensure minimum pay standards are maintained for migrant and temporary workers, closing potential loopholes for wage dumping. Identification of institutional roles and oversight functions (incl. law enforcement) Oversight is centralized through the customs administration, though enforcement capacity is strained: Enforcement Authority: The German Customs Administration's Financial Monitoring of Undeclared Work Unit (FinanzkontrolleSchwarzarbeit or FKS) is the primary agency responsible for strictly enforcing compliance with the MiLoG through regular inspections across all sectors. Compliance Monitoring: The FKS investigates issues such as undeclared work and ensures that wages are correctly recorded and paid. Violations result in fines and penalties under the SchwarzArbG. Oversight Gap (Working Hours): Enforcement is complicated by the Act on Working Hours (ArbZG), which has relaxed recording requirements. Employers are only obligated to record working times that exceed eight hours per day, and they are not obliged to record the time of executive staff, civil servants, and certain other groups. This limited recording can make it difficult for inspectors to verify the full extent of actual working hours, creating a loophole for minimum wage evasion (by spreading work hours across more time than reported). Analysis of practical performance by minimum and typical actors While the sector aims for high compliance, actual performance shows a split between typical, legally compliant businesses and minimum actors exploiting migrant workers: Typical Actor Performance: The forestry sector is generally characterized by compliance, with no widespread violations of wage regulations detected so far. Subcontractor associations are proactively working to establish quality certifications that include the guarantee of fair wages (above the statutory minimum wage), signifying a commitment to industry best practice. Minimum Actor Performance (Risk): Concerns persist for vulnerable seasonal migrant workers in agriculture and related industries, including forestry. Customs inspections have raised suspicions that not all employees are receiving the minimum wage, often through methods like undeclared work or exploiting the ambiguity of working hours. These issues highlight the ongoing risk of non-compliance among the minimum actor (the exploitative employer/subcontractor). Social Context: The statutory minimum wage is noted to be below the internationally defined "at risk of poverty threshold," indicating that while legal compliance (meeting the minimum) is achieved, meeting a 'living wage'

	industry norm may require payment exceeding the statutory minimum. CBAs often bridge this gap. Critical review based on secondary sources The legal framework is solid, but the enforcement of wages, particularly for the most vulnerable, presents a verifiable challenge: Legal Verification: The statement's first clause ("meet or exceed the legal minimum wage") is absolutely verified in law by the MiLoG. The second clause ("industry norms shall be met or exceeded") is confirmed by the widespread use of higher wages set by CBAs in the forestry sector. Enforcement Weakness: The biggest challenge to practical verification is the loopholes in working time documentation (ArbZG), which allows a minimum wage violation to be concealed as a working time violation. If an employee works 10 hours but is paid for 8 (at minimum wage), their effective hourly wage falls below the minimum, but this is difficult to prove without mandatory time recording. Risk Concentration: The continued vigilance of German customs and the explicit mention of suspicions in the agricultural/forestry sector confirm that wage violations remain a credible risk for vulnerable seasonal migrant workers.
Risk Rating	Low Risk

Germany **Whole country**	**Indicator**
4.1.6	Working hours shall comply with legal requirements.
Supply Base Verifiers	Legislation Act on Working Hours (Arbeitszeitgesetz, ArbZG) Collective Bargaining Agreements (CBAs) ILO Fundamental Conventions URLs 2023 Country Reports on Human Rights Practices: Germany - State Department https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/ 2024 Trafficking in Persons Report: Germany - State Department https://www.state.gov/reports/2024-trafficking-in-persons-report/germany/ Act to Combat Undeclared Work and Unlawful Employment (SchwarzArbG) https://www.gesetze-im-internet.de/englisch_schwarzarbg/englisch_schwarzarbg.html agrarheute - Mindestlohn steigt 2024 www.agrarheute.com/management/betriebsfuehrung/mindestlohn-steigt-2024-landwirte-muessen-mehr-fuer-beschaeftigte-zahlen-613210 agrarheute - Zoll-Kontrollen www.agrarheute.com/management/recht/zoll-kontrollen-landwirtschaft-verdacht-schwarzarbeit-622804

	All Comments - NORMLEX - ILO (ID: 3343942) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13101:0::NO:13101:P13101_COMMENT_ID:3343942 All Comments - NORMLEX - ILO (ID: 4118566) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13101:0::NO:13101:P13101_COMMENT_ID:4118566 Arbeitnehmer-Entsendegesetz (AEntG) - Gesetze im Internet http://www.gesetze-im-internet.de/aentg/ Arbeitnehmerüberlassungsgesetz (AÜG) - Gesetze im Internet http://www.gesetze-im-internet.de/a_g/ Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_tvg/ Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet (Full Citation) https://www.gesetze-im-internet.de/englisch_tvg/englisch_tvg.html IG BAU (Industriegewerkschaft Bauen-Agrar-Umwelt) https://igbau.de/ Illegal Employment | Handbook Germany : Together https://handbookgermany.de/en/illegal-employment Labor Laws in Germany [A Complete Guide] – RemoFirst https://www.remofirst.com/post/guide-to-labor-laws-in-germany Mindestlohngesetz (MiLoG) - Gesetze im Internet http://www.gesetze-im-internet.de/milog/ Observation (CEACR) - adopted 2024, published 113rd ILC session (2025) https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4416817,102643 RAL-Gütegemeinschaft Wald und Landschaftspflege (Forestry and Landscape Management Quality Association) http://www.ral-ggwl.de Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (C87, C98) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:::::P11200_INSTRUMENT_SORT,P11200_COUNTRY_ID:2,102643 Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (Full List) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102643 Schwarzarbeitsbekämpfungsgesetz (SchwarzArbG) - Gesetze im Internet http://www.gesetze-im-internet.de/schwarzarbg/ The Illegal Employment of Foreigners in Germany - SE Legal https://se-legal.de/employment-lawyers-germany/illegal-employment-of-foreigners-german-lawyer/?lang=en The right to strike in the public services – EPSU https://www.epsu.org/sites/default/files/article/files/Germany%20-%20Right%20to%20strike%20in%20the%20public%20sector%20-%20EPSU%20format%20-%20Updated%20DB_0.pdf
Risk Rating justification	The requirement that Working Hours comply with legal requirements is supported by ILO Conventions concerning working time and labour

	inspection, all of which Germany has ratified. Act on Working Hours (Arbeitszeitgesetz, ArbZG): This is the main federal statute that defines and limits the maximum working day and mandates rest periods, directly establishing the legal requirements for working hours compliance. C132 (No. 132) Holidays with Pay Convention (Revised), 1970 Ratified (1975) and implemented in: Federal Paid Leave Act (Bundesurlaubsgesetz). C081 (No. 81) Labour Inspection Convention, 1947 Ratified (1955) and implemented in: Labour Inspection Act and the enforcement framework under the Act to Combat Illegal Employment (SchwarzArbG). C129 (No. 129) Labour Inspection (Agriculture) Convention, 1969 Ratified (1973) and implemented in: Specialized labour inspection authorities for the agricultural sector, including forestry, under the Act to Combat Illegal Employment (SchwarzArbG). Applicable laws, regulations and policy frameworks Act on Working Hours (Arbeitszeitgesetz, ArbZG): This is the main piece of legislation setting the limits on working hours. It restricts the regular workday to a maximum of eight hours, which can be extended up to ten hours if the average working time does not exceed eight hours within a specified period (six months or 24 weeks). Germany's ratification of ILO Fundamental Conventions (e.g., those on collective bargaining) implicitly supports the right of workers to fair working conditions, which includes regulated hours. In many sectors, CBAs set specific rules regarding working hours, overtime, and rest periods that supersede the legal minimum, ensuring compliance with industry norms (as seen in the wage context). Identification of institutional roles and oversight functions (incl. law enforcement) Oversight is provided, but a major legal loophole exists regarding recording: Occupational Health and Safety Authorities (Gewerbeaufsicht): These state-level authorities are responsible for monitoring and ensuring compliance with the Act on Working Hours (ArbZG). The Financial Monitoring of Undeclared Work Unit (FKS) investigates working time violations, often in tandem with minimum wage inspections, as discrepancies in reported hours are a primary indicator of wage exploitation. The Key Enforcement Gap: Section 16(2) of the ArbZG only obliges employers to record working times that exceed the legally bound workday of eight hours. Crucially, they are not obliged to record the working time of executive staff, civil servants, and a few other groups. This limited recording duty makes effective, systematic inspection of standard working hour compliance inherently difficult, as true hours are not fully documented by law. Analysis of practical performance by minimum and typical actors Compliance is the legal standard, but the structural difficulty of verification

	leads to risks for the most vulnerable: Typical Actor Compliance: Most German employers and subcontractors adhere to the maximum working time limits and rest periods. The forestry sector generally operates within a compliant framework, often enforced through subcontractor certification and collective agreements. Minimum Actor Performance (Exploitation Risk): The primary practical issue is that exploitative employers can mask wage and hour violations concurrently. The difficulty in controlling working hours (due to the legal recording loophole) directly enables the concealment of minimum wage violations, particularly for seasonal migrant workers. If a worker is paid for 8 hours but works 10, the employer is violating both hour limits (without compensatory time off) and the minimum wage (by paying a lower effective hourly rate). Critical review based on secondary sources The law explicitly verifies the statement, but critical analysis highlights a systemic weakness in enforcement tools: Verified by Law: The legal requirement for working hours compliance is unequivocally verified by the binding ArbZG. Verifiable Non-Compliance Risk: The structural problem lies in the German government's limited legal requirement for time recording. This weakness has been noted to hamper the ability of enforcement agencies (like the FKS) to effectively confirm compliance, creating a clear pathway for working hour violations to occur undetected or unproven, particularly in sectors prone to exploitation.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.1.7	Workers shall have access to health care provisions, sickness benefits, retirement benefits, invalidity benefits, death benefits, and workers' compensation
Supply Base Verifiers	Legislation Act to Combat Illegal Employment (SchwarzArbG) Act on Continued Remuneration during sickness (Entgeltfortzahlungsgesetz) Act to Combat Undeclared Work and Unlawful Employment (SchwarzArbG) Arbeitnehmer-Entsendegesetz (AEntG) Arbeitnehmerüberlassungsgesetz (AÜG) Collective Bargaining Act (Tarifvertragsgesetz) C102 (No. 102) Social Security (Minimum Standards) Convention, 1952 C118 (No. 118) Equality of Treatment (Social Security) Convention, 1962 C121 (No. 121) Employment Injury Benefits Convention, 1964 C128 (No. 128) Invalidity, Old-Age and Survivors' Benefits Convention, 1967 C130 (No. 130) Medical Care and Sickness Benefits Convention, 1969 C157 (No. 157) Maintenance of Social Security Rights Convention, 1982 C168 (No. 168) Employment Promotion and Protection against Unemployment Convention, 1988

	C183 (No. 183) Maternity Protection Convention, 2000 Maternity Protection Act (Mutterschutzgesetz, MuSchG) Posted Workers Act (AEntG) Social Code (Sozialgesetzbuch, SGB) Social Code Book III (SGB III) Social Code Book V (SGB V) Social Code Book VI (SGB VI) Social Code Book VII (SGB VII) Temporary Employment Act (AÜG) URLs Arbeitnehmer-Entsendegesetz (AEntG) - Gesetze im Internet http://www.gesetze-im-internet.de/aentg/ Arbeitnehmerüberlassungsgesetz (AÜG) - Gesetze im Internet http://www.gesetze-im-internet.de/a_g/ Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_tvg/ Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet (Full Citation) https://www.gesetze-im-internet.de/englisch_tvg/englisch_tvg.html Observation (CEACR) - adopted 2024, published 113rd ILC session (2025) https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4416817,102643 Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (Full List) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102643 Schwarzarbeitsbekämpfungsgesetz (SchwarzArbG) - Gesetze im Internet http://www.gesetze-im-internet.de/schwarzarbg/ The right to strike in the public services – EPSU https://www.epsu.org/sites/default/files/article/files/Germany%20-%20Right%20to%20strike%20in%20the%20public%20sector%20-%20EPSU%20format%20-%20Updated%20DB_0.pdf
Risk Rating justification	Policies and laws Germany's social-security system is comprehensive and legally binding, and in principle guarantees that all regularly employed workers in forestry have access to health care, sickness benefits, retirement pensions, invalidity benefits, survivors' pensions and workers' compensation. The system is codified mainly in the Social Code (Sozialgesetzbuch, SGB), which also implements the core ILO social-security conventions ratified by Germany, including Convention No. 102 on minimum standards of social security, Convention No. 121 on employment injury benefits, Convention No. 128 on invalidity, old-age and survivors' benefits, Convention No. 130 on medical care and sickness benefits, and Convention No. 183 on maternity protection. Health care and sickness benefits are regulated primarily in Social Code Book V (SGB V). Health insurance is mandatory for employees: as a rule they are insured in the statutory health insurance (Gesetzliche

	Krankenversicherung, GKV), unless their income is above the threshold for opting out into private insurance. The GKV covers a broad package of services, including doctor and dentist visits, hospital treatment, rehabilitation and prescription medicines. Contributions are shared between employer and employee, so that access to health care is not dependent on individual savings. When employees fall ill, they are protected by a combination of SGB V and the Continued Payment of Wages Act (Entgeltfortzahlungsgesetz, EFZG). For the first six weeks of an illness, the employer must continue to pay the full wage. If the incapacity for work lasts longer, the statutory health insurance pays sickness benefits (Krankengeld), generally 70% of gross wages up to a capped amount, for up to 78 weeks within a three-year period for the same illness. This gives workers in physically demanding sectors such as forestry a clear legal entitlement to income replacement during both short and prolonged sickness. Retirement, invalidity and survivors' benefits are governed by Social Code Book VI (SGB VI) on statutory pension insurance (Gesetzliche Rentenversicherung, GRV). Employers and employees both contribute throughout the working life. On reaching the statutory retirement age (currently 67 for most cohorts), workers are entitled to an old-age pension calculated from their lifetime contributions and average earnings, providing core income in retirement. If an insured person becomes permanently or largely unable to work for health reasons before retirement age, they may receive a disability pension (Erwerbsminderungsrente), subject to medical assessment and minimum contribution periods. In the event of death, SGB VI provides survivors' pensions (Hinterbliebenenrente) for widows, widowers, registered partners and dependent children, replacing a portion of the lost income and ensuring that dependants are not left without support. Workers' compensation and protection against occupational accidents and diseases are regulated in Social Code Book VII (SGB VII), which establishes statutory accident insurance (Gesetzliche Unfallversicherung, GUV). Employers are required to insure their workforce against work-related accidents and occupational diseases. The accident insurance covers medical treatment, occupational and medical rehabilitation, wage replacement during recovery, permanent disability pensions where earning capacity is reduced, and death benefits for survivors in the case of fatal accidents. This is particularly relevant for forestry, which is among the higher-risk sectors in terms of serious and fatal accidents. Contributions to the accident-insurance scheme are paid by employers, so protection does not depend on employees' own contributions. These social-security branches are complemented by unemployment insurance (SGB III) and long-term care insurance (SGB XI). For foreign and posted workers, the Posted Workers Act (AEntG) and EU social-security coordination rules are intended to ensure that basic standards, including accident insurance and minimum social protection, apply during their employment in Germany, so that access to the core benefits covered by this indicator is not restricted to German nationals. Relevant institutes and law enforcement

	Each social-security branch is administered by specialised public but independently managed institutions. Statutory health insurance is provided by a range of health funds (Krankenkassen), which handle contributions and benefits under SGB V. Statutory pension insurance is administered by the Deutsche Rentenversicherung, which records contribution histories and grants old-age, disability and survivors' pensions under SGB VI. Statutory accident insurance and workers' compensation are administered by the employers' liability insurance associations (Berufsgenossenschaften). In the land-based sectors, including forestry, these functions are bundled within the Social Insurance for Agriculture, Forestry and Horticulture (Sozialversicherung für Landwirtschaft, Forsten und Gartenbau, SVLFG). Within the SVLFG, the Landwirtschaftliche Berufsgenossenschaft is responsible for accident insurance in agriculture and forestry, including the investigation of accidents, financing of treatment and rehabilitation, and prevention programmes. Compliance with registration and contribution obligations is monitored by several authorities. Employers must register their workers with the relevant social-insurance carriers and pay contributions. Tax authorities and social-insurance institutions conduct regular audits. The customs administration's Financial Control of Undeclared Work (Finanzkontrolle Schwarzarbeit, FKS) carries out targeted inspections to detect undeclared work and social-security fraud, including in agriculture and forestry. Failure to properly register workers and pay contributions can lead to administrative fines, back-payments of contributions and, in serious cases, criminal proceedings under the Act to Combat Undeclared Work and Illegal Employment. Disputes over benefit entitlements or contribution obligations are decided by specialised Social Courts (Sozialgerichte), which provide judicial review of decisions taken by health-insurance funds, pension insurance, accident insurance and other social-security bodies. This offers an institutionalised route of appeal for workers who believe they have been wrongly denied benefits, including in cases of work-related illness or injury in forestry. Sectorally, the Federal Ministry of Labour and Social Affairs (BMAS) is responsible for the overall social-security framework, while the Federal Ministry of Food and Agriculture (BMEL) is involved in the governance of SVLFG and in occupational-safety and health policies for agriculture and forestry. Performance in practice and critical reviews For workers in regular, declared employment relationships, the German system functions as intended: employees in forestry, whether in public or private enterprises, are automatically covered by statutory health, pension, accident, unemployment and long-term care insurance from their first day of employment. They have legal entitlements to health care, continued wage payment during illness, sickness benefits thereafter, old-age and disability pensions, survivors' pensions and workers' compensation in case of work accidents or occupational disease. International comparisons by the ILO and OECD repeatedly classify Germany as a country with broad social-security coverage that meets or exceeds minimum standards for the branches

	relevant to this indicator. However, critical analyses of land-based sectors highlight an enforcement gap at the lower, more precarious end of the labour market. Studies on seasonal and migrant work in German agriculture describe repeated cases of undeclared or partially declared employment, where employers either fail to register workers at all or register only part of their actual working time, sometimes treating them as “self-employed” to avoid social-security contributions. In such situations, workers can find that their practical access to benefits is insecure, even though the law would entitle them to full coverage if the employment relationship were properly registered. For forestry, direct evidence on social-security evasion is more limited in the public literature, but similar risk factors exist: physically demanding, risky work, small and subcontracting-based enterprises, and the possible use of short-term or migrant labour, especially during intensive operations such as salvage logging. Where employment is undeclared or misclassified, workers may be left without effective access to health and accident insurance and to future pension entitlements. Accident statistics underline both the effectiveness and the necessity of the system. SVLFG data for recent years show several thousand reported occupational accidents and several dozen fatalities annually in forestry alone, illustrating the high hazard level. These cases trigger statutory accident-insurance benefits: medical treatment, rehabilitation and, where necessary, long-term disability pensions or survivors’ pensions. Prevention campaigns and training measures run by the accident-insurance institutions emphasise safe working methods, mechanisation and the use of trained professionals for high-risk tasks, and they indirectly rely on the existence of solid social protection as part of the overall safety net. Overall, the legal framework for access to health care provisions, sickness benefits, retirement and invalidity pensions, death benefits and workers’ compensation is strong and applies equally to workers in forestry. The main practical risk lies not in gaps in the law, but in instances of undeclared work or non-registration, particularly among vulnerable groups such as seasonal and migrant workers in land-based sectors. In properly regulated forestry enterprises, workers have clear, enforceable rights to the full set of social-security benefits covered by this indicator.
Risk Rating	Low Risk

Germany Whole country	**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.
Supply Base Verifiers	Legislation Act to Combat Illegal Employment (SchwarzArbG) General Act on Equal Treatment (AGG) Occupational Safety and Health Act (Arbeitsschutzgesetz, ArbSchG) Plant Protection Act (PflSchG)

	Social Code Book VII (SGB VII) C140 (No. 140) Paid Educational Leave Convention, 1974 C142 (No. 142) Human Resources Development Convention, 1975 C155 (No. 155) Occupational Safety and Health Convention, 1981 Youth Employment Protection Act (Jugendarbeitsschutzgesetz, JArbSchG) URLs 2024 Trafficking in Persons Report: Germany - State Department https://www.state.gov/reports/2024-trafficking-in-persons-report/germany/ Act on Mandatory Working Conditions for Workers Posted Across Borders and for Workers Regularly Employed in Germany (Arbeitnehmer-Entsendegesetz – AEntG) https://www.gesetze-im-internet.de/englisch_aentg/englisch_aentg.html Act Regulating a General Minimum Wage (Mindestlohngesetz – MiLoG) https://www.gesetze-im-internet.de/englisch_milog/englisch_milog.html Act to Combat Undeclared Work and Unlawful Employment (Gesetz zur Bekämpfung der Schwarzarbeit und illegalen Beschäftigung – Schwarzarbeitsbekämpfungsgesetz, SchwarzArbG) https://www.gesetze-im-internet.de/englisch_schwarzarbg/englisch_schwarzarbg.html Determination of social security provisions - GrensInfoPunten - GrenzInfoPunkte https://grenzinfo.eu/en/infopage/companies-in-the-neighbouring-country/companies-in-germany/determination-of-social-security-provisions/ General conditions of employment - Zoll https://www.zoll.de/EN/Private-individuals/Work/Minimum-conditions-of-employment/General-conditions-of-employment/general-conditions-of-employment_node.html Germany - Individual - Other taxes - PWC Tax Summaries https://taxsummaries.pwc.com/germany/individual/other-taxes Germany - European Trade Union Institute https://www.etui.org/sites/default/files/2023-05/9-Germany-Report%20on%20the%20social%20security%20rights%20of%20short-term%20third-country%20national%20migrant%20workers_2023.pdf Labour Law - BMAS https://www.bmas.de/EN/Labour/Labour-Law/labour-law.html Make it in Germany - Salary, taxes & social security https://www.make-it-in-germany.com/en/working-in-germany/working-environment/salary-taxes-social-security Social Code Book XIV – Social Compensation (Sozialgesetzbuch Vierzehntes Buch – Soziale Entschädigung, SGB XIV) (sections 1–24, 29–38, 41–53, 57–59, 62–76, 82–122a, 137–141 and 149–153) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_sgb_14/englisch_sgb_14.html Social security in Germany - Wikipedia https://en.wikipedia.org/wiki/Social_security_in_Germany Social security rights and obligations in the Union including those related to getting pensions - Bund.de https://verwaltung.bund.de/leistungsverzeichnis/en/rechte-und-

	pflichten/102835444 Social Security and employee benefits in Germany for Expats https://www.welcome-center-germany.com/post/social-security-employee-benefits-germany-expats Social insurance - Die Arbeitgeber https://arbeitgeber.de/en/themen/sozialpolitik-und-soziale-sicherung/sozialversicherung/ Temporary self-employment | BBZ-BDZ - SVB https://www.svb.nl/en/bbz-bdz/you-are-self-employed/you-are-going-to-work-in-another-country-temporarily Your social security rights in Germany - European Commission https://ec.europa.eu/employment_social/empl_portal/SSRinEU/Your%20social%20security%20rights%20in%20Germany_en.pdf
Risk Rating justification	SBP normative interpretation: While workers are not required to be familiar with the SBP requirements themselves, their training must equip them to perform their duties competently, safely, and in a manner that complies with the SBP standards. C142 (No. 142) Human Resources Development Convention, 1975 Ratified (1980) and implemented in: The entire German system of vocational education, centered on the Vocational Training Act (Berufsbildungsgesetz, BBiG). C155 (No. 155) Occupational Safety and Health Convention, 1981 Ratified (1991) and implemented in: Occupational Safety and Health Act (Arbeitsschutzgesetz, ArbSchG) and relevant social codes like SGB VII (Statutory Accident Insurance). C140 (No. 140) Paid Educational Leave Convention, 1974 Ratified (1976) and implemented in: Various state-level (Länder) acts on Bildungsurlaub (Educational Leave). Applicable laws, regulations and policy frameworks The legal framework mandates worker competency and safety training, which serves as the legal mechanism for achieving the requirement: Federal Occupational Safety and Health Act (ArbSchG): This is the core law. It mandates employers to instruct and train employees on how to perform their tasks safely and according to established best practices. This legal obligation extends to all procedures and hazards associated with a worker's job, implicitly covering environmental, social, and technical standards relevant to SBP. Youth Employment Protection Act (JArbSchG): Specifically requires enhanced instruction and training for minors under 18, ensuring they are not exposed to dangers and are equipped to perform work appropriate to their age and development. Plant Protection Act (PflSchG): Explicitly regulates the use of pesticides and requires specialized technical competence and instruction for any worker involved in chemical application, ensuring proper handling to prevent environmental harm (e.g., soil and water pollution). Forest Management Guidelines: These guidelines, and the silvicultural rules they contain, require that forest operations (harvesting, road construction,

	residue removal) do not lead to environmental damage (soil degradation, water pollution). Implementing these rules requires explicit technical training for workers in the field. General Act on Equal Treatment (AGG): Requires employers to take preventative measures against discrimination, which includes providing training to staff to raise awareness and ensure a respectful workplace. Identification of institutional roles and oversight functions (incl. law enforcement) Multiple institutions are responsible for setting training standards and monitoring compliance: Occupational Health and Safety Authorities (Gewerbeaufsicht): These state-level bodies monitor and enforce compliance with the ArbSchG and JArbSchG. Their officials ensure that safety training and instruction programs are in place. Professional and Certification Bodies: Organizations like the KWF (KuratoriumfuerWaldarbeitundForsttechnik) and technical associations (like the RAL-Gütegemeinschaft for quality assurance) develop and promote technical and process-orientated recommendations for safe and environmentally sound forestry operations, which form the basis of practical worker training. The Federal Ministry of Food and Agriculture (BMEL) and state forest agencies support forestry advice and training, aligning instruction with sustainability goals (e.g., promoting mixed forest management techniques). Specialized Enforcement: The Federal Office of Consumer Protection and Food Safety (BVL), involved in enforcing the PflSchG, oversees the competence requirements for pesticide use, ensuring only trained personnel handle controlled substances. Forest Integrated Pest Management (IPM) Networks: Organizations like the Service Center for Integrated Forest Pest Management highlight ongoing efforts to support sustainable training and knowledge dissemination to forest managers and, by extension, the workers they employ. Analysis of practical performance by minimum and typical actors The German system ensures that typical actors are trained, but risks remain for vulnerable workers and highly specialized environmental tasks: For the standard forestry worker, competency-based training in machine operation, harvesting techniques, and safety is commonplace. This adherence is often driven by Employer Liability Insurance Associations (Berufsgenossenschaften) which mandate specific safety instruction to minimize accidents (a form of workers' compensation management). The commitment to certified forest areas (FSC/PEFC) further reinforces the requirement for trained labor. The greatest risk lies with seasonal migrant workers who may receive limited or inadequate safety equipment and training, often complicated by language barriers. While the legal obligation for training exists, the practical implementation for temporary, non-native speaking workers can be deficient, representing a breakdown in the effective transfer of knowledge required to

	perform duties in compliance with SBP standards (e.g., avoiding soil damage or chemical pollution). The shift to Integrated Pest Management (IPM), which is complex, necessitates specific training to ensure workers implement practices that align with environmental standards (e.g., using biological controls only when necessary, avoiding runoff). Critical review based on secondary sources The statement is legally robust, but a critical gap exists between the statutory requirement and equitable access to necessary training for all workers: Legal Verification: The statement is verified by command and control laws (primarily ArbSchG) that mandate safety and operational competency instruction, which is the mechanism by which SBP requirements are implemented at the worker level. The SBP interpretation ("training must equip them to perform their duties competently, safely, and in a manner that complies with the SBP standards") is fully aligned with the intent of German occupational safety and environmental law. Failures in training would directly lead to violations of laws concerning soil conservation, water quality, and worker safety (e.g., illegal chemical use).
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.1.9	Mechanisms shall be in place for resolving grievances and disputes in the workplace.
Supply Base Verifiers	Legislation Basic Law (Grundgesetz, GG) Collective Bargaining Act (Tarifvertragsgesetz, TVG) C098 (No. 98) Right to Organise and Collective Bargaining Convention, 1949 C135 (No. 135) Workers' Representatives Convention, 1971 C154 (No. 154) Collective Bargaining Convention, 1981 C158 (No. 158) Termination of Employment Convention, 1982 Dismissal Protection Act (Kündigungsschutzgesetz, KSchG) General Act on Equal Treatment (AGG) Works Constitution Act (Betriebsverfassungsgesetz, BetrVG) URLs Act for the Better Protection of Whistleblowers and for the Implementation of Directive (EU) 2019/1937 (HinSchG) - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_hinschg/englisch_hinschg.html All Comments - NORMLEX - ILO (ID: 3343942) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13101:0::NO:13101:P13101_COMMENT_ID:3343942 All Comments - NORMLEX - ILO (ID: 4118566) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:13101:0::NO:13101:P13101_C

	OMMENT_ID:4118566 Allgemeines Gleichbehandlungsgesetz (AGG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_agg/englisch_agg.html Anti-Discrimination Office | Bedeutung & Erklärung | Legal Lexikon https://www.mtrlegal.com/en/wiki/anti-discrimination-office/ Arbeitnehmer-Entsendegesetz (AEntG) - Gesetze im Internet http://www.gesetze-im-internet.de/aentg/ Arbeitnehmerüberlassungsgesetz (AÜG) - Gesetze im Internet http://www.gesetze-im-internet.de/a_g/ BetrVG - englisch – ver.di (PDF) https://www.verdi.de/++file++63da59d229bf4dd674809956/download/210614_BetrVG-englisch_Gesetze-im-Internet.pdf Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_tvg/englisch_tvg.html Conflict, arbitration, and dispute resolution in the German workplace – ResearchGate https://www.researchgate.net/publication/235284311_Conflict_arbitration_and_dispute_resolution_in_the_German_workplace Country Reports on Human Rights Practices: Germany - U.S. Department of State https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/ Dispute Resolution in Germany – Rivermate https://rivermate.com/guides/germany/dispute-resolution Employer obligations under Section 13 AGG and complaints body requirement - Federal Anti-Discrimination Agency https://www.antidiskriminierungsstelle.de/EN/about-discrimination/areas-of-life/work-life/obligations-of-employers/obligations-of-employers.html Equal treatment in the workplace - thueringen.de https://buerger.thueringen.de/en/detail?areaId=12603&pstGroupId=&pstCatId=213186522&pstId=221688569&infotype=0&ags=16068056 Evaluation of the General Act on Equal Treatment – Antidiskriminierungsstelle https://www.antidiskriminierungsstelle.de/SharedDocs/forschungsprojekte/EN/AGG_Evaluation_en.html External reporting office of the Federation (Whistleblowing) - Federal Office of Justice https://www.bundesjustizamt.de/DE/MeldestelledesBundes/MeldestelledesBundes_node.html Federal Anti-Discrimination Agency – Equinet (profile) https://equineteurope.org/author/germany_fada/ German Labour Law - an overview 2022 - Hogan Lovells https://www.hoganlovells.com/en/publications/german-labour-law-an-overview-2022 German Works Council Constitution Act - Berlin Business Location Center https://www.businesslocationcenter.de/en/labor-market/employment-law-and-collective-contracts-system/german-works-council-constitution-act IG BAU (Industriegewerkschaft Bauen-Agrar-Umwelt)

	https://igbau.de/ Individual and collective labour dispute settlement systems - a comparative review (ILO, PDF) https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_protect/@protrav/@travail/documents/publication/wcms_760828.pdf Labour and collective bargaining law - Die Arbeitgeber https://arbeitgeber.de/en/themen/arbeitsrecht-und-tarifpolitik/arbeits-und-tarifrecht/ Labour Courts Act (ArbGG) Section 54 conciliation hearing - Gesetze im Internet https://www.gesetze-im-internet.de/arbgg/__54.html Labour Courts Act (ArbGG) Section 61a conciliation hearing timing in dismissal cases - Gesetze im Internet https://www.gesetze-im-internet.de/arbgg/__61a.html Mediation Act (MediationsG) - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_mediationsg/englisch_mediationsg.html Mindestlohngesetz (MiLoG) - Gesetze im Internet http://www.gesetze-im-internet.de/milog/ Observation (CEACR) - adopted 2024, published 113rd ILC session (2025) https://www.ilo.org/dyn/normlex/en/f?p=1000:13100:0::NO:13100:P13100_COMMENT_ID,P13100_COUNTRY_ID:4416817,102643 Practical aids on anti-discrimination in the workplace - WelcomeCenter Sachsen-Anhalt https://www.welcomecenter-sachsen-anhalt.de/en/information-library-infothek/counselling-and-support/dealing-with-prejudice/practical-aids-on-anti-discrimination-in-the-workplace Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (C87, C98) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:::::P11200_INSTRUMENT_SORT,P11200_COUNTRY_ID:2,102643 Ratifications of ILO conventions: Ratifications for Germany - NORMLEX (Full List) https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102643 Right to complain under AGG and role of the AGG complaints body - Antidiskriminierungsstelle (FAQ) https://www.antidiskriminierungsstelle.de/SharedDocs/faqs/EN/discrimination_workplace/03_discrimination_work_agg/09_weirs_discrim_work_agg.html Right to Organise and Collective Bargaining Convention, 1949 (No. 98) – NORMLEX https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312243 Schwarzarbeitsbekämpfungsgesetz (SchwarzArbG) - Gesetze im Internet http://www.gesetze-im-internet.de/schwarzarbg/ Thematic feature - individual labour/employment disputes and the courts | Eurofound https://www.eurofound.europa.eu/en/publications/all/thematic-feature-

	individual-labouremployment-disputes-and-courts-2 The right to strike in the public services – EPSU (PDF) https://www.epsu.org/sites/default/files/article/files/Germany%20-%20Right%20to%20strike%20in%20the%20public%20sector%20-%20EPSU%20format%20-%20Updated%20DB_0.pdf Works Constitution Act (Betriebsverfassungsgesetz, BetrVG) - Gesetze im Internet (English) https://www.gesetze-im-internet.de/englisch_betrvg/englisch_betrvg.html Works Constitution in Germany 2021 - Hogan Lovells (PDF) https://www.hoganlovells.com/-/media/project/english-site/our-thinking/pdfs/client-note_works-constitution-in-germany_2025.pdf
Risk Rating justification	Policies and laws German forestry workplaces are covered by a layered grievance and dispute resolution framework anchored in labour law and collective labour relations. Germany has ratified ILO Convention No. 135 on workers' representatives and it has ratified ILO Convention No. 98 on the right to organise and collective bargaining. ILO Convention No. 154 on collective bargaining and ILO Convention No. 158 on termination of employment are not ratified, but core elements are reflected in German law through collective bargaining law and dismissal protection and through access to labour courts. The central legal mechanism for individual workplace disputes is the specialised labour court system. Under the Labour Courts Act and procedural rules, employment disputes such as pay claims, working time conflicts, discrimination claims, and dismissal disputes are handled by labour courts with an early conciliation stage designed to resolve cases quickly before a full hearing. Workplace level grievance handling is built into the Works Constitution Act. Where employees elect a works council, it has statutory functions to receive concerns, monitor compliance with laws and agreements, and address conflicts with the employer. Where co determination matters cannot be agreed, the law provides for a conciliation committee process that can issue a binding determination comparable to a works agreement. Specific statutory complaint routes also exist alongside general labour law. Under the General Act on Equal Treatment, employees have a right to complain to an internal complaints body about discrimination or harassment, and the employer must examine the complaint and communicate the outcome. For reporting certain breaches beyond classic employment disputes, the Whistleblower Protection Act requires many employers to provide internal reporting channels and also provides access to external reporting offices. Mediation is available as a voluntary alternative dispute resolution route under the Mediation Act and can be used in workplace and employment related conflicts where parties prefer a negotiated settlement outside court or alongside court proceedings. Relevant institutes and law enforcement Labour courts are the decisive external institutions for binding dispute resolution. They provide enforceable judgments and settlements, and they

	also provide a structured conciliation stage that functions as a formal settlement forum. Appeals can be pursued through the higher tiers culminating in the Federal Labour Court for questions that reach that level. Works councils are the key internal institution where they exist. They provide a formal channel for grievances and collective issues and can trigger the statutory conciliation committee route when co determination disputes cannot be resolved with management. In forestry, this can be relevant in larger state forest enterprises, municipal forest operations, and larger contractors where establishment size and workforce structure permit elections. Trade unions provide practical access to advice, representation, and dispute escalation. In German forestry and related contracting chains, IG BAU is a relevant sector union and can support members in employment conflicts and legal enforcement. DGB Rechtsschutz provides legal representation for members of DGB affiliated unions in employment related litigation and disputes. For discrimination related grievances, the Federal Anti Discrimination Agency provides guidance and initial support and points to the employer complaint body route and onward legal remedies. For whistleblowing type reports, external reporting routes exist at federal level through the Federal Office of Justice external reporting office, and sector or authority specific external offices also exist depending on the subject matter. Separate from employment rights disputes, Länder occupational safety authorities provide complaint routes for unsafe working conditions and can act on information received, which matters for forestry work because risks are often tied to field operations, equipment, and remote worksites. Performance in practice and critical reviews For a typical forestry worker employed by a lawful operator, grievances can be routed through internal management processes, works council channels where present, union advice and representation, and the labour courts with early conciliation. Collective agreements in parts of the forestry and public sector sphere can add further structured processes, including agreed dispute handling steps and internal escalation routes, and works council conciliation committee procedures can deliver binding outcomes in co determination disputes. For a minimum actor scenario in the supply base, the main practical weakness is not the absence of legal remedies but barriers to access. Small forestry contractors and short term crews can fall outside works council coverage and may have limited internal structures. Migrant and posted workers can face language barriers, dependence on supervisors for transport and accommodation, or fear of retaliation, which can reduce the likelihood of using internal channels even when they exist. The whistleblower regime improves formal reporting options, but where an employer is not obliged to provide internal reporting channels or where trust is low, workers may rely on unions, external reporting offices, labour inspectorate complaint routes, or direct court action. Recent institutional guidance and reviews tend to converge on a similar point for grievance mechanisms in Germany. The formal system is strong and

	offers multiple legally protected routes, but effectiveness for the most vulnerable workers depends on awareness, accessibility, confidentiality, and protection against disadvantage after complaining. In practical terms for forestry, that means the minimum credible protection relies on the availability of external routes such as labour courts, union legal support, and external reporting offices, because internal mechanisms and works council based resolution are not guaranteed across all forestry contracting structures.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation Act Against Illegal Employment (SchwarzArbG) C119 (No. 119) Guarding of Machinery Convention, 1963 C121 (No. 121) Employment Injury Benefits Convention, 1964 C155 (No. 155) Occupational Safety and Health Convention, 1981 C187 (No. 187) Promotional Framework for Occupational Safety and Health Convention, 2006 Minimum Wage Act (MiLoG) Occupational Safety and Health Act (Arbeitsschutzgesetz, ArbSchG) Plant Protection Act (PflSchG) Product Safety Act (Produktsicherheitsgesetz, ProdSG) Social Security Code VII (SGB VII) Supply Chain Due Diligence Act (LkSG) Youth Employment Protection Act (JArbSchG) URLs 2023 Country Reports on Human Rights Practices: Germany - State Department https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/germany/ 2024 Trafficking in Persons Report: Germany - State Department https://www.state.gov/reports/2024-trafficking-in-persons-report/germany/ Act to Combat Undeclared Work and Unlawful Employment (SchwarzArbG) https://www.gesetze-im-internet.de/englisch_schwarzarbg/englisch_schwarzarbg.html agrarheute - Mindestlohn steigt 2024 www.agrarheute.com/management/betriebsfuehrung/mindestlohn-steigt-2024-landwirte-muessen-mehr-fuer-beschaeftigte-zahlen-613210 agrarheute - Zoll-Kontrollen www.agrarheute.com/management/recht/zoll-kontrollen-landwirtschaft-verdacht-schwarzarbeit-622804 Allgemeines Gleichbehandlungsgesetz (AGG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_agg/englisch_agg.html

	Arbeitnehmer-Entsendegesetz (AEntG) - Gesetze im Internet http://www.gesetze-im-internet.de/aentg/ Arbeitnehmerüberlassungsgesetz (AÜG) - Gesetze im Internet http://www.gesetze-im-internet.de/a_g/ Bayerische Landesanstalt für Wald und Forstwirtschaft - Fem4Forest https://www.lwf.bayern.de/fem4forest BMEL - NAP Sustainable Use of Plant Protection Products www.bmel.de/EN/topics/farming/plant-production/NAP-sustainable-use-plant-protection-products.html BVL - Comprehensive approval procedures for genetically modified organisms https://www.bvl.bund.de/SharedDocs/Flyer/nach_Abteilungen_en/Flyer_Gentechnik_en.pdf?__blob=publicationFile&v=5 Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet https://www.gesetze-im-internet.de/englisch_tvg/ Collective Agreements Act (Tarifvertragsgesetz, TVG) - Gesetze im Internet (Full Citation) https://www.gesetze-im-internet.de/englisch_tvg/englisch_tvg.html DRZE - Genetic Engineering Act https://www.drze.de/en/research-publications/in-focus/genetically-modified-foods/modules/genetic-engineering-act EVALUATION REPORT GERMANY – GRETA https://rm.coe.int/greta-evaluation-report-on-germany-third-evaluation-round-focus-access/1680b04977 Euractiv - Integrated Pest Management www.euractiv.com/section/agriculture-food/news/germany-bets-on-integrated-pest-management-for-halving-pesticide-use/ German Criminal Code http://www.gesetze-im-internet.de/stgb/ Gesetze im Internet - Youth Employment Protection Act (JArbSchG) http://www.gesetze-im-internet.de/jarbschg/ IG BAU (Industriegewerkschaft Bauen-Agrar-Umwelt) https://igbau.de/ Illegal Employment | Handbook Germany : Together https://handbookgermany.de/en/illegal-employment Labour and collective bargaining law - Die Arbeitgeber https://arbeitgeber.de/en/themen/arbeitsrecht-und-tarifpolitik/arbeits-und-tarifrecht/ Mindestlohngesetz (MiLoG) - Gesetze im Internet http://www.gesetze-im-internet.de/milog/ National Action Plan for Sustainable Pesticide Use (NAP) www.nap-pflanzenschutz.de/integrierter-pflanzenschutz/pflanzenschutzmassnahmen RAL-Gütegemeinschaft Wald und Landschaftspflege (Forestry and Landscape Management Quality Association) http://www.ral-ggwl.de Schwarzarbeitsbekämpfungsgesetz (SchwarzArbG) - Gesetze im Internet http://www.gesetze-im-internet.de/schwarzarbg/

	The Illegal Employment of Foreigners in Germany - SE Legal https://se-legal.de/employment-lawyers-germany/illegal-employment-of-foreigners-german-lawyer/?lang=en
Risk Rating justification	The protection of worker health and safety is fully covered by ILO Conventions that Germany has ratified, and the implementation of these is robustly mandated in national law. C155 (No. 155) Occupational Safety and Health Convention, 1981 Ratified (1991) and implementation in: Occupational Safety and Health Act (Arbeitsschutzgesetz, ArbSchG) C187 (No. 187) Promotional Framework for Occupational Safety and Health Convention, 2006 Ratified (2007) and implementation in: Occupational Safety and Health Act (ArbSchG) and Social Code Book VII (SGB VII) C121 (No. 121) Employment Injury Benefits Convention, 1964 Ratified (1972) and implementation in: Social Code Book VII (SGB VII) – Gesetzliche Unfallversicherung (Statutory Accident Insurance) C119 (No. 119) Guarding of Machinery Convention, 1963 Ratified (1969) and implementation in: Product Safety Act (Produktsicherheitsgesetz, ProdSG) and associated ordinances. Applicable laws, regulations and policy frameworks Federal Occupational Safety and Health Act (ArbSchG): This is the fundamental law, explicitly mandating employers to put safeguards in place. It requires the employer to assess risks, take the necessary measures to protect workers' health and safety, and document the process. This legal obligation forms the basis for developing, communicating, and implementing safety policies. Social Security Code VII (SGB VII - Accident Insurance): This Act makes statutory accident insurance (workers'compensation) mandatory and is primarily focused on prevention. The associated Employers' Liability Insurance Associations (Berufsgenossenschaften) enforce safety regulations, conduct inspections, and provide training and prevention programs, effectively forcing companies to develop and implement safety policies. Youth Employment Protection Act (JArbSchG): Imposes stricter protection and explicit instruction requirements for minors under 18, ensuring their health and safety are prioritized. Plant Protection Act (PflSchG): Requires specialized training and protective measures (policies and procedures) for workers handling hazardous chemicals to ensure safe use and prevent health risks. General Employment Law: Laws such as the Act Against Illegal Employment (SchwarzArbG) and the Minimum Wage Act (MiLoG) indirectly safeguard health by preventing dangerous overwork and ensuring fair compensation, reducing the economic pressure that often leads to safety compromises. Identification of institutional roles and oversight functions (incl. law enforcement) Oversight is shared between the state and the social insurance system, creating a multi-layered enforcement mechanism:

	State Enforcement: Occupational Health and Safety Authorities (Gewerbeaufsicht) — local administrative entities of the federal states — are responsible for monitoring and ensuring compliance with the ArbSchG and JArbSchG. They conduct inspections, can demand remedies, and impose fines for violations. Insurance Enforcement (The Berufsgenossenschaften): These employers' liability insurance associations are responsible for accident prevention (workers′compensation). They issue binding Accident Prevention Regulations (Unfallverhu¨tungsvorschriften) that function as mandatory industry-specific policies and procedures (P&P) that employers must implement. Works Councils: The legally established Works Councils in larger workplaces have co-determination rights in areas of occupational safety and must approve company P&Ps related to safety, ensuring implementation is communicated and agreed upon by employee representatives. Due Diligence: The Supply Chain Due Diligence Act (LkSG) mandates that large companies ensure human rights (which include a safe work environment) are respected throughout their supply chains, compelling the development and communication of robust safety policies. Analysis of practical performance by minimum and typical actors For the typical employer, policy implementation is systematic; however, high-risk sectors struggle with effective communication to vulnerable workers: Typical Actor Compliance: The system works effectively for most German companies. Regular risk assessments, the provision of necessary safety equipment and training, and the establishment of internal P&Ps are standard practice driven by the dual enforcement of the ArbSchG and SGB VII. Forestry Sector Specifics: The forestry sector relies on standards from organizations like KWF and RAL-Gütegemeinschaft to define quality management standards, which inherently include safety protocols for dangerous machinery and operations. Minimum Actor Gaps (Vulnerability): Despite the clear legal mandate, the primary failure point is the effective communication and implementation of P&Ps for seasonal migrant workers and those in illegal employment. Evidence of poor working conditions, limited safety equipment and training, and language barriers confirms that the P&Ps required by law are either deficient or inadequately communicated to the most vulnerable group, representing a verifiable risk of non-compliance by the minimum actor. Critical review based on secondary sources Unqualified Legal Verification: The statement is fully verified by the ArbSchG's mandate for risk assessment and protective measures. The law itself is built upon the premise that policy development and implementation are the core employer duties. Focus on Communication Failure: The system's weakness is not the existence of policies but their implementation and communication. The lack of effective communication and training for non-native speakers directly undermines the "communicating and implementing policies and procedures" aspect of the statement.

Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.2.1	Negative social and community impacts shall be identified and avoided.
Supply Base Verifiers	Legislation Act Against Illegal Employment (SchwarzArbG) Act on Continued Remuneration during sickness (Entgeltfortzahlungsgesetz) Arbeitsschutzgesetz (Occupational Safety and Health Act) Arbeitsgerichte (Labor Courts System) Basic Law (Grundgesetz, GG) Collective Bargaining Act (Tarifvertragsgesetz, TVG) Dismissal Protection Act (Kündigungsschutzgesetz, KSchG) Environmental Impact Assessment Act (UVPG) Federal Forest Act (Bundeswaldgesetz - BWaldG) Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG) General Act on Equal Treatment (AGG) Minimum Wage Act (Mindestlohngesetz, MiLoG) Social Security Code (Sozialgesetzbuch, SGB) Works Constitution Act (Betriebsverfassungsgesetz, BetrVG) URLs 2024 Trafficking in Persons Report: Germany - State Department https://www.state.gov/reports/2024-trafficking-in-persons-report/germany/ Act on the Protection of Cultural Monuments https://www.kulturgutschutz-deutschland.de/SharedDocs/ExterneLinks/EN/Gesetze_en/DSchG_Laender/HE_DSchG.pdf?__blob=publicationFile Act Regulating a General Minimum Wage (Mindestlohngesetz – MiLoG) https://www.gesetze-im-internet.de/englisch_milog/englisch_milog.html Act to Combat Undeclared Work and Unlawful Employment (Schwarzarbeitsbekämpfungsgesetz, SchwarzArbG) https://www.gesetze-im-internet.de/englisch_schwarzarbg/englisch_schwarzarbg.html Bundeswaldgesetz (Federal Forest Act) http://www.gesetze-im-internet.de/bwaldg DW - Germany violated nature conservation law, rules EU top court https://www.dw.com/en/germany-violated-nature-conservation-law-rules-eu-top-court/a-66882782 Eckpunkte der Waldstrategie 2050 - Berichte über Landwirtschaft https://buel.bmel.de/index.php/buel/article/download/297/492/2360 Federal Nature Conservation Act (BNatSchG) www.gesetze-im-internet.de/bnatschg_2009/ FSC National Risk Assessment for Germany (FSC-NRA-DE) - FSC Connect https://connect.fsc.org/document-centre/documents/resource/201 General Act on Equal Treatment (Allgemeines Gleichbehandlungsgesetz – AGG)

	https://www.gesetze-im-internet.de/englisch_agg/englisch_agg.html General Taxation Codes (German) www.gesetze-im-internet.de/englisch_ao/ German Civil Code (BGB) – English www.gesetze-im-internet.de/englisch_bgb/ Gesamtökologische Bewertung der Kaskadennutzung von Holz Umweltauswirkungen stofflicher und energetischer Holznutzungssysteme im Vergleich – IFEU https://www.ifeu.de/fileadmin/uploads/Publikationen/Biomasse/Landwirtschaft/IFEU%202013_Umweltbewertung%20Holzkaskadennutzung.pdf HolzSiG (German Timber Security Act) www.gesetze-im-internet.de/holzsig/BJNR134500011.html Key points of a National Biomass Strategy (NABIS) https://www.bundesumweltministerium.de/fileadmin/Daten_BMU/Download_PDF/Naturschutz/nabis_eckpunkte_en_bf.pdf Pressearchiv - Charta für Holz 2.0 https://www.charta-fuer-holz.de/charta-service/presse/pressearchiv Regional Risk Assessment for Denmark Trees Outside Forests - Sustainable Biomass Program https://sbp-cert.org/wp-content/uploads/2025/02/SBP-RRA-EU-DK-TOF_v1.0-RRA-for-Denmark-TOF_Interim.pdf Social Code Book VII – Statutory Accident Insurance (Sozialgesetzbuch Siebtes Buch – Gesetzliche Unfallversicherung, SGB VII) https://www.gesetze-im-internet.de/englisch_sgb_7/englisch_sgb_7.html The 2023 Climate Action Programme of the German Federal Government https://www.bundeswirtschaftsministerium.de/Redaktion/EN/Downloads/C/climate-action-programme-2023.pdf?__blob=publicationFile Umweltbundesamt - Biomass: Cascading use equals best life cycle assessment https://www.umweltbundesamt.de/en/press/pressinformation/biomass-cascading-use-equals-best-life-cycle Umweltverträglichkeitsprüfungsgesetz (UVPG) (Environmental Impact Assessments Act) https://www.gesetze-im-internet.de/uvpg_2017/ UNFCCC - First Biennial Transparency Report https://unfccc.int/sites/default/files/resource/202411116_1sBieenial%20Transparency%20Report_Germany_fin.pdf Waldbericht der Bundesregierung 2017 - Bundesministerium für Ernährung und Landwirtschaft https://www.bmleh.de/SharedDocs/Downloads/DE/_Wald/Waldbericht2017.pdf?__blob=publicationFile&v=6 Works Constitution Act (Betriebsverfassungsgesetz – BetrVG) https://www.gesetze-im-internet.de/englisch_betrvg/englisch_betrvg.html
Risk Rating justification	See also indicators: 1.1.2 (legislation ownership) 1.1.5 (protection from unauthorized and illegal activities) 2.2.2 (ecosystems management) 4.1.9 (workplace grievances and disputes)

	4.2.2 (local economy contributions) 4.2.3 (HCV management) 4.2.4 (local communities) 4.2.5 (forest and land management grievances and disputes) Applicable laws, regulations and policy frameworks The legal and policy framework in Germany ensures the avoidance of negative social and community impacts by mandating the multifunctionality of forests and establishing clear rights for workers and the public. Federal Forest Act (Bundeswaldgesetz - BWaldG) : This law is the cornerstone of German forestry, mandating the sustainable use, conservation, and enhancement of forests, emphasizing their multifunctionality, specifically including social functions (recreation and public access) alongside economic and ecological roles. Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG) : This act demands the consideration of local community interests in forest management and site planning, particularly regarding historical usage patterns like access for non-timber products and recreation. Environmental Impact Assessment Act (UVPG) : While most forestry activities are exempt, the UVPG requires Environmental Impact Assessments (EIAs) for larger infrastructure projects (which may include elements of biomass procurement) to identify and mitigate significant environmental and social consequences. Labor and Social Security Laws: A vast body of federal law (e.g., the Sozialgesetzbuch, Arbeitsschutzgesetz, Mindestlohngesetz) mandates the protection of workers' rights, health, wages, and social security. These laws are critical for avoiding the negative social impacts of exploitation on workers and their communities. Customary and Traditional Rights: The BNatSchG and the BWaldG, alongside state-level laws, require the consideration and respect of established historical usage patterns (e.g., local access rights for mushrooms or historical grazing rights) when creating modern forest management plans. Identification of institutional roles and oversight functions (incl. law enforcement) Oversight is distributed across forest management, social affairs, and specialized law enforcement units, ensuring a multi-tiered accountability system. State Forestry Authorities (Landesforstämter) : These are the primary institutional mechanism for balancing forest functions. They review and audit management plans (Forsteinrichtung) of public and large private forests, ensuring compliance with the BWaldG's mandate to respect public access and social concerns. Local Nature Conservation Authorities (Untere Naturschutzbehörden) : These bodies enforce the BNatSchG locally. They are responsible for regulating tree/hedge care and monitoring compliance with felling restrictions, ensuring activities do not harm the local environment or community interests. Judicial and Conflict Resolution System: The specialized Labor Courts

	(Arbeitsgerichte) and the civil court system (Amtsgerichte) provide independent and legally binding mechanisms for resolving disputes related to worker rights (e.g., wage claims, unfair dismissal) and property/access rights. Financial Monitoring of Undeclared Work (FKS): This specialized unit of the Customs Administration (Zoll) is crucial for enforcing the Minimum Wage Act and combating illegal employment, directly addressing the social impact of labor exploitation and wage dumping. Analysis of practical performance by minimum and typical actors The German system dictates high standards for typical actors but faces challenges in preventing exploitation by minimum actors in high-risk niches. Typical Actor (State and Certified Private Forests): Performance is typically strong, particularly regarding public access and community consultation. Public forests generally adhere to guaranteed public access for recreation. Management plans integrate social objectives, such as accommodating historical grazing rights or local access for non-timber forest products (NTFPs) like mushrooms and berries. Minimum Actor (Exploitative Subcontractors): The primary risk for negative social impacts is concentrated in the exploitation of vulnerable seasonal migrant workers. While minimum wage and safety laws exist, the practical implementation for these workers can be deficient, leading to: Unsafe Working Conditions: Inadequate safety equipment or training, particularly where language barriers exist. Wage Violations: Non-payment or underpayment of the statutory minimum wage. Denial of Benefits: Exclusion from mandatory social security benefits due to undeclared work. Grievance Mechanisms: The legal and judicial system provides robust mechanisms (e.g., Works Councils, Labor Courts) for all workers, but vulnerable groups often lack the awareness or means to access them effectively. Critical review based on secondary sources Secondary sources confirm that while the legal framework is robust, ongoing enforcement deficits pose a credible, verifiable risk to certain social groups. Legal Mandate is Low Risk: The FSC Controlled Wood Risk Assessment for Germany (FSC-NRA-DE V1-1) rates the risk of major violations of worker rights and community/indigenous rights as Low Risk. This is a direct verification that the legal framework for identifying and avoiding negative social impacts is fundamentally sound. Verifiable Implementation Gaps (Exploitation): Despite the low risk rating for the legal framework, reports from the U.S. Department of State and other bodies consistently highlight the ongoing challenge of labor exploitation in sectors (including agriculture and forestry) that utilize seasonal migrant workers. The concern is not the lack of law, but the failure in practical enforcement against the exploitative minimum actor. Conflict Resolution Efficacy: The German system is praised for its comprehensive, multi-tiered approach to dispute resolution, utilizing both

	mandatory internal mechanisms (Works Councils) and specialized judicial avenues (Labor Courts), ensuring that conflicts over social and community impacts have clear legal recourse.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.2.2	Feedstock sourcing shall positively contribute to the local economy, including employment.
Supply Base Verifiers	Legislation Act Against Illegal Employment (SchwarzArbG) Charta für Holz 2.0 (BMEL) Forest Damage Compensation Act (ForstSchAusglG) Joint Task for the Improvement of Agricultural Structure and Coastal Protection (GAK) Minimum Wage Act (MiLoG) Skilled Labour Strategy (BMAS, BMWK) Supply Chain Due Diligence Act (LkSG) URLs BMEL - Forest Strategy 2020 www.bmel.de/EN/topics/forests/forests-in-germany/forest-strategy-2020.html Charta für Holz 2.0 (BMEL) www.bmel.de/SharedDocs/Downloads/DE/_Wald/Waldbericht2017.pdf?__blob=publicationFile&v=6 DBFZ - Diskussionspapier Nachhaltigkeit Holzenergie www.dbfz.de/fileadmin/user_upload/Referenzen/Statements/Diskussionspapier_Nachhaltigkeit_Holzenergie.pdf EurObserv'ER, 2023 www.eurobserv-er.org/wp-content/uploads/2023/04/Solid-Biomass-Barometer-2023.pdf German Bioenergy Association - Pressemitteilung (Biomassestrategie) www.bioenergie.de/presse/kraftstoffe/biomassestrategie-ist-neuauflage-gescheiterter-politischer-vorhaben German Bioenergy Association - Pressemitteilung (Nachhaltigkeitszertifizierung) www.bioenergie.de/presse/strom/beginn-der-nachhaltigkeitszertifizierung-fuer-biomasse-strom-auf-2023-verschieben IEA Bioenergy - IEA Bioenergy Country Report 2024 – Belgium www.ieabioenergy.com/wp-content/uploads/2024/12/CountryReport2024_Belgium_final.pdf IRENA - Renewable energy and jobs Annual review 2023 www.irena.org/Publications/2023/Sep/Renewable-energy-and-jobs-Annual-review-2023 Renewable Energy Act (Erneuerbare-Energien-Gesetz - EEG) www.gesetze-im-internet.de/eeg_2023/

	Renewable Energy Directive (RED II / RED III) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018L2001 Skilled Labour Strategy (BMAS, BMWK) - Clean Energy Wire www.cleanenergywire.org/news/germanys-new-labour-strategy-sees-skilled-workers-crucial-energy-transition Umweltbundesamt - BIOMASS CASCADES Increasing resource efficiency by cascading use of biomass — from theory to practice (Summary) www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2017-06-13_texte_53-2017_biokaskaden_summary.pdf Umweltbundesamt - Biomass: Cascading use equals best life cycle assessment www.umweltbundesamt.de/en/press/pressinformation/biomass-cascading-use-equals-best-life-cycle UN Declaration on the Rights of Indigenous Peoples (UNDRIP) www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf
Risk Rating justification	See also indicator: 4.2.1 (social and community impacts) Applicable laws, regulations and policy frameworks The positive contribution to the local economy and employment is primarily driven by high-level national strategies and financial mechanisms, rather than direct, legally binding feedstock requirements. Skilled Labour Strategy (BMAS, BMWK): The German government explicitly views the structural transformation towards climate neutrality and renewable energy as an opportunity to create and maintain new jobs in sustainable sectors, including bioeconomy and renewable energy. This forms a core policy objective for the economic benefits of sectors like biomass. Joint Task for the Improvement of Agricultural Structure and Coastal Protection (GAK): This federal-state funding program allocates significant public funds (nearly €800 million total by 2024) to support sustainable forest management, nature conservation, and recovery from extreme weather. These funds are instrumental in sustaining forestry sector jobs and local economic activity, especially after major forest damage. Forest Damage Compensation Act (ForstSchAusglG): This legislation allows the government to issue regulations to mitigate market disruptions (like timber price collapses) following national calamities. Mechanisms such as tax relief and harvest restrictions are intended to stabilize the raw wood market and protect the economic viability of forest owners and related employment. Charta für Holz 2.0 (BMEL): This policy framework promotes the use of wood for its highest value and advocates for resource efficiency. While pushing for high-value applications, its overall aim is to support the domestic wood-based economy and the jobs it sustains. Identification of institutional roles and oversight functions (incl. law enforcement) Oversight for this indicator is decentralized across economic, labor, and environmental ministries, focusing on policy guidance and financial support to ensure positive economic impact. Federal Ministry for Economic Affairs and Climate Action (BMWK): Focuses

	on promoting bioeconomy sectors that are expected to generate and maintain jobs as part of the climate-friendly economic transition. Federal Ministry of Labour and Social Affairs (BMAS): Emphasizes that successfully navigating Germany's structural change requires a sufficient number of skilled workers. The BMAS oversees labor laws (Mindestlohngesetz, etc.) which ensure that jobs created meet minimum wage and safety standards. Federal Ministry of Food and Agriculture (BMEL): Oversees financial support programs like the GAK that directly inject capital into local forest management and recovery efforts, which in turn secures local employment. Certification Schemes (FSC, PEFC, Biomass Certification): Though non-governmental, these schemes enforce high standards of legal compliance, fair wages, and worker safety. Biomass certification in particular contributes to assuring compliance with sustainability requirements. Analysis of practical performance by minimum and typical actors The practical performance demonstrates that the forestry and bioenergy sectors are major job creators, but this contribution is complex due to the heavy reliance on salvage wood. Typical Actors (Forestry and Bioenergy): Germany is one of the largest domestic employers in the EU solid biomass supply chain, with over 40,000 jobs in this sector alone. Sourcing forest residues and low-grade stems for commercial use generates additional revenue for landowners and employment for harvesting teams. This income makes more complex forest maintenance and the tidying of clear-cut plots feasible, providing ongoing work. Minimum Actors (Salvage Wood): The high proportion of salvage wood (up to 74.8% of the total harvest in 2020) being used for energy provided a necessary outlet and generated some revenue during crisis years. This provided a crucial financial lifeline, facilitating the salvage of damaged forests and retaining jobs that would have been lost without a market for this low-value material. Current Challenge: The oversupply of low-value salvage wood has driven down raw wood prices, leading to reduced income for (private) forest owners. This financial strain hampers their ability to manage recovery and restructuring, threatening the long-term economic viability and thus the sustained positive contribution to the local economy. Critical review based on secondary sources Secondary sources confirm the statement's validity by demonstrating an active policy and measurable employment contribution, but they caution that the current situation is unsustainable. Verification of Positive Contribution: The statement is verified by the simple fact that Germany is a major employer in the domestic biomass supply chain. The policy goal is explicitly to create and secure these jobs through the energy transition and sustainable forest management. Critical Unsustainability: Stakeholders, including the industry and environmental groups, agree that the current economic reliance on salvage

	wood for energy is not a desirable or sustainable long-term solution. The challenge is the risk that too much primary wood will be diverted to bioenergy in the future, which would be counter to the cascading principle.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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
Supply Base Verifiers	Legislation Act on Continued Remuneration during sickness (Entgeltfortzahlungsgesetz) Act Against Illegal Employment (SchwarzArbG) Arbeitnehmer-Entsendegesetz (AEntG) Arbeitnehmerüberlassungsgesetz (AÜG) Basic Law (Grundgesetz, GG) Collective Bargaining Act (Tarifvertragsgesetz, TVG) C026 (No. 26) Minimum Wage-Fixing Machinery Convention, 1928 C098 (No. 98) Right to Organise and Collective Bargaining Convention, 1949 C099 (No. 99) Minimum Wage Fixing Machinery (Agriculture) Convention, 1951 C102 (No. 102) Social Security (Minimum Standards) Convention, 1952 C118 (No. 118) Equality of Treatment (Social Security) Convention, 1962 C121 (No. 121) Employment Injury Benefits Convention, 1964 C128 (No. 128) Invalidity, Old-Age and Survivors' Benefits Convention, 1967 C130 (No. 130) Medical Care and Sickness Benefits Convention, 1969 C132 (No. 132) Holidays with Pay Convention (Revised), 1970 C140 (No. 140) Paid Educational Leave Convention, 1974 C142 (No. 142) Human Resources Development Convention, 1975 C155 (No. 155) Occupational Safety and Health Convention, 1981 C157 (No. 157) Maintenance of Social Security Rights Convention, 1982 C158 (No. 158) Termination of Employment Convention, 1982 C183 (No. 183) Maternity Protection Convention, 2000 C187 (No. 187) Promotional Framework for Occupational Safety and Health Convention, 2006 Dismissal Protection Act (Kündigungsschutzgesetz, KSchG) Environmental Impact Assessment Act (UVPG) Federal Forest Act (Bundeswaldgesetz - BWaldG) Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG) Federal Soil Protection Act (Bundes-Bodenschutzgesetz - BBodSchG) Federal Water Act (Wasserhaushaltsgesetz - WHG) General Act on Equal Treatment (AGG) Maternity Protection Act (Mutterschutzgesetz, MuSchG) Minimum Wage Act (MiLoG) Occupational Safety and Health Act (Arbeitsschutzgesetz, ArbSchG) Plant Protection Act (PflSchG) Product Safety Act (Produktsicherheitsgesetz, ProdSG)

	Social Code (Sozialgesetzbuch, SGB) Social Code Book III (SGB III) Social Code Book V (SGB V) Social Code Book VI (SGB VI) Social Code Book VII (SGB VII) Supply Chain Due Diligence Act (LkSG) Temporary Employment Act (AÜG) Works Constitution Act (Betriebsverfassungsgesetz, BetrVG) Youth Employment Protection Act (Jugendarbeitsschutzgesetz, JArbSchG) URLs Bundesnaturschutzgesetz (BNatSchG) vom 29. Juli 2009 (BGBl. I S. 2542) - "Federal Nature Conservation Act" www.gesetze-im-internet.de/bnatschg_2009/ Forest Research Institute Baden-Württemberg (FVA-BW) www.fvabw.de Bundeswaldgesetz (BWaldG) vom 02. Mai 1975 (BGBl. I S. 1037) "National Forest Act" http://www.gesetze-im-internet.de/bwaldg Bundes-Bodenschutzgesetz (BBodSchG) vom 17. März 1998 (BGBl. I S. 502) - "Soil Protection Act" https://www.gesetze-im-internet.de/bbodschg/ Federal Water Act (Wasserhaushaltsgesetz - WHG) www.gesetze-im-internet.de/whg_2009/ Düngeverordnung (DüV) in der Fassung der Bekanntmachung vom 27. Februar 2007 (BGBl. I S. 221) - "Fertilizer legislation" https://www.gesetze-im-internet.de/d_v_2017/ Düngemittelverordnung (DüMV) vom 05. Dezember 2012 (BGBl. I S. 2482) - "Fertilizer Ordinance" https://www.gesetze-im-internet.de/d_mv_2012/ Chemikaliengesetz (ChemG) in der Fassung der Bekanntmachung vom 28. August 2013 (BGBl. I S. 3498, 3991) https://www.gesetze-im-internet.de/chemg/ Forest function mapping www.bmel.de/DE/themen/wald/wald-in-deutschland/waldfunktionen.html FSC Controlled Wood Risk Assessment for Germany, assigned code: FSC-NRA-DE (approved 03.04.2018, updated 31.07.2020) https://connect.fsc.org/document-centre/documents/resource/201
Risk Rating justification	While food and traditional forest-based sustenance are no longer basic needs, the protection of water supply and essential HCVs is comprehensively mandated by federal law, making this a non-negotiable legal requirement. Applicable laws, regulations and policy frameworks The legal framework is designed to prioritize the protective functions of forests, particularly regarding water and environmental quality, which are the only remaining basic needs connected to the forest supply base. Federal Water Act (Wasserhaushaltsgesetz - WHG): This is the principal law governing water resources. It explicitly mandates the protection and

	management of water catchment areas used for drinking water supply. Forests within these areas are subject to specific management restrictions to prevent contamination and ensure water quality. Federal Forest Act (Bundeswaldgesetz - BWaldG) : This law mandates multifunctional forest management, explicitly requiring the protection of water resources. The functions of forests are mapped (Forest function mapping), which identifies and prioritizes areas essential for water protection. Federal Soil Protection Act (Bundes-Bodenschutzgesetz - BBodSchG) : This law safeguards soil quality, which is integral to the protection of water catchment areas and overall forest ecosystem health. Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG): This act ensures that High Conservation Values (HCVs) are identified, maintained, or enhanced, covering HCVs that are not essential for community basic needs but are legally required for environmental protection. Fertilizer and Chemical Legislation (DüV, DüMV, ChemG) : These laws strictly govern the use of chemicals and fertilizers near sensitive areas, directly supporting the goal of minimizing pollution of groundwater and surface water. Identification of institutional roles and oversight functions (incl. law enforcement) Oversight is managed through a multi-agency system that enforces conservation and water quality mandates on the ground. State Environmental Agencies (Water Authorities): These regional bodies enforce the WHG and are primarily responsible for monitoring water catchment areas and ensuring compliance with conservation measures related to clean drinking water. State Forestry Authorities (Forstbehörden): These authorities enforce the BWaldG and state forest laws. They ensure that forest management plans and felling licenses adhere to the restrictions necessary for water catchment protection. Scientific Monitoring Bodies: Authorities, often in collaboration with research institutes like the Forest Research Institute Baden-Württemberg (FVA-BW) , continually monitor water catchment areas and past polluted areas to assess and enforce the maintenance/enhancement goals. Law Enforcement and Judicial System: Violations of water, soil, and nature conservation laws are subject to fines, penalties, and mandatory restoration activities, establishing a clear enforcement pathway. Analysis of practical performance by minimum and typical actors The practical performance focuses almost exclusively on water protection, as other potential "basic needs" (food, access) are no longer essential community requirements in Germany. Water Supply (Core Focus): The presence of water catchment areas heavily influences forest management plans and felling licenses. Typical actors (forest managers) must follow specific practices to minimize the impact and pollution of groundwater and surface water, aligning with European laws and the national commitment to clean drinking water.

	Non-Essential Traditional Rights (Minimal Impact): Although traditional rights (collecting mushrooms, berries, firewood, and access) are formalized through legislation and agreements, they are no longer considered essential to the basic needs of any community in Germany. Forestry activities therefore do not conflict with the fulfillment of essential nourishment needs. HCV Protection: The legal requirement to identify and protect HCVs (HCV 4 being water protection, others covering biodiversity) ensures these essential ecological functions are maintained, even if they are not classified as a "basic need" under the narrow interpretation. Critical review based on secondary sources Secondary sources confirm that the legal goal of protecting essential services is robust, though full, measurable enhancement is an ongoing challenge. Legal Verification: The requirement is verified by the strong, overlapping body of federal legislation (WHG, BWaldG, BBodSchG) that mandates the protection of drinking water catchment areas (the essential community need linked to the forest). Low Risk Assessment: External assessments, such as the FSC Controlled Wood Risk Assessment for Germany (FSC-NRA-DE), confirm that the legal and institutional framework is sufficient to identify and protect these critical conservation values, typically leading to a Low Risk rating for the indicator. No Conflict with Food Needs: The explicit finding that no cases were found of forestry conflicting with the fulfillment of essential needs, such as nourishment, confirms the statement's practical validity regarding the "food supply" component.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation Basic Law (Grundgesetz - GG) Dismissal Protection Act (Kündigungsschutzgesetz, KSchG) Federal Forest Act (Bundeswaldgesetz - BWaldG) Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG) General Act on Equal Treatment (AGG) German Civil Code (Bürgerliches Gesetzbuch - BGB) Grundbuchordnung (GBO) Informationsfreiheitsgesetz (IFG) Law for the Improvement of Public Participation (PlVereinhG) URLs Bundesnaturschutzgesetz (BNatSchG) vom 29. Juli 2009 (BGBl. I S. 2542) - "Federal Nature Conservation Act" www.gesetze-im-internet.de/bnatschg_2009/

	Bundeswaldgesetz (BWaldG) vom 02. Mai 1975 (BGBl. I S. 1037) "National Forest Act" http://www.gesetze-im-internet.de/bwaldg Bundes-Bodenschutzgesetz (BBodSchG) vom 17. März 1998 (BGBl. I S. 502) - "Soil Protection Act" https://www.gesetze-im-internet.de/bbodschg/ Bürgerliches Gesetzbuch (BGB) in der Fassung der Bekanntmachung vom 02. Januar 2002 (BGBl. I S. 42, 2909; 2003 I S. 738) - "German Civil Code“ www.gesetze-im-internet.de/englisch_bgb/ Chemikaliengesetz (ChemG) in der Fassung der Bekanntmachung vom 28. August 2013 (BGBl. I S. 3498, 3991) https://www.gesetze-im-internet.de/chemg/ Deutscher FSC-Standard Version 3-0 - "German FSC-Standard" https://fsc.org/de-de/dokumente/dokumentenbibliothek/dokumenten-details/de-fsc-standard-deutschland-fuer-waldwirtschaft-version-3-0 Düngeverordnung (DüV) in der Fassung der Bekanntmachung vom 27. Februar 2007 (BGBl. I S. 221) - "Fertilizer legislation" https://www.gesetze-im-internet.de/d_v_2017/ Düngemittelverordnung (DüMV) vom 05. Dezember 2012 (BGBl. I S. 2482) - "Fertilizer Ordinance" https://www.gesetze-im-internet.de/d_mv_2012/ Forest Research Institute Baden-Württemberg (FVA-BW) www.fvabw.de Grundbuchordnung (GBO) in der Fassung der Bekanntmachung vom 26. Mai 1994 (BGBl. I S. 1114) - "Landbook Rule“ https://www.gesetze-im-internet.de/gbo/ Grundgesetz für die Bundesrepublik Deutschland vom 23. Mai 1949 (BGBl. I S. 2438) “German Constitution” https://www.gesetze-im-internet.de/gg/ Gesetz zur Verbesserung der Öffentlichkeitsbeteiligung und Vereinheitlichung von Planfeststellungsverfahren (PlVereinhG) - "Law for the Improvement of Public Participation and Standardization of Planning Procedures" https://www.gesetze-im-internet.de/plvereinhg/ Informationsfreiheitsgesetz (IFG) vom 05. September 2005 (BGBl. I S. 2722) - "Law for Freedom of Information" https://www.gesetze-im-internet.de/ifg/ Umweltbundesamt (BMUV) www.bmuv.de Federal Water Act (Wasserhaushaltsgesetz - WHG) www.gesetze-im-internet.de/whg_2009/
Risk Rating justification	Applicable laws, regulations and policy frameworks Germany's framework respects tenure and use rights through a hierarchy of constitutional, civil, and specialized land-use laws. German Constitution (Grundgesetz - GG): This is the foundational law that guarantees the fundamental right to property (Article 14), which is the ultimate form of tenure right. German Civil Code (Bürgerliches Gesetzbuch - BGB) and Grundbuchordnung (GBO): The BGB defines the legal framework for ownership and the transfer

	of property (Sections 903–924 BGB). The GBO provides the legal basis for the Land Register (Grundbuch), which ensures that legal ownership and formal use rights (Easements, Sections 1018–1029 BGB) are accurately identified, documented, and legally certain. Federal Forest Act (BWaldG) and State Forest Laws: These laws respect the landowner's tenure while establishing mandatory duties for sustainable management and requiring the consideration of the interests of local communities (social functions). Federal Nature Conservation Act (BNatSchG): This act explicitly mandates the consideration of the interests of local communities and requires the respect of historical usage patterns and agreements. Identification of institutional roles and oversight functions (incl. law enforcement) Institutional roles ensure that tenure is documented via public registers and that customary practices are formalized in local planning. Land Registry Offices (Grundbuchämter): These offices, divisions of the local courts, are the primary institutional mechanism for documenting legal tenure and resource rights (easements). The public-faith principle of the register ensures legal certainty. Judicial System (Amtsgerichte and Landgerichte): Courts are the ultimate bodies for enforcing and resolving disputes over property rights and land use (Civil Code), ensuring that tenure is legally respected. State/Local Forestry and Conservation Authorities: These bodies identify and integrate customary and traditional use rights (like collecting mushrooms, berries, or accessing passageways) into official forest management plans and felling licenses. Law for the Improvement of Public Participation (PlVereinhG): This law, along with the Informationsfreiheitsgesetz (IFG), facilitates public access to information and community consultation in planning processes, ensuring local interests and potentially historical rights are formally considered. Analysis of practical performance by minimum and typical actors The practical performance demonstrates that the system is highly effective for legal tenure and that risks are low due to the lack of forest dependency. Indigenous Peoples (Not Applicable): The risk related to Indigenous Peoples is negligible because there are no Indigenous Peoples in Germany with traditional forest-dependent rights or tenure claims. Legal Tenure (Typical Actor): Landowners (public and private) and operators (who must have the landowner's authorization) adhere to the clearly documented tenure rights of the Grundbuch and BGB. This makes the supply base Low Risk for disputes over legal ownership. Customary Use Rights (Local Communities): Traditional rights (e.g., collecting mushrooms, berries, firewood, and public access) are respected and formalized through regional regulations and customary practices, which local authorities integrate into management and site planning. Although these aspects are no longer essential to the basic needs of any community, their continued formal respect ensures compliance with the principle of respecting

	use rights. Basic Needs (No Conflict): No cases were found where forestry activities or feedstock harvesting conflict with the fulfillment of essential needs, such as nourishment. Critical review based on secondary sources Secondary and official sources confirm that the legal system fully meets the intent of the requirement, with the absence of Indigenous Peoples simplifying compliance. Unqualified Verification of Tenure: Germany's high degree of tenure security (guaranteed by the GG and BGB) and the highly accurate documentation system (GBO) are internationally recognized as robust. Customary Rights are Respected: The integration of local community interests into the management framework ensures that where historical or customary rights exist (e.g., access and foraging), they are formally accounted for and respected.
Risk Rating	Low Risk

Germany **Whole country**	**Indicator**
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.
Supply Base Verifiers	Legislation Administrative Procedure Act (VwVfG) Basic Law (Grundgesetz - GG) Civil Courts (Amtsgerichte) Federal Mediation Act (Mediationsgesetz) German Civil Code (Bürgerliches Gesetzbuch - BGB) Industrial Relations Act (Betriebsverfassungsgesetz) Labor Court Act (Arbeitsgerichtsgesetz) Landbook Rule (GBO) URLs 2024 Trafficking in Persons Report: Germany - State Department https://www.state.gov/reports/2024-trafficking-in-persons-report/germany/ Bundesnaturschutzgesetz (BNatSchG) vom 29. Juli 2009 (BGBl. I S. 2542) - "Federal Nature Conservation Act" www.gesetze-im-internet.de/bnatschg_2009/ Bundeswaldgesetz (BWaldG) vom 02. Mai 1975 (BGBl. I S. 1037) "National Forest Act" http://www.gesetze-im-internet.de/bwaldg Bürgerliches Gesetzbuch (BGB) in der Fassung der Bekanntmachung vom 02. Januar 2002 (BGBl. I S. 42, 2909; 2003 I S. 738) - "German Civil Code" www.gesetze-im-internet.de/englisch_bgb/ DGB - Deutscher Gewerkschaftsbund www.dgb.de

	Forest Research Institute Baden-Württemberg (FVA-BW) http://www.fvabw.de Grundbuchordnung (GBO) in der Fassung der Bekanntmachung vom 26. Mai 1994 (BGBl. I S. 1114) - "Landbook Rule" https://www.gesetze-im-internet.de/gbo/ Grundgesetz für die Bundesrepublik Deutschland vom 23. Mai 1949 (BGBl. I S. 2438) - "German Constitution" https://www.gesetze-im-internet.de/gg/ RWE - Compensation for early phase-out of coal (2023) www.rwe.com/-/media/RWE/documents/07-presse/rwe-ag/2023/2023-12-11-european-commission-approves-compensation-for-early-phase-out-of-coal.pdf RWE - Lignite mining in the Hambach Forest - Right of Nature Tribunal www.rightsofnaturetribunal.org/cases/lignite-mining-in-the-hambach-forest/ Federal Water Act (Wasserhaushaltsgesetz - WHG) www.gesetze-im-internet.de/whg_2009/
Risk Rating justification	See also indicators: 1.1.2 (legislation ownership) 1.1.5 (protection from unauthorized and illegal activities) 4.1.9 (workplace grievances and disputes) 4.2.4 (local communities) Germany possesses a comprehensive, multi-tiered system of specialized courts, administrative procedures, and internal negotiation mechanisms that ensure grievances related to property, land use, and forest management are identified, addressed, and resolved legally. Applicable laws, regulations and policy frameworks The resolution mechanisms are anchored in laws that ensure legal recourse for both property rights and public administration decisions. German Constitution (Grundgesetz - GG): Guarantees fundamental rights, including the right to property (Article 14) and access to the courts. Civil and Land Law (BGB, GBO): The German Civil Code (BGB) defines and protects tenure rights (property and easements), giving citizens the legal grounds to sue for violations. The Landbook Rule (GBO) guarantees the certainty of the documented rights, minimizing disputes over ownership. Administrative Procedure Act (VwVfG): This law outlines the formal procedures for addressing grievances related to administrative decisions, including those concerning land use, environmental permits, and forest management regulations. Specialized Dispute Laws: The Labor Court Act (Arbeitsgerichtsgesetz) and the Industrial Relations Act (Betriebsverfassungsgesetz) provide the mandatory framework for resolving labor disputes in the forestry sector. Identification of institutional roles and oversight functions (incl. law enforcement) Dispute resolution is handled by specialized, independent institutions, ensuring that conflicts are directed to the appropriate legal or negotiation channel.

	Judicial System (Law Enforcement): Administrative Courts: Handle grievances and lawsuits against the state (e.g., challenges to felling licenses or environmental decisions). Labor Courts: Provide expedient and independent resolution of disputes between employers and employees in the forestry sector, with the possibility of appeal. Civil Courts: Resolve conflicts concerning tenure and property boundaries. Federal/State Ministries (Oversight): The Federal Ministry of Food and Agriculture (BMEL) oversees forest management, while State-level forestry departments manage local disputes, often in collaboration with administrative courts. Alternative Dispute Resolution (ADR): The Federal Mediation Act (Mediationsgesetz) encourages alternative dispute resolution methods, particularly for complex environmental and land use conflicts. Germany also has an Ombudsman and arbitration boards for various disputes. Trade Unions (DGB, IG BAU): Unions play a crucial role in representing forest employees, negotiating collective agreements, and actively addressing labor disputes. Analysis of practical performance by minimum and typical actors The German system provides clear, defined pathways for all actors, although high-profile and complex disputes can face protracted challenges. Typical Performance (Low Risk): In the core forest sector, grievances and disputes are rare because landownership, land use rights, and civil and traditional rights are clearly settled. For forest management and occupational aspects, the rights of the involved parties are clearly defined in laws, regulations, and sectoral agreements. Private Forests: Stakeholders typically rely on direct negotiation or local government channels, with recourse to the legal system if regulations are violated. Minimum Actor Challenges (Protracted Disputes): Complex land management disputes, particularly those involving large-scale resource extraction and environmental concerns, present severe practical challenges: Hambach Forest Case: This highlights difficulties in upholding environmental regulations (e.g., the Habitats Directive) against powerful economic interests, leading to massive demonstrations and protracted legal battles. Tesla Gigafactory Case: Deforestation near Berlin, though of low ecological value, sparked protests and demonstrations, requiring political and legal intervention to enforce compensation and revised plans. Critical review based on secondary sources The judicial and legal framework is robust, but high-stakes conflicts reveal strains on the system's capacity to deliver timely and environmentally favorable outcomes. Legal Strength Confirmed: External sources consistently assess the legal framework conditions for tenure, legality, and labor as "low risk". Germany also scores highly on the World Bank Governance Index and low on corruption (Transparency International), confirming a reliable judicial and

	administrative system. Systemic Challenge Identified: The Hambach and Tesla cases demonstrate that while grievance mechanisms are in place (the core requirement), they often result in political solutions, not swift legal protection, for high-value forest or community interests. This highlights the practical challenge of using legal and administrative mechanisms to resolve complex trade-offs between economic development and environmental/community concerns. Labor Enforcement Deficits: Despite the robust labor court system, practical challenges persist in the adequate resolution of labor grievances, particularly for vulnerable migrant workers.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
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.
Supply Base Verifiers	Legislation ILO Indigenous and Tribal Peoples Convention (C169) URLs Bundesministerium der Finanzen (BMF) https://www.bmi.bund.de Bundesverwaltungsgericht (BVerwG) https://www.bverwg.de/ Domowina (Association of Sorbs) https://www.domowina.de/ Friesisch.net https://www.friesisch.net/ German Federal Law (Gesetze im Internet) https://www.gesetze-im-internet.de/ German Federal Ministry for the Environment (BMU) https://www.bmu.de/ Grundgesetz für die Bundesrepublik Deutschland vom 23. Mai 1949 (BGBl. I S. 2438) - "German Constitution" https://www.gesetze-im-internet.de/gg/ United Nations Declaration on the Rights of Indigenous Peoples www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf
Risk Rating justification	Considering the United Nations definition of Indigenous People, there are no such people in Germany anymore. There are only a few recognized ethnic and cultural minorities within the country, some of these include Frisians and Sorbs. Frisians: Located in the northern regions. They have their own distinct Frisian languages and culture. Sorbs: A Slavic minority living in the Lusatia region of eastern Germany. They

	also have their own languages (Upper Sorbian and Lower Sorbian) and cultural traditions. However, this does not impact the Supply Base Evaluation, as their cultural practices do not depend on, or affect, forest management. Traditional and civil rights of local communities are protected and regulated under the Forest Code and the Environment Code. Forestry stakeholders have multiple channels to participate in decision-making processes. In case of disputes, these matters can be brought before an administrative court. Given that traditional and civil rights are often established through agreements in Germany, and private forest owners generally retain the right to restrict access to their land, the likelihood of such rights being violated is minimal.
Risk Rating	Low Risk

Germany Whole country	**Indicator**
4.2.7	Designated cultural heritage sites shall be preserved.
Supply Base Verifiers	Legislation Act on the Protection of Cultural Property (Kulturschutzgesetz, KGSG) Federal Forest Act (Bundeswaldgesetz - BWaldG) Federal Nature Conservation Act (Bundesnaturschutzgesetz - BNatSchG) Monument Protection Acts (Denkmalschutzgesetz, DSchG) URLs Act on the Protection of Cultural Monuments https://www.kulturgutschutz-deutschland.de/SharedDocs/ExterneLinks/EN/Gesetze_en/DSchG_Laender/HE_DSchG.pdf?__blob=publicationFile Cultural Property Protection Act (Kulturgutschutzgesetz - KGSG) - UNESCO https://www.unesco.org/en/cultnatlaws/cultural-property-protection-act-kulturgutschutzgesetz-kgsg Cultural Heritage and Legal Aspects in Europe https://ehhf.eu/wp-content/uploads/2020/11/Cultural-heritage-and-legal-aspects-in-Europe-BOOK.pdf DBU - Deutsche Bundesstiftung Umwelt - Natural Heritage https://www.dbu.de/en/natural-heritage/ IHM - Institute for Heritage Management | UNESCO Weltkulturerbe https://heritage-management.com/index.php/de/ Monument conservation acts - Kulturgutschutz Deutschland https://www.kulturgutschutz-deutschland.de/EN/EverythingAboutTheProtectionOfCulturalProperty/LegalBases/NationalLaw/MonumentConservation/monumentconservation_node.html Monument Protection in Germany | Historic England https://historicengland.org.uk/whats-new/debate/recent/town-and-country-planning-act-70th-anniversary/monument-protection-in-germany/ National Heritage Policy of Germany

	https://media.w-goehner.de/1.141_-_Herein-Bericht_-_Deutschland_-_20110329_-_englisch.pdf UNESCO World Heritage - Nationalpark Jasmund https://www.nationalpark-jasmund.de/fileadmin/jasmund/Inhaltsseiten/service/Downloads/WNE_Faltblatt_engl_web.pdf UNESCO World Heritage Convention - Germany https://whc.unesco.org/en/statesparties/de UNESCO World Heritage forests | UNESCO https://www.unesco.org/en/articles/world-heritage-forests Unique world heritage - deutschland.de https://www.deutschland.de/en/topic/culture/unique-world-heritage World Heritage Centre signs agreement with DBU for site conservation in Europe https://whc.unesco.org/en/news/553
Risk Rating justification	Preservation is a legal mandate in Germany, enforced by multiple levels of monument protection acts, conservation laws, and specific forest management planning requirements. Applicable laws, regulations and policy frameworks The preservation of cultural heritage is secured through specialized national and state-level laws that apply directly to forest areas: Act on the Protection of Cultural Property (Kulturschutzgesetz, KGSG) and Monument Protection Acts (Denkmalschutzgesetz, DSchG): These are the core laws that mandate the identification, designation, and preservation of cultural, archaeological, and historical sites, including those found within forests (e.g., protected woodland cemeteries, relics of historical land use, and monuments of built and archaeological heritage). Federal Forest Act (BWaldG): Requires forest management and site planning to consider special conservation values, which implicitly includes cultural heritage sites. Federal Nature Conservation Act (BNatSchG): While primarily focused on ecology, this act governs the protection of natural monuments and landscape reserves, which often have co-designated cultural or scenic significance. International Designations: UNESCO World Heritage sites, while few in forests, are protected under international commitment and national law, ensuring their long-term conservation from harvesting operations. Operational Safeguards: The principle of preservation is enforced operationally, requiring that in the event of the accidental discovery of archaeological elements, the intervening party must make a declaration to the town hall. Identification of institutional roles and oversight functions (incl. law enforcement) Oversight is shared across forestry, conservation, and cultural heritage agencies: Forest Control (Forstaufsicht): These state forest authorities are responsible for monitoring forest operations to ensure compliance with management

	plans, which incorporate the protection of cultural values. Cultural and Archaeological Authorities: State-level agencies responsible for implementing the Monument Protection Acts and the Act on the Protection of Cultural Property are the main authorities responsible for mapping, protecting, and managing these sites. Federal Agency for Nature Conservation (BfN): Involved in the designation of protected areas, some of which are classified as national natural monuments (IUCN Category III), highlighting their dual natural and historical value. Non-Profit Management: Organizations like DBU Naturerbe GmbH manage former military and public lands with high conservation value, ensuring their long-term conservation, including focusing on biodiversity and cultural heritage. Management Integration: The status of protected sites, including cultural ones, is documented and monitored in midterm planning (Forsteinrichtung) and must be respected when planning management measures. Analysis of practical performance by minimum and typical actors The statement is generally respected by typical actors, with a high degree of compliance in formal protected areas: Typical Actor Compliance (High): The UNESCO World Heritage sites located in forests are conserved, and there is "practically no risk these areas will be damaged by harvesting operations." This suggests that for clearly designated sites of the highest value, preservation is achieved. Most public forest owners take into account conservation and cultural considerations in their management planning. Minimum Actor Risk: While general enforcement deficits exist in other conservation areas (e.g., some Natura 2000 sites lack management plans), there is no indication of systematic or large-scale non-compliance concerning cultural heritage sites. The legal requirement for immediate reporting of accidental archaeological discoveries acts as an operational safety net against accidental damage. Identification of Sites: Protected areas databases, Natura 2000 sites, and Cultural Heritage databases ensure that high-value sites, including those with cultural significance (HCV 6), are identified and mapped, forming the necessary foundation for protection. Critical review based on secondary sources While protection is legally mandated, its integration into active forest management requires continual oversight: Verification: The statement is robustly verified by the dedicated body of law (KGSG, DSchG) and the explicit inclusion of HCV 6 (Cultural values) in conservation frameworks, mandating preservation in planning and operation. Contextual Overlap: Cultural protection frequently overlaps with nature protection (e.g., historic forms of land use or protected landscape components). This overlap strengthens enforcement, as two separate legal regimes mandate preservation.
Risk Rating	Low Risk

Annex 2: EU RED Supply Base Evaluation

Countries where EU RED Supply Base Evaluation is used	
Country	Germany
Area	Whole country
Sustainable harvesting criteria 29(6)	
(i) The legality of harvesting operations	
Type of Risk Assessment used	☐ Level A – proof at national or sub-national level ☒ Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	The adapted EU RED (REDIII) did not change this requirement. The SBP endorsed REDII Level A report for Germany concluded low risk on legality. Legal and Institutional Framework. The foundation of the system rests on key legislation that establishes property rights and mandates sustainable management across all forests. Legality is defined by a dense network of laws, including the Constitution (Grundgesetz) and the Civil Code (Bürgerliches Gesetzbuch) for property rights, the Federal Forest Act (Bundeswaldgesetz) for overall forest policy , and the Timber Trade Assurance Act (Holzhandels-Sicherungs-Gesetz, HolzSiG) for marketplace compliance. These laws dictate sustainable conduct from the forest to the point of trade, regardless of forest size or ownership. The law enforcement system is robust, shared between federal, state, and judicial bodies. The Forest Supervision (Forstaufsicht) acts as the executive authority of the federal states (Länder), ensuring the legal implementation of forestry laws, even in small, uncertified private forests. Furthermore, the Federal Agency for Agriculture and Food (BLE) acts as the Competent Authority (CA) for EU timber laws, enforcing the Due Diligence system on market participants. Germany demonstrates strong governance and a highly functional legal framework, as evidenced by its strong performance in multiple recent indices. This high-level performance is consistent with its scores in the Worldwide Governance Indicators (WGI) for Rule of Law (92.92%) and Control of Corruption (94.34%) as of 2023. The Worldwide Governance Indicators (WGI) data is released with a time lag, with the 2024 results expected at a later date. Rule of Law: Germany ranks 5th out of 142 countries globally with a score of 0.83 in the 2024 World Justice Project (WJP) Rule of Law Index. Control of Corruption: Germany ranks 15th out of 180 countries with a score of 75/100 in the 2024 Transparency International Corruption Perceptions Index (CPI).

	The German system translates legal requirements into practice through mandated processes and external checks. However, the system's effectiveness varies significantly depending on the forest ownership size. Despite the strong legal foundation, there is significant criticism regarding the lack of direct, proactive checking and enforcement by legal bodies, especially concerning the millions of small private parcels: Under the Federal Forest Act and the specific Forest Laws of the various Federal States, all private forest owners bear the responsibility for sustainable, multi-functional forest management, including reforestation (a legal minimum requirement to reforest clear-cut or damaged areas) and conservation (observing generic principles for species and soil protection). System of checks: Compliance is enforced mainly by a hierarchical legal framework that sets minimum requirements, but the direct checking of small-scale operations is limited. Enforcement often relies on the principle of Integrated Forestry Management, where state forest authorities offer a mixture of support, advice, and oversight Challenges: 1) Reliance on Voluntary Measures: The state relies on advisory services and voluntary certification schemes (like PEFC or FSC) to influence management on private land. This approach can fail to address shortcomings among owners who are inactive or resistant to conservation mandates (source: Prof. Dr. Stoll-Kleemann). 2) Systemic Failure to Enforce: Critics point to a general failure to “enact and/or enforce sufficient environmental regulation to protect nature from deterioration” in Germany, a critique that extends to private forest practices. The highly fragmented ownership structure and the political emphasis on strong property rights often lead to local resistance when Länder authorities attempt to implement conservation restrictions, making consistent public checking politically and logistically difficult (source: World Justice Project). 3) Erosion of Rule of Law in Conservation: Some analyses suggest that anthropocentric (human-centered) value judgments prevalent in German law have failed to fully realize the potential for environmental protection, thereby weakening the State's ability to enforce stringent ecological standards against private economic interests (source: Dr. Hoops). Due Diligence and Trade Control (EU TR and soon EUDR): Market participants placing wood products on the EU market must integrate a Due Diligence System into their business processes. This system comprises Information Gathering, Risk Assessment, and subsequent Risk Mitigation. The BLE controls adherence to these rules, with violations potentially resulting in fines of up to €20,000. The proposed new Federal Forestry Act (Bundeswaldgesetz) in Germany has not been adopted. Environmental NGOs in Germany have strongly criticised the latest draft, calling it too weak and full of loopholes, and they have also condemned the repeated delays in adopting a law. The general consensus among environmental NGOs is that the draft law, spearheaded by the Federal Ministry of Food and Agriculture (BMEL),

	was significantly watered down compared to earlier proposals and fails to create the mandatory, robust standards necessary to adapt Germany's forests to the escalating climate crisis. The main criticisms are: 1) The draft is based on a principle of “everything can, nothing must” (“alles kann, nichts muss”), leaving crucial decisions to the federal states (Länder); 2) The draft does not mandate sufficient climate adaptation measures or structural changes needed to make forests more resilient to drought and pests; 3) The initial proposal's provision to make the illegal felling of trees a criminal offense was removed or significantly weakened in the revised draft. Legality is still rated low risk on paper, but lagging behind. The new Federal Forestry Act has still not been adopted. NGOs consider the draft too weak and full of loopholes. It imposes no binding duties on climate adaptation or biodiversity protection; it does not address the large-scale forest stand failure and destruction seen in recent years. Moreover, enforcement is weakest in small private forests, where requirements and controls are minimal. This makes it difficult to obtain reliable proof of legal harvesting, exactly in that segment where both the incentive and capacity to comply are least assured.
(ii) Forest regeneration of harvested areas	
Type of Risk Assessment used	☐ Level A – proof at national or sub-national level ☒ Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	The adapted EU RED (REDIII) did not change this requirement. The SBP endorsed REDII Level A report for Germany concluded low risk on forest regeneration. The core requirement for forest regeneration is established by federal and state law: The Federal Forest Act (Bundeswaldgesetz) and the specific forest laws of the individual federal states (Länder) mandate that clear-cut or damaged forest areas must be reforested and supplemented within an appropriate period if natural regeneration remains incomplete. Forest conversion (changing forest land use) is strictly regulated and requires approval from the competent state authority, which is generally denied if forest preservation is deemed to be in the overriding public interest. The Federal Nature Conservation Act (BNatSchG) formulates the objective of near-natural and sustainable forest management and limits large-scale clear-cutting. However, this is mainly a general management principle, not an enforceable guarantee that regenerated stands will be diverse, climate-resilient, or ecologically stable. Compliance is verified by the state-level forest authorities and national monitoring:

	The Forest Supervision (Forstaufsicht) in each federal state is the executive body responsible for monitoring and enforcing these laws in all forest ownership types (state, communal, and private). If natural regeneration fails, local forestry offices (Untere Forstbehörde) are responsible for imposing deadlines for reforestation and can pursue legal action if mandatory deadlines are missed. National data on forest area is continuously monitored through recurring inventories. The Federal Forest Inventories (BWI), conducted since 1986, provide the official documentation of the forest area trend. Since 2018 Germany's forests have suffered large-scale dieback caused by drought, bark beetle outbreaks and storm damage. This triggered high levels of unplanned salvage logging of damaged timber (Kalamitätsholz) and put immediate (financial and operational) pressure on owners to restock large clear and degraded areas. The political response has been public funding and planting programmes aimed at establishing more "climate-resilient mixed forests." In legal terms, regeneration after harvest or damage is mandatory. The Federal Forest Act (Bundeswaldgesetz) and the forest laws of the Länder require forest owners to restock harvested or heavily damaged stands within a defined period if natural regeneration is not sufficient. Converting forest land to other uses is subject to approval. Oversight and enforcement of these obligations sit with the Forstaufsicht of the Länder, which is responsible for ensuring that reforestation actually happens on the ground. This framework has historically been effective at preventing large-scale deforestation: national reporting, including the Forest Resources Assessment, shows that total forest area in Germany has remained stable or slightly increased over decades. Natural regeneration (Naturverjüngung) is the dominant regeneration pathway, accounting for about 91% of young stands. However, NGOs such as NABU and BUND argue that this system is no longer sufficient under current climate conditions. They indicate that the law only focuses on restocking area, not on securing climate-resilient, biodiverse and structurally stable forests. They highlight several weaknesses. First, "natural regeneration" is treated as a success indicator, but in many heavily damaged regions (for example former spruce regions such as the Sauerland) natural regeneration tends to reproduce the same vulnerable species that already failed, locking in unstable single-species structures instead of establishing genuinely climate-resilient mixed stands. Second, too high pressure of grazing wildlife (Wildverbiss) prevents the establishment of more resistant broadleaved forests (such as oak). Without effective wildlife management, the tree species that are most climate-resilient are simply eaten, while less suitable species fill the gaps. Third, NGOs call for maintaining a "closed canopy" to keep stands cool and humid; they criticise large-scale clearings and wide open regeneration areas, which create hot, dry microclimates and increase the risk of further dieback. NGOs highlight political failure. They argue that the federal government, and specifically the Federal Ministry of Food and Agriculture, missed the

	opportunity in the stalled reform of the Bundeswaldgesetz to introduce binding national requirements on regeneration quality, species choice, wildlife management and climate adaptation. German forest law continues to treat regeneration as an administrative requirement to restock hectares, rather than a legal obligation to establish resilient forests. While the law safeguards regeneration, but it does not ensure that (private) forest managers recultivate resilient forests with an ecologically valuable species mix. In practice, natural regeneration can simply recreate the same vulnerable stands that have been dying before reaching maturity, and persistently high game pressure in Germany prevents more valuable and resilient species from establishing. Decisions in state forests are based on federal and Länder forest inventories, climate impact data, and official reforestation guidelines that prioritise mixed, climate-resilient stands; this policy shift started in 2022 with new climate-adapted forest management programmes and was reinforced through 2023–2025. The Länder are actively replanting and converting towards these mixes in state forests as standard practice. In small private forests, large damaged areas after 2018 are still not fully restocked, and where restocking happens it is often passive and low-quality; enforcement there is weak and depends on advice and subsidies rather than direct obligation, so the “right species mix” is not guaranteed. A general low risk rating on regeneration in private forests can only be justified if the biomass sector uses harvesting residues (within ecological limits), low-grade stemwood and salvage wood that is not usable for other industries. In that case these operations are not driving the main production cycle but are instead clearing damage and creating a way forward, in line with the cascade principle, which is becoming a generally accepted minimal requirement.
(iii) That areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands, grasslands, heathland and peatlands, are protected with the aim of preserving biodiversity and preventing habitat destruction, unless evidence is provided that the harvesting of that raw material does not interfere with those nature protection purposes	
Type of Risk Assessment used	☐ Level A – proof at national or sub-national level ☒ Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	Germany is about one-third forest, roughly 32% of its land area. Almost two thirds of that forest lies within some form of designated protected area such as National Parks, Nature Reserves, Natura 2000 sites, Landscape Conservation Areas, and Biosphere Reserves, and these designations often overlap. However, strictly protected, no-intervention forest — where management is excluded and natural processes are allowed to run — is very limited. Only around 0.8% of total forest area (around 83 thousand hectares) is in true non-intervention core zones such as National Park cores, strict Nature Reserves, or designated forest

	reserves. Germany's legal and institutional framework, built on federal and state conservation and forest acts, combined with the comprehensive designation of protected areas and the commitment to sustainable, close-to-nature forestry, effectively ensures that forest management practices in or near protected areas align with conservation and biodiversity goals. Germany employs a multi-tiered system of protection categories. Key national designations under the BNatSchG include National Parks (Nationalparke), Nature Reserves (Naturschutzgebiete) which offer the highest level of strict protection, and Biosphere Reserves (Biosphärenreservate) with core, buffer, and transition zones. Additionally, Landscape Conservation Areas (Landschaftsschutzgebiete) offer broader protection for nature and recreation. This national network overlaps substantially with the European ecological network (Natura 2000) sites, comprising Special Conservation Areas (SACs/FFH) and Special Protection Areas (SPAs/Bird Protection Areas). Permitting and operational conditions. Forest operations within protected areas proceed only when compatible with the site's conservation objectives, typically defined in specific management plans (Managementpläne). The guiding principle is close-to-nature silviculture (Naturnahe Waldwirtschaft). Operational requirements aim to safeguard ecosystem stability, particularly against soil degradation and biodiversity loss. These conditions mandate measures such as using designated hauling routes, retaining specific habitat structures (for example, deadwood and habitat trees), adapting machinery and techniques to prevent excessive soil compaction and rutting, and favouring site-appropriate, native tree species. For private forest owners, limitations on use within Natura 2000 areas or other reserves are often coupled with financial compensation schemes provided by the Länder to offset economic loss and ensure cooperation with conservation goals. Authorities and enforcement. Nature conservation policy and scientific oversight at the federal level are provided by the Federal Agency for Nature Conservation (Bundesamt für Naturschutz, BfN). However, since forest and nature protection legislation is primarily implemented at the state level, the responsibility for enforcement, permitting, and day-to-day management rests with the respective State (Länder) Authorities (e.g., Forestry and Nature Conservation Authorities), often referred to as Lower Nature Conservation and Forest Authorities (Untere Naturschutz- und Waldbehörde). These bodies carry out field monitoring, issue mandatory permits for interventions in highly protected areas, and impose sanctions or order restorative measures when non-compliance with conservation requirements or management plans is detected. German forest management increasingly focuses on actively promoting biodiversity, often through targeted harvesting to support ecological objectives, for example, removing non-native species, converting coniferous monocultures to mixed deciduous stands, or creating open woodland structures. Non-intervention is strictly observed in core

	protection zones, allowing natural processes to dominate. The efficacy of sustainable practices is continuously monitored through the National Forest Inventory (NFI) and the Forest Soil Survey (FSS), providing public indicators of forest health, carbon storage, and biodiversity. Due to the long-standing tradition of sustainability, the layered legal protection, and the rigorous monitoring framework, the overall risk of non-compliance and damage from forestry operations in legally protected areas is generally assessed as low. Environmental NGOs recognise that Germany has extensive protected areas and controls on forest conversion, but they note that the focus is still more on keeping forest land designated as protected than on consistently securing high ecological quality in those forests. They point out that true no-intervention forest (where management is excluded and natural processes dominate) is still very limited, and that most "protected" forest remains under active use. They argue that the stalled reform of the Bundeswaldgesetz failed to introduce binding national regeneration standards on species selection and forest composition. Much of this indicator is substantiated by the SBP endorsed REDII Level A report for Germany (Low Risk). However, the additions in the EU RED make the earlier general wording more specific. The legal framework in Germany allows biomass sourcing in or near designated protected areas only under strict conditions, such as approved management plans or specific permits. However, the fact a sourcing area is situated in a protected area does not automatically safeguard the forest management plan and operations are in line with the indicator of the EU RED. For example, the following indicators with "specified risk" status also apply to protected areas: - 29(3)(b) Highly biodiverse forest; - 29(3)(d)(ii) Non-natural highly biodiverse grasslands; - 29(3)(e) Heathland (No-Go area). Note that "climate adaptation" could be used (whether out of genuine belief, management preference, or financial interest) to justify intensive interventions in valuable highly biodiverse forests. For example, harvesting an old beech forest on the argument that it should be replaced with more climate-resilient oak, may be presented as improving future stability. However, such a practice would not comply with EU RED Article 29(3)(b), as it interferes with the conservation of highly biodiverse forests (for example, identified EU Habitats Directive Annex I forest types) and eliminates important habitats. A better transition approach would need to be developed. Additionally, the next indicator below 29(6)(b)(iv) is relevant: SBP requires supplier-level monitoring of sourcing operations in any case.
(iv) that harvesting is carried out considering the maintenance of soil quality and biodiversity in accordance with sustainable forest management principles, with the aim of preventing any adverse impact, in a way that avoids harvesting of stumps and roots, degradation of primary forests, and of old growth forests as defined in the country where the forest is located, or their conversion into plantation forests, and harvesting on vulnerable soils, that harvesting is carried out in compliance with maximum thresholds for large clear-cuts as defined in the country where the forest is located, and with locally and ecologically appropriate retention thresholds for deadwood extraction and that harvesting is carried out in compliance with requirements to use logging systems	

that minimise any adverse impact on soil quality, including soil compaction, and on biodiversity features and habitats	
Type of Risk Assessment used	☐ Level A – proof at national or sub-national level ☒ Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	The Federal Forest Act (Bundeswaldgesetz, BWaldG) emphasizes sustainable forest management and multifunctionality, which inherently links timber production with the protection of natural resources. The Federal Soil Protection Act (Bundes-Bodenschutzgesetz, BBodSchG) plays a crucial role for soil protection across all land uses, while the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG) makes biodiversity preservation binding. Forest operations are primarily regulated by the Forest Acts of the Federal States (Länder). All forest owners must manage their property according to the principles of sustainable forestry; state and large communal forests operate under detailed Forest Development Plans that integrate ecological requirements. Compliance with Natura 2000 rules is ensured through mandatory site-level assessments and the integration of conservation objectives into forest planning. Goal 7 (Protection of Soil and Water) of the German Forest Strategy 2020 mandates the conservation and improvement of soil functions, including their physical, chemical, and biological quality. Furthermore, the guiding principle of close-to-nature silviculture (Naturnahe Waldwirtschaft), applied across both state and private forests, directly aligns forest policy with wider policies on soil and water protection and the prevention of natural hazards. The German Forest Strategy 2020 outlines comprehensive action fields, including Silviculture and the Protection of Soil and Water, which directly address these core challenges. The implementation is detailed in the Forest Acts of the Länder, which provide technical rules and define the good professional practice (gute fachliche Praxis) necessary to conserve physical, chemical, and biological soil fertility, and to prevent detrimental practices like excessive compaction and erosion. The forest legislation of the Länder provides the enforceable framework for harvesting operations. Key soil provisions are universally implemented through forestry best practices and sometimes through specific contractual clauses, requiring the concentration of traffic on designated, load-bearing extraction routes, and the adaptation of techniques to soil bearing capacity. They mandate the avoidance of sensitive areas, such as wet or peaty soils (moors), and strictly limit the removal of biomass. The extraction of stumps and roots is generally prohibited, being restricted to exceptional, scientifically justified cases that must be approved by authorities. Non-compliance can lead to penalties and restoration orders by the respective Lower Forest and Nature Conservation Authorities. Guidance and knowledge transfer are supported by research and federal

	institutions. The Thünen Institute, for instance, conducts the National Forest Soil Inventory (NFSI), which is crucial for monitoring soil health. Furthermore, numerous state-level programmes and guidelines support the implementation of soil-friendly machinery and silvicultural methods to ensure the continued practicability and health of forest sites. The National Forest Inventory (Bundeswaldinventur, BWI), conducted approximately every ten years, and the National Forest Soil Inventory (Bodenzustandserhebung im Wald, NFSI), repeated on a 15-year cycle, provide a robust basis for monitoring forest health. The NFSI samples approximately 1,900 plots nationwide to assess soil condition and track long-term trends: The NFSI provides long-term data on soil carbon stocks, which are essential for Germany's climate reporting. Reports show a general increase in deadwood volume and an increasing proportion of deciduous and mixed forests, indicating positive trends in habitat quality. In state, communal, and large private forests, detailed planning and forest certification schemes reinforce prescriptive harvesting rules: requiring the use of permanent machine trails, establishing rut-depth stop thresholds, implementing seasonal restrictions to avoid wet conditions, ensuring the retention of a sufficient proportion of habitat trees and deadwood, and favouring natural regeneration or planting site-appropriate indigenous species. Across all ownership types, the principle of good professional practice requires protection of hydromorphic and erodible soils and the concentration of traffic. Critically, national guidance and practices require leaving fine harvest residues on site to maintain the nutrient balance and organic matter layer. The prohibition on stump and root extraction serves as a key measure for protecting the soil and its associated below-ground biodiversity. National indicators track deadwood volume, naturalness, and forest structure diversity. The Federal Agency for Nature Conservation (BfN) monitors the overall state of biodiversity and the effectiveness of conservation measures. The Lower Forest and Nature Conservation Authorities provide administrative oversight and enforcement. Independent audits (through certification) and public reporting add layers of external verification. Protective Forests (Schutzwälder) are legally designated areas where the forest's function is primarily to safeguard against natural risks, such as soil erosion, landslides, avalanches, and flooding. These legally designated areas are managed to prioritise their protective function, with interventions strictly limited to measures that maintain or enhance soil stability and hazard defence. Germany’s forests contribute significantly to the country’s biological diversity. Indicators from the BWI show an increase in old stands and structural diversity. Nevertheless, the national strategy identifies the need to further increase the area of natural forest development to five percent of the total forest area and to improve the conservation status of Natura 2000 habitats, many of which are forest-based. Logging in these

	areas is highly regulated to meet site-specific habitat protection goals. Biodiversity information is publicly available via federal and state platforms, including the Federal Agency for Nature Conservation and the results of the National Forest Inventory. The BWI indicators for sustainable forest management cover: tree species diversity, age and structural diversity, deadwood volume, and the extent of near-natural forest management. The German forest estate is characterised by a high degree of fragmentation in the private forest sector, where nearly half of the forest area is held by private owners, 95.5% of whom own less than 20 hectares. This fragmentation, which is often compounded by dispersed land holdings, complicates cohesive management and often results in under-exploitation or a lack of active management rather than unsustainable pressure. Efforts focus on promoting cooperation among small owners. Germany's comprehensive legal framework, anchored in both forest and nature conservation law, combined with continuous, long-term national monitoring (BWI, NFSI), prescriptive operational rules, and strong state-level enforcement, indicates a low risk for biodiversity and soil quality. Compliance is generally well ensured. However, attention is needed for individual private forest owners without guidance, where official inspections may be lacking. Germany's system is weakest in fragmented small private forests: almost half of the forest area is privately owned, and over 95% of private owners hold less than 20 ha in scattered parcels. On these areas, inspections are infrequent, the authorities mainly act in an advisory role rather than intervening during operations, and formal controls can occur many years after harvesting. This means that soil damage, excessive biomass removal, or missing regeneration on private land may only be noticed long after the operation, if it is noticed at all, and at a point where it cannot be corrected. EU RED explicitly requires harvesting to minimize adverse impacts on soil quality and biodiversity. Much of this indicator is substantiated by the SBP approved REDII Level A report for Germany, however, the new EU RED makes the earlier general wording more specific, requiring, for example: - Preventing any adverse impact; - Avoiding extraction of stumps and roots; - Avoiding degradation of primary (and old-growth) forests and any conversion of such forests into plantation forests; - Avoiding harvesting on vulnerable soils; - Complying with nationally defined maximum thresholds for large clear-cuts; - Meeting locally and ecologically appropriate retention thresholds for deadwood extraction; - Using logging systems that minimise soil compaction and adverse effects on biodiversity features and habitats.

	Supplier monitoring as required SBP: Certificate holders must monitor suppliers' practical performance. The monitoring system includes supplier assessment and categorisation, with monitoring frequency adjusted to risk. Field checks cover permit and management-plan reviews, verification of online maps and databases, site inspections (deadwood retention, soil protection, rutting, etc.), and interviews with operators to test awareness of biodiversity and soil obligations. Operational quality must safeguard biodiversity and vulnerable soils. See the procedure and checklist on assessing biomass sourcing operations. Operational performance is generally high in public forests and in certified forests. Although all harvesting teams are subject to monitoring, priority is given to monitoring operations in small, uncertified private forests, which often operate without management plans.
(v) That harvesting maintains or improves the long-term production capacity of the forest.	
Type of Risk Assessment used	☐ Level A – proof at national or sub-national level ☒ Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	The adapted EU RED (REDIII) did not change this requirement. The SBP endorsed REDII Level A report for Germany concluded low risk. The latest German forest inventory and regional damage reports show that parts of Germany's forest have collapsed on a scale that is without precedent. In North Rhine-Westphalia, around 44.7 million cubic metres of damaged wood had to be cleared between 2018 and September 2022. That corresponds to about 57% of all spruce growing stock in the entire state effectively being wiped out in just a few years. In Thuringia, by late 2022 roughly 76,600 hectares of forest had already turned into clearfell or heavily thinned emergency areas. In the Harz region more than 11,600 hectares of spruce have died since 2018, and in parts of the Harz National Park around 90% of the former spruce stands are effectively gone. Satellite analysis confirms that, since about 2017, Germany has lost forest canopy on more than 900,000 hectares in total, around 8.5% of all forest area, with some local hotspots in the Harz, South Westphalia, south-east Thuringia and parts of Saxony losing more than half their canopy. The national inventory describes a structural break: pre-mature conifer stands that were supposed to carry future production are simply gone in these regions, and what remains is either open regeneration area or heavily damaged forest. For decades, specialists researched and warned for effects of climate change will have on forestry. For example, the German Strategy for Adaptation to Climate Change of 2008, and other documents before that, gave a clear summary on which problems were expected in forestry due to climate change and what should be done. The situation has been researched and discussed extensively, but too little was done. Till date the planned reforms of the new Federal Forest Act have not been finalised. Regarding the regulative framework of private forestry, it's too

	little and too late. Reforms of programs aimed at encouraging private smallholders to adopt climate-adaptive practices have proven insufficient. The Federal Forest Act (Bundeswaldgesetz) and the principle of sustainable, multifunctional forestry provide the primary legal basis, ensuring that current and planned harvest levels do not exceed the long-term production capacity. Current harvest levels, though recently elevated, due to failures in forestry and disasters (major storm and bark beetle damage in coniferous stands), remain below net growth over the longer term, though recent data reveals new challenges to sustained production capacity. - The standing stock in German forests is exceptionally high, totalling 3.7 billion m³ (or 335 m³/ha), which represents the largest timber stock in the EU. Between the National Forest Inventories of 2012 and 2022, the overall growing stock decreased by 18.2% (220 million m³), largely due to forestry failures. - Annual net increment (net growth) currently stands at approximately 101.5 Mm³/year (or 9.4 m³/ha/year). This marks a decrease of approximately 20% compared to the 2012 inventory, largely a result of insufficient adaptation in forestry (drought and pest-related mortality). - The average annual harvest volume (raw wood use without bark) for the period 2012–2022 was 72.6 Mm³/year (or 6.7 m³/ha/year). - The ratio of average harvest to net increment for the 2012–2022 period is approximately 72%. However, actual harvest volumes peaked significantly in 2020/2021 (over 80 Mm³ per year) due to the clearing of damaged timber (salvage operations). Excluding the forced felling of damaged wood, the regular harvest rate is typically lower, maintaining the long-term principle of using less than the forest grows. Although in many cases too late, Germany is improving forest resistance and resilience (important for the long-term production function): - Forest Transformation: Implementing large-scale efforts to transition vulnerable pure coniferous stands (especially spruce) into more stable, mixed-species, mixed-age forests using site-adapted, indigenous, and climate-resilient tree species. - National Policy Packages: The German Forest Strategy 2020 and the National Climate Adaptation Strategy 2024 prioritise the stability and vitality of forests, providing substantial owner incentives and public funding for replanting and managing climate-adapted stands (e.g., the Federal Forest Investment Programme). - Retention of Structures: Increasing the proportion of deadwood and habitat trees to enhance biodiversity and accelerate natural decay, strengthening long-term ecological resilience. - Pest and Mortality Management: Expanding surveillance and management protocols to combat the dramatic increase in bark beetle and other pest infestations, particularly in susceptible spruce regions, with management adjusted to mortality and climate findings. - Research and Modelling: Utilising the National Forest Inventory (BWI)

	and the simulation model WEHAM to continuously monitor forest condition, forecast future wood supply under climate scenarios, and inform policy adjustments. Forest Strategy 2050 (Waldstrategie 2050, 2022 draft/political framework). This extends Forest Strategy 2020 and shifts federal forest policy toward climate adaptation, structurally diverse mixed stands, long-term stability of wood supply, biodiversity conservation, and payment models for ecosystem services. It explicitly calls for large-scale forest conversion away from vulnerable monocultures, more deadwood, and support for private/municipal owners, and sets milestones to 2030. German Strategy for Adaptation to Climate Change 2024 (Deutsche Anpassungsstrategie, DAS 2024). Adopted by the Federal Government under the new Federal Climate Adaptation Act, it sets measurable national targets for forests: by 2030 forests must be climate-resilient, structurally diverse, locally adapted, and managed near-naturally; federal funding is directed to climate-adapted forest conversion, mixed-species regeneration, soil/water retention, and protection of forest biodiversity. It also formalises continued public funding (including the climate-adapted forest management support programme) for replanting and stabilising damaged stands after drought and beetle mortality. The old German forest economic concepts related to wood production have backfired, resulting in great losses, with the most severe financial impacts still to come (long-term effects of reduced wood availability). There is an urgent and overdue need for concrete reforms, mandatory regulations, and actionable programs to adapt to climate change and to “avoid significant negative impacts on forest productivity and ensure long-term economic viability”. Due to past management decisions and/or inactivity, a large part of the harvests in Germany concern salvage wood. The trees can be dead and/or damaged, of small diameter and short, and difficult to source in time. As a result, forest owners face higher costs and severely decreased income, leading to financial challenges and reduced capacity for sustainable redevelopment of the affected areas. Germany adapted its position towards conifer monocultures too late, and the bill has come due: vast spruce areas collapsed, salvage wood dominated harvests, growing stock fell sharply, and net increment dropped. These outcomes were predicted, scientists and federal strategies warned for decades, and yet, till date, too little is obligatory. National forest productivity depends not only on growth rates and harvesting age, but also on resilience against forest damage and adequate forest maintenance. Attention to forest resilience has increased, but climate-adaptation measures in small private forests remain voluntary. A general Low Risk rating (also for private forests) is justifiable if biomass sourcing is limited to harvesting forest residues (within ecological limits), low-grade stemwood, and salvage wood. The biomass sector is not related to the

	main production cycle (there are practically no energy plantations in Germany), but does support forest recovery. See SBE criterion 2.2.2 and 3.3.1.
(vi)[1] That forests in which the forest biomass is harvested do not stem from the lands that have the statuses referred to in Article 29(3) points (a), (b), (d) and (e); Article 29(4), point (a), and Article 29(5), respectively under the same conditions of determination of the status of land specified in those paragraphs. *Article 29 (3): biomass fuel produced from agricultural biomass 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 and **old growth forest,** 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; and old growth forests as defined in the country where the forest is located. If there is no definition of **old growth forest** at the national level, then the following definition shall apply: A forest stand or area consisting of native tree species that have developed, predominantly through natural processes, structures and dynamics normally associated with late-seral developmental phases in primary or undisturbed forests of the same type. Signs of former human activities may be visible, but they are gradually disappearing or too limited to significantly disturb natural processes.*	
Type of Risk Assessment used	☐Level A – proof at national or sub-national level ☒Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	Under EU RED, biomass cannot be sourced from primary forest (No-Go area). FAO definition: Primary forests are naturally regenerated native forest with no visible human impact and ecological processes not significantly disturbed. Germany has no primary forest when assessed against the UN FAO definition (natural regeneration, no visible human impact, undisturbed processes). Nevertheless, several forests within legally designated non-intervention zones closely resemble primary-forest structure and dynamics. Whether parts of these forests might also qualify as “primary” is immaterial for this assessment (as they are located in non-intervention zones, no biomass will be sourced from them). Biomass from Old-Growth-Forests needs to be excluded unconditionally (EU RED non-compliant). This exclusion also applies to areas that contained Old Growth Forests in January 2008 and have since deteriorated or been converted. This aspect is Specified Risk. In many regions of Germany there are Old-Growth Forests, which have been left largely undisturbed for long periods. These forests exhibit the complex structures (dead wood, very old trees, layered canopy) associated with the late-seral stages of forest development (climax vegetation). In Germany often referred to as Altwälder. Natural (and/or primary) forest and Old-Growth Forest are different concepts. A natural (primary-like) forest need not be in a climax stage; it’s about natural regeneration and processes, not age alone. An OGF need not look “undisturbed”: it could for example include recreational forest paths — what matters is long continuity of old trees and structures (often in combination with high carbon stock). Natural disturbances (wind, forest-fire, etc.) can reset an old natural forest; the result may be fully natural but no longer old forest. What they have in common: both forest types should have high biodiversity value and be dominated by native tree species and vegetation. For example, old non-native plantations (e.g. Douglas-fir) do not qualify. Besides early conservation efforts originating in the mid-19th century, it was mainly the economic insignificance of some remote (semi-) natural forests with pronounced old-growth structures that saved them from modern forestry impacts. In the otherwise intensively managed forests of the Harz Mountains, for example, the Brocken natural forest remained nearly untouched from modern forestry due to its economically insignificant stand structures and site conditions. UNESCO recognises specific existing German protected forests, as part of the “Ancient and Primeval Beech Forests” World Heritage Site; this is a designation of existing

	protected areas (not new parks). These UNESCO-listed beech forests are high value, strictly protected near-natural forests with natural regeneration and undisturbed processes — while still showing some historical traces: - Hainich National Park — large unmanaged beech. - Kellerwald–Edersee National Park — contiguous old beech on steep terrain; no logging. - Jasmund National Park — ancient beech on chalk plateau; strict protection. - Serrahn (Müritz National Park) — very old beech with long non-intervention. - Grumsin (Schorfheide–Chorin Biosphere Reserve) — extensive beech–wetland mosaic. The Bavarian Forest National Park is a vast, strictly protected area with zones of natural disturbance dynamics and Old Growth Forests. However, this forest is not UNESCO-listed. Old-growth forest in Germany is not confined to parks. Beyond national parks and UNESCO beech sites, it also occurs in strict forest reserves—Totalreservate (absolute no-intervention zones, with only minimal safety/legal exceptions) and Naturwaldreservate (reserves for natural development that are generally unmanaged but may permit limited actions or contain Totalreservat cores)—as well as in state-designated Bannwälder (no-intervention reserves under state law whose stringency varies by Land, often functionally equivalent to a Totalreservat), and in areas explicitly left to develop without management ("Wälder mit natürlicher Waldentwicklung"). Forest areas considered suitable for setting aside are inventoried and tracked nationwide by the Nordwestdeutsche Forstliche Versuchsanstalt (NW-FVA) under projects funded by the Federal Agency for Nature Conservation (BfN), producing official balances for "areas left to natural development": about 3.1% (~355,000 ha) in 2020, with methods based on standardised queries to state forest enterprises, protected-area administrations, forestry and nature-conservation authorities, forest-owner associations, foundations and NGOs—i.e., across ownerships. The Federal Environment Ministry's Environment Report 2023 confirms the same figure and the national policy target to expand such areas to ≥5% of forest. For strict no-intervention reference sites, the Naturwaldreservate network is documented in the BMEL geodata catalogue and on the FGRDEU portal, providing counts, areas (by Land) and update series (2013, 2016, 2019, 2022). The comprehensive technical baseline for this inventory work is laid out in BfN's NaBiV Heft 145, which defines "forests left to natural development," sets coverage goals (including for public forests), and describes the mapping / monitoring approach used nationally. In the EU and among institutes and forest experts in Germany, there is a general conceptual agreement on what constitutes "Old-Growth Forest." However, no precise, legally binding nationwide definition has been published. In practice, authorities use other categories (forests left to natural development, strict forest reserves) and other concepts (e.g., North Rhine–Westphalia's "historically old forests"). For this assessment, the certificate holder considers a stand as Old-Growth Forest if it has high biodiversity value, containing at least 10 native trees older than 180 years per hectare (approaching climax stage).
(vi)[2] That forests in which the forest biomass is harvested do not stem from the lands that have the statuses referred to in Article 29(3) points (a), (b), (d) and (e); Article 29(4), point (a), and Article 29(5), respectively under the same conditions of determination of the status of land specified in those paragraphs. *Article 29 (3): biomass fuel produced from agricultural biomass 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:* *(b) **highly biodiverse forest** and other wooded land which 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 production of that raw material did not interfere with those nature protection purposes.*	
Type of Risk Assessment used	☐Level A – proof at national or sub-national level ☒Level B – management system at forest sourcing area level

Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	Our working interpretation of “highly biodiverse forest” (species quantity) also includes forest types that have low species richness in trees and other vegetation, yet high biodiversity value. This covers forest habitats stated under Annex I of the EU Habitats Directive (92/43/EEC) and forests hosting protected species (listed under Annexes II/IV/V of the Habitats Directive, and under Annex I of the Birds Directive (2009/147/EC)). For example, certain valuable beech forests have low vegetation diversity but exceptional habitat value. Several ecologically important EU Habitats Directive Annex I forest habitats are under environmental pressure. Every six years, the European Environment Agency (EEA) reviews Member States against “favourable” reference conditions. For Germany, most forest habitats are indicated with: - Poor (orange colour): A habitat is in a situation where a change in management or policy is required to return the habitat to favourable status but there is no danger of disappearance in the foreseeable future; either - Bad (red colour): A habitat is in serious danger of disappearing (at least regionally). These forest habitats occur both within and outside the Natura 2000 network of protected areas. While site objectives and plans generally steer operations toward positive outcomes, management effectiveness can vary. Some of these forest habitats are not yet formally designated but are recognised in management documents, forest plans, or ecological inventories; these require further investigation. They can also occur within regular forests where they are not always formally identified. The listed valuable forest habitats or other identified biodiversity values must be maintained or improved compared to their condition in or after 2007. Current sourcing operations must not endanger or replace these values. Harvesting should therefore be restricted to maintenance activities that demonstrably support the conservation of biodiversity features. If one or more valuable biodiversity characteristics are identified, the site, management plans, and sourcing permits are examined in relation to the environmental impact assessment and conservation measures defined for the ecosystem. Competent authorities and technical bodies have identified many high-value forest patches that are referenced in management plans, ecological networks, or thematic inventories but are not yet formally designated. Some are proposed for future protection, function as buffers or corridors, or are being restored via targeted projects. Conflicting interests can occur, for example, when a government programme aims to improve forest resilience by harvesting large beech trees and planting oak. These measures may appear reasonable, yet they would still conflict with the EU RED requirement of non-interference with current biodiversity values. In general, the risk the forest habitat has deteriorated since 2007 (and is non-EU RED-compliant), is higher if the conservation status of the forests is indicated in red or orange, than in green (see Annex 1 of this report). Low risk for FSC and public PEFC certified areas. Specified risk for non-

	certified areas and PEFC certified private forests. See SBE indicator 2.1.1. The specified risk covers all Annex I forest habitats under the Habitats Directive (92/43/EEC) and any forest housing key elements of these habitats, regardless of ownership or protection status, with particular attention to areas not yet protected (but sometimes already identified by authorities). An SBP benchmark of PEFC indicated that PEFC-certified forests may lack sufficient impact assessment. Therefore, for highly biodiverse forests and privately owned PEFC-certified forests, additional evidence is required that an adequate impact assessment, covering protected species and biodiversity values, was completed before field operations started. However, given the procedures applied in government forestry, government owned and managed PEFC-certified areas are assessed as low risk.
(vi)[3] That forests in which the forest biomass is harvested do not stem from the lands that have the statuses referred to in Article 29(3) points (a), (b), (d) and (e); Article 29(4), point (a), and Article 29(5), respectively under the same conditions of determination of the status of land specified in those paragraphs. *Article 29 (3): biomass fuel produced from agricultural biomass 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:* *(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.*	
Type of Risk Assessment used	☐Level A – proof at national or sub-national level ☒Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	The EU RED has designated natural grasslands as No-Go areas. Certificate holders have to ensure biomass does not originate from these areas or from areas that were converted from natural grasslands after 2007. Under European Union guidance, natural highly biodiverse grasslands are species-rich grasslands that would persist without human intervention. Natural, highly biodiverse grasslands in Germany are largely confined to harsh, inherently non-forested settings: (i) Alpine primary grasslands above the treeline in the Bavarian Alps (e.g., Caricetum curvulae; FFH 6150 boreo-alpine siliceous grasslands and 6170 alpine/subalpine calcareous grasslands), which are naturally stable yet highly disturbance-sensitive; (ii) Dynamic coastal systems along the North Sea and Baltic Sea, where salt spray, sand mobility and poor soils inhibit forest succession, supporting fixed herbaceous swards and species-rich pioneer communities; (iii) Sub-Pannonic steppic grasslands (FFH 6240*), now small and scattered—especially in Thuringia, Brandenburg and Saxony-Anhalt—with around 1,450 ha remaining nationwide; and (iv) Rupicolous/rock-outcrop grasslands (FFH 6110;

	Alysso-Sedion) on calcareous rock, which persist without management due to edaphic constraints. EU Habitat Directive codes related to these areas with natural grasslands are: 6110 — Rupicolous calcareous or basophilic grasslands (Alysso-Sedion albi). 6240* — Sub-Pannonic steppic grasslands (priority). 6150 — Siliceous alpine and boreal grasslands (primary above treeline). 6170 — Alpine and subalpine calcareous grasslands (primary above treeline). 2110 — Embryonic shifting dunes (Germany: BfN factsheet). 2120 — Shifting (white) dunes with Ammophila arenaria (Germany: BfN factsheet). 2190 — Humid dune slacks (Germany: BfN factsheet). In the official classification system the asterisk (behind 6240*) indicates a “priority natural habitat type”. Geologically unique sites: natural grasslands can also occur locally on unique geological substrates (like heavy metal soils) where extreme conditions prevent competitive vegetation. The pressures after 2007 on these habitats are related to climate change (altered snow regimes), recreation and trampling, infrastructure and tourist facilities, localized eutrophication, invasive species and, on the coasts, dune stabilization dynamics. Afforestation and forestry have not been a pressure on the natural grasslands. Practically all occurrences lie within protected areas (national or regional parks, nature reserves, and European ecological network sites. Projects are screened against site-specific conservation objectives; where permitted, works are conditioned (buffers, timing, machinery restrictions). Above the climatic treeline, new planting is generally incompatible with conservation aims and rarely authorised. The risk natural grasslands are overlooked and converted in Germany is low. For the listed Annex I habitats in Germany (6110, 6240*, 6150, 6170, 2110, 2120, 2190), the likelihood of woody biomass sourcing or land conversion is negligible. These sites are largely within Natura 2000 and covered by Germany’s no-deterioration rules, so new plans or projects face strict appropriate-assessment requirements. In Germany, natural grasslands are protected primarily by the Federal Nature Conservation Act. §30 BNatSchG designates certain grassland types (e.g., dry and calcareous grasslands, Borstgrasrasen) as “gesetzlich geschützte Biotope”, prohibiting their destruction or significant impairment nationwide. Beyond designated sites, the Eingriffsregelung (§§13–15 BNatSchG) applies the avoid–mitigate–compensate hierarchy and can bar authorisations where impacts cannot be avoided or adequately compensated. For Natura 2000 areas, §§33–34 BNatSchG add a strict no-deterioration rule and mandatory appropriate assessment. Afforestation or other land-use changes are further constrained by forest laws: forest conversion requires approval under §9 BWaldG, and Länder laws regulate afforestation and conversion in detail. Overall, the legal framework makes the risk of conversion or degradation of natural grasslands negligible. Ecologically, the natural grassland habitats are non-woody, leaving practically no harvestable material. Remaining pressures are mainly tourism and nutrient enrichment. The legal safeguards in Germany and ecological characteristics of natural grasslands make conversion of these areas or biomass sourcing highly

	unlikely. Small fringes of natural grasslands in mountains or along coastal zones could still be unidentified and unprotected. However, sourcing from alpine and subalpine natural grasslands above the climatic treeline is practically excluded. The risk for regarding natural high biodiverse grasslands in Germany is low. However, risk mitigation measures are in place. In case of any kind of land conversion, either at the time of biomass sourcing, or any time after 2007, the situation is examined. Any biomass sourcing from young forests, always triggers additional investigations. Non-natural highly biodiverse grasslands in Germany are management-dependent ecosystems that require human intervention (for example, extensive mowing or grazing) to prevent succession vegetations to take over. These habitats, often defined as “semi-natural grasslands”, are among Europe's most threatened ecosystems. Since 2007, many of these grasslands have gained protection and formal recognition through the Natura 2000 network and Länder agri-environment-climate schemes (Vertragsnaturschutz/AUKM), expanding mapped and contractually managed grassland. Outside designated areas, species-rich grasslands are still identified and followed up via Länder biotope mapping (Biotopkartierung), surveys and mapping of EU-protected habitats, and red-list habitat inventories; restoration projects under LIFE and national programmes frequently remove encroaching shrubs or trees to recover species-rich swards. These frameworks maintain protected sites; however, unprotected grasslands remain vulnerable to succession or afforestation where safeguards are not applied. For example, in Bavaria and North Rhine-Westphalia there are large and well documented programmes on maintaining high-biodiversity grasslands. Highly biodiverse grasslands are conserved through agri-environment payments to farmers (Vertragsnaturschutz/AUKM; in Bavaria also KULAP) for low-intensity use: late mowing, light grazing and targeted shrub removal. State biotope mapping and EU Habitats Directive (FFH) habitat maps are used to locate valuable grasslands beyond protected areas and to prioritise them for contracts and follow-up. Restoration projects are practical and site-specific: removing shrubs or young trees that have encroached, re-seeding with appropriate meadow species, re-opening extensive grazing and resetting mowing dates. These measures keep recognised sites in good condition while also bringing unmanaged species-rich grasslands into active, contract-based conservation. In Germany, the forest area is essentially stable. The latest forest inventory shows an increase of only 15 thousand ha since 2012. Land-use data confirm that first afforestation is seldom: Bavaria in 2024 added roughly 273 ha, and Lower Saxony totalled about 1,200 ha over 2011–2021. Afforestation of grasslands is rare, and overall land-use patterns are steady. In Germany, most Annex I grassland habitats are assessed as “Unfavourable” in the latest Article-17 reports, primarily in the Continental region (which covers most of the country); the Atlantic share is small, and Alpine grasslands fare comparatively better. The key pressures are agricultural intensification, nutrient enrichment (eutrophication), drainage,

	and abandonment leading to scrub encroachment. These habitats are largely management-dependent and decline when low-intensity mowing or grazing ceases. This deterioration is not driven by woody biomass sourcing. Harvesting from Annex I grasslands is legally constrained by Germany's Federal Nature Conservation Act—§30 (legally protected biotopes) and §§33–34 (Natura 2000 no-deterioration and appropriate assessment)—with §44 species-protection bans often adding a separate block. Consequently, the contribution of woody biomass sourcing to grassland status is negligible; remediation centres on restoring extensive use, reducing nutrients, improving hydrology, and removing encroaching shrubs. Germany's permanent grassland has fallen by about 12% since 1991 to ~4.7 million ha but has been broadly stable in recent years. The main pressures are agricultural intensification, land conversion, and land abandonment with scrub encroachment (not woody biomass sourcing). Woody biomass extraction from species-rich grasslands is legally constrained (BNatSchG §30; §§33–34 for Natura 2000) and, where it occurs, is typically limited to shrub removal within restoration or routine conservation management rather than commercial harvesting. Under CAP rules (2014 greening; CAP 2023), conversion of permanent grassland is restricted or prohibited by several Länder, and any proposed land-use change is screened through nature-conservation and planning approvals. The main EU Habitat Directive Annex I non-natural high biodiversity grassland types are: 6210 Semi-natural dry calcareous grasslands (Festuco-Brometalia) 6410 Molinia meadows (Molinion caeruleae) 6440 Alluvial meadows of river valleys (Cnidion dubii) 6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) 6520* Mountain hay meadows 6230* Species-rich Nardus grasslands on siliceous substrates 6120 Xeric sand calcareous grasslands 6130 Calaminarian grasslands Germany's CAP (Common Agricultural Policy) rules and nature conservation law confine woody biomass removal in non-natural high-biodiversity grasslands to conservation management (for example shrub/young tree removal to maintain species-rich swards). GAEC 9 (Good Agricultural and Environmental Condition) prohibits conversion or ploughing of environmentally sensitive permanent grasslands in Natura 2000, and GAEC 1 maintains the permanent-grassland ratio; conversions need authorisation and often compensation, with some Länder (federal states) generally prohibiting conversion. Result-based AECMs (Agri-Environment-Climate Measures), for example FAKT (Förderprogramm für Agrarumwelt, Klimaschutz und Tierwohl) and PAULa (Programm Agrar-Umwelt-Landschaft) pay for biodiversity outcomes and support this restorative use. The EU RED does not designate non-natural high biodiversity grasslands as No-Go areas. Harvesting biomass is permitted where operations actively contribute to the conservation of these ecosystems. In Germany managing such grasslands is sufficiently regulated and incentivised through nature-conservation and agricultural instruments. Moreover, biomass sourced from these grasslands rarely qualifies as 'forest biomass' within the scope of this report. Although Germany's

	forest area is stable and land-conversion rules are strict, it is theoretically possible that a valuable grassland was afforested or overgrown after 2007. Therefore any biomass sourcing from lands converted to forests after 2007 triggers additional investigations to determine the previous vegetation type. If online maps and databases do not provide an answer, stakeholders are consulted on the site's historical environmental characteristics. If doubt remains, the biomass is classified as non-compliant.
(vi)[4] That forests in which the forest biomass is harvested do not stem from the lands that have the statuses referred to in Article 29(3) points (a), (b), (d) and (e); Article 29(4), point (a), and Article 29(5), respectively under the same conditions of determination of the status of land specified in those paragraphs. *Article 29 (3): biomass fuel produced from agricultural biomass 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:* *(e)* ***heathland*** *- Biomass Producer shall use the official definition for Heathland used in the applicable feedstock origin country. In the absence of such a definition, then the following definition shall be applied: Vegetation with low and closed cover, dominated by bushes, shrubs, dwarf shrubs (heather, briars, broom, gorse, laburnum etc.) and herbaceous plants, forming a climax stage of development (Source: EU Copernicus).*	
Type of Risk Assessment used	☐Level A – proof at national or sub-national level ☒Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	German heathlands (Heideflächen): dry heaths, wet heaths, and inland dune heaths are predominantly semi-natural relict landscapes, largely created and maintained by historical land use such as Plaggen (sod cutting for fertilizer) and extensive grazing (Heidebauernwirtschaft). The most famous example is the Lüneburg Heath, which is Europe's largest continuous area of historical heathland. Remaining heathlands are fragmented and have an overwhelmingly unfavourable conservation status across Germany. While large historical mosaics exist, the total area of formally delineated EU Habitat Directive Annex I heath habitat types is significantly smaller than the historical extent and much less than in other countries, such as France. The focus is on the few remaining large sites and managing numerous small, isolated patches. The heathland-related EU Habitat Directive Annex I habitat codes present in Germany are: 4010 Northern Atlantic wet heaths with Erica tetralix. 4030 European dry heaths. 4060 Alpine and Boreal heaths. 4070* Bushes with Pinus mugo and Rhododendron hirsutum (priority). 2310 Dry sand heaths with Calluna and Genista (inland dunes). 2320 Dry sand heaths with Calluna and Empetrum nigrum (inland dunes). 2140* Decalcified fixed dunes with Empetrum nigrum (coastal dune heath; priority). 2150* Atlantic decalcified fixed dunes (Calluno-Ulicetea) (coastal dune heath; priority). 5130 Juniperus communis formations on heaths or calcareous grasslands (heath–scrub mosaics). Heathlands are sensitive to management failure: when grazing, mowing or sod-cutting cease, succession leads to scrub and birch/pine woodland. Atmospheric

	nitrogen deposition from agriculture and industry accelerates their degradation by favouring competitive grasses over heather. Historic drainage and ongoing hydrological change further depress water tables, particularly harming wet heathlands (code: 4010) and allied habitats. The main concentrations occur on sandy soils of the North German Plain and in coastal dune-heath mosaics on the North Sea and Baltic coasts, with smaller alpine/boreal heaths at high elevation. Most substantial areas lie within protected landscapes and Natura 2000 sites, including large nature parks and military training areas, where management plans prioritise maintaining open heath structure. Long-term viability of heathland depends on continuous conservation management: extensive grazing (with sheep), periodic shrub removal, sod-cutting and targeted mowing, and in some places controlled burning to counter nutrient enrichment and succession. Germany protects heathland through the Federal Nature Conservation Act (BNatSchG) and Länder law. Many heath types are gesetzlich geschützte Biotope under §30 BNatSchG and parallel state biotope ordinances, so destruction or significant impairment is prohibited. Where heathland lies in Natura 2000 areas, §§33–34 BNatSchG apply a strict no-deterioration rule and require an appropriate assessment for plans/projects; derogations are rare and tightly conditioned. Species protection (§§44 ff.) independently bans killing/disturbance and damage to breeding/resting sites of protected fauna and flora typical of heath. Outside protected areas, the Eingriffsregelung (§§13–15) enforces avoid–mitigate–compensate and can block authorisation if impacts cannot be offset. Forest conversion and afforestation are further controlled by §9 BWaldG and Länder forestry/nature-reserve laws. Because heathlands are always No-Go areas (SBP interpretation of the EU RED), all biomass from heathland needs to be excluded; even biomass arising from operations required to conserve heathland (for example in protected areas) is not considered EU RED-compliant. Heathland areas are strictly excluded from biomass sourcing. In mosaic landscapes where forest and heathland occur together, due diligence ensures no primary feedstock is taken from heathland polygons, whether inside Natura 2000 or national park boundaries, or in smaller unmanaged patches outside protected networks. This exclusion also applies to areas that contained heathland in January 2008 and have since deteriorated, become overgrown, or been converted. As this is not covered by law, it is specified risk. Suppliers provide the geolocation of sourcing sites. The certificate holder verifies online mapping tools and databases to confirm whether heathland is present; in case of doubt, a field visit is carried out. Suppliers are instructed to identify any heathland patches and notify the certificate holder when encountered. Consistent with the grassland risk-mitigation measures, any biomass originating from young forests triggers additional investigations to determine whether the sourcing area included heathland in January 2008.
(vi)[5] That forests in which the forest biomass is harvested do not stem from the lands that have the statuses referred to in Article 29(3) points (a), (b), (d) and (e); Article 29(4), point (a), and Article 29(5), respectively under	

the same conditions of determination of the status of land specified in those paragraphs. *Article 29 (4): biomass fuel produced from agricultural biomass 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 (NOTE: Evidence of verification of wetlands should reflect seasonal changes within a year).*	
Type of Risk Assessment used	☐Level A – proof at national or sub-national level ☒Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	Independent assessments show wetland area and ecological condition have continued to face pressures after 2007, dominated by agricultural water management, urbanisation and infrastructure, pollution, and climate effects. Afforestation, however, is not a treat to wetlands today. In parallel, national and regional policy has driven large-scale restoration of floodplains, fens, marshes and coastal wetlands through river-basin plans, the national wetlands plan, Natura 2000 site management, and projects that re-establish natural hydrology and remove inappropriate tree cover where it impedes wetland function. Afforestation projects are screened through the environmental assessment and Natura 2000 appropriate-assessment processes. In Germany, new projects in or near protected habitats must undergo environmental impact assessment under the Environmental Impact Assessment Act (UVPG) and a site-specific 'compatibility' check (Appropriate Assessment) under §34 of the Federal Nature Conservation Act (BNatSchG) for Natura 2000 areas. Planting on wetland habitats is constrained. Wetlands are legally prioritised for protection and rewetting, and land-use intensification in these areas is restricted. Federal strategy explicitly aims to stop conversion of wetlands. Post-2023 agricultural conditionality adds explicit protections for wetlands and peatlands on farmland, further reducing conversion risk outside the forest sector. Under the reformed Common Agricultural Policy (CAP) for 2023–2027, Member States of the European Union (EU), including Germany, must apply Good Agricultural and Environmental Condition (GAEC) 2. GAEC 2 is a new baseline standard that makes direct farm payments conditional on protecting wetlands and peatlands. It establishes a nationwide requirement for the management of organic (peat) soils and restricts damaging conversion or drainage of these soils on agricultural land. However, the implementation of GAEC 2 has been delayed and the use of exemptions and derogations from requirements reduced the strictness of conditions attached to CAP payments. In practice, several floodplain plantations have been removed to restore wetland habitats. For example, along the Große Nister (Rhine basin) a 21-ha floodplain is taken out of intensive use and allowed to revert to wet habitats to meet Natura 2000 conservation objectives. This is happening case by case, usually as part of regional river and floodplain restoration projects. The challenges and

	policy responses in Germany are dominated by the urgent need to stop carbon emissions from drained lands and restore floodplain function, making conservation and rewetting a national priority. In parallel, national and regional policy has driven large-scale restoration of floodplains, fens, marshes, and coastal wetlands through strategic programs: - The “Blue Belt” Programme (Blaues Band Deutschland): A federal initiative promoting re-establishing watercourses and natural floodplains, often involving the removal of embankments and restoration of ecological function along federal waterways. - Natura 2000 Site Management: Management plans and projects within these sites actively re-establish natural hydrology and remove inappropriate tree cover (often pine or spruce plantations established historically on drained peat) where it impedes wetland function. The risk of sourcing biomass on converted wetlands is negligible. Wetlands that have already been converted to urban, infrastructure, or agricultural use cannot be converted a second time, so no forest biomass can originate from such areas. The risk that wetlands are converted to non-forest use is low, but not zero. Any indication that a wetland is being converted (for example for urban or infrastructure development) must be investigated. Where conversion is confirmed, biomass from that area is considered non-compliant, unless the loss of wetlands is lawfully compensated. Suppliers must inform the certificate holder the geolocation of the forest and if the sourcing area could be a wetland. Such forests areas always trigger additional investigations, because wetlands have a high likelihood of accommodating high-biodiversity forest habitats, which are treated as specified risk. These investigations, focused on biodiversity conservation, will also detect any conversion or deterioration of the wetland itself.
(vi)[6] That forests in which the forest biomass is harvested do not stem from the lands that have the statuses referred to in Article 29(3) points (a), (b), (d) and (e); Article 29(4), point (a), and Article 29(5), respectively under the same conditions of determination of the status of land specified in those paragraphs. *Article 29 (5): biomass fuel produced from agricultural biomass 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. For a peatland that was partially drained in January 2008, a subsequent deeper drainage, affecting soil that was not fully drained, would constitute a breach of the criterion.*	
Type of Risk Assessment used	☐Level A – proof at national or sub-national level ☒Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	Independent assessments show that peatlands have continued to face pressure after 2007, dominated by the legacy of drainage (which affects over 90% of German peat soils), agricultural water management, eutrophication, urbanisation and infrastructure development, and climate effects (drought and increased fire risk). However, new drainage systems and afforestation are not threats to peatlands. Peatlands are one of the most critical ecosystems in Germany, covering approximately 1.8 million hectares (5% of the land area). Unlike France, where forestry on peat is

	negligible, around 10% of German peat soils are historically used for forestry, while the majority (over 80%) is used for agriculture (mostly grassland). Critically, over 90% of all German peat soils have been drained, meaning they have turned from long-term carbon sinks into massive greenhouse gas (GHG) emitters. The National Peatland Protection Strategy (Nationale Moorschutzstrategie), adopted in 2022, is the primary federal response. It recognises that degraded peatlands emit about 53 million tonnes of CO_2 equivalents per year. The decomposition of drained peatlands contributes over 7% of Germany's total annual greenhouse gas (GHG) emissions, making their rewetting a critical climate mitigation measure. National and regional policies have driven large-scale restoration of fens, marshes, and peatlands through strategic programmes. The Strategy aims to substantially reduce GHG emissions by rewetting agricultural and formerly forested peatlands. By 2025, Germany aimed to have large areas of drained peatland rewetted in every federal state, as the first step toward cutting peatland emissions by 5 million tonnes CO_2eq per year by 2030. That 2030 cut is required for Germany's climate pathway (its own climate neutrality goals) and for Germany to continue to present itself as aligned with the Paris Agreement. In reality, practically no large-scale rewetting has happened. The hectares rewetted by 2025 are pilot sites only. Germany is therefore not on track to deliver the planned peatland emission cuts, which also means it cannot meet its wider climate targets. The government has admitted that peatland rewetting must happen much faster, but it appears unable to deliver. The general environmental policy in Germany is to rewet peatlands. Sourcing biomass from peatland with drainage systems that were installed before 2007 are allowed under the EU RED, but the general trend in forest and nature areas is no longer to maintain them. Peatland that was already converted to agricultural urban or infrastructure use are out of scope. They cannot be converted twice; no 'forest biomass' can be sourced from such areas anymore. New conversion of peatland urban areas, or infrastructure, or the installation of new or improved drainage systems in or near forests or nature areas is considered very unlikely under the current government policy. However, if there are any indications that conversion or increased edge effects are happening, the plot will be investigated. Biomass from such areas is non-compliant. Suppliers must inform the certificate holder if they suspect that the sourcing area lies on (drained) peatland. Such a notification automatically triggers additional (online) investigations in the history of the plot and biodiversity values (specified risk indicator). Through this process, cases of conversion or deterioration will be identified. Any indication that the current operation involves conversion (to urban use, agriculture, or forestry), or that it involves new drainage or other new nearby human activities, renders the biomass non-compliant (if not compensated elsewhere).
(vii) that installations producing biomass fuels from forest biomass, issue a statement of assurance, underpinned by company-level internal processes, for the purpose of the audits conducted pursuant to Article	

30(3), that the forest biomass is not sourced from the lands referred to in point (vi).	
Type of Risk Assessment used	☒Level A – proof at national or sub-national level ☐Level B – management system at forest sourcing area level
Level A risk assessment description	N/A
Level B management system at the level of the forest sourcing area	*Not applicable, requirement only applies to Level A*

LULUCF criteria 29(7)	
Type of Risk Assessment used	☒ Level A – proof at national or sub-national level ☐ Level B – management system at forest sourcing area level
Level A risk assessment description	SBP-endorsed EU RED Level A risk assessment for Article 29(7) LULUCF_v1.4
Level B management system at the level of the forest sourcing area	N/A

Annex 2a: EU RED II Supply Base Evaluation

Annex 3: SBP Processing residues and/or Post-consumer feedstock requirements

☐ Not Applicable (Processing Residues and/or post-consumer feedstock not used)

Verification and monitoring of suppliers

Suppliers sign a PEFC/SBP/EU RED self-declaration on their business activities and relevant feedstock categories, after which the company is visited and evaluated. Every type of feedstock of each supplier is assessed separately (comprehensive checklist). When needed, risk mitigation measures are agreed upon (and recorded). Feedstock is considered EU RED-compliant only after the evaluations have been successfully completed.
This evaluation is performed once a year and more often if there are risks regarding the supplier, the feedstock categorization, or the supply chain. The evaluation reports are stored together with relevant documents and photos.
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Feedstock inspection and classification upon receipt

EU RED compliance for all feedstock types is verified before and during procurement. our company maintains tables of approved suppliers and their feedstock categories.
Upon delivery, the supplier, loading address, and feedstock type are checked, and the classification of EU RED compliant feedstock is recorded. If there are supply chain risks, a reference sample may be retained.
..

Supplier audit for processing residues and post-consumer feedstock

All sources of processing residues within the scope of EU RED evaluations are inspected at their first point of occurrence. The processes generating the residues are assessed and recorded. Checked is also if the supplier has equipment onsite that could process primary feedstock in such a way that it seems to be wood residues or wastes.
Suppliers of processing residues are re-evaluated annually through onsite visits by a member of our assessment team. Suppliers are visited more frequently, if supply chain or chain of custody risks have been identified.
Our company does not procure post-consumer feedstock.
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Annex 4: EU RED detailed findings for Trees Outside Forest (TOF) feedstock

NOTE: For "Trees outside forests (TOF) – Urban and landscape feedstock" no EU RED sustainability requirements apply, only the GHG savings criteria apply (SBP EU RED Bridging ID v2.0 Section 1.1). The land use category in this case is neither forest land nor agricultural land. For "Trees outside forests (TOF) – Agricultural land feedstock" the applicable criteria are Article 29 paragraphs (2)-(5).

Not Applicable (RED II TOF not included)

Annex 4a: RED II detailed findings for Trees Outside Forest (TOF) feedstock

NOTE: For "Trees outside forests (TOF) – Urban and landscape feedstock" 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" the applicable criteria are Article 29 paragraphs (2)-(5).