



Standards Document

SBP Framework Instruction Document REDII: Bridging requirements for meeting REDII

Sustainable Biomass Program
sbp-cert.org

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

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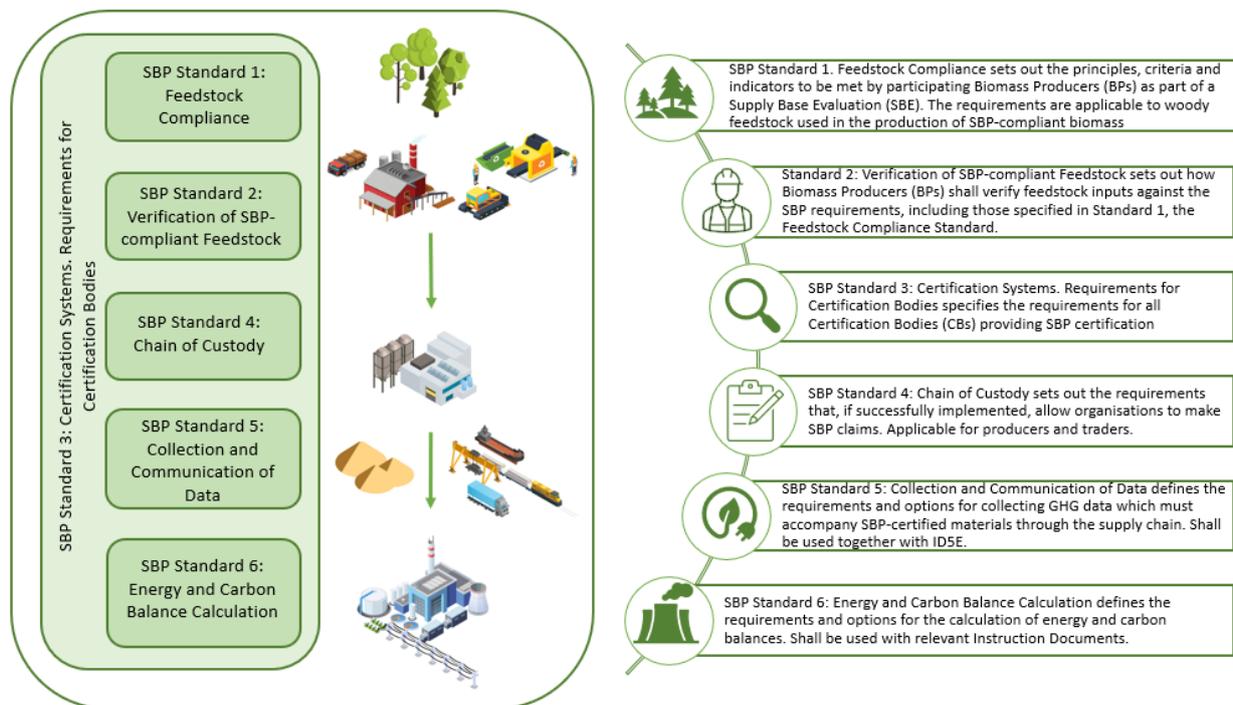
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1 Introduction

This Instruction Document specifies bridging requirements between the current SBP normative framework and recast Renewable Energy Directive 2018/2001 (REDII). The SBP-certified Biomass Producer shall initially meet the requirements of SBP-compliant feedstock or SBP-controlled feedstock, or both as applicable. Requirements in this document are additional and shall be applied on top of the regular SBP normative framework (see Figure 1 below) when making a REDII-compliant claim. Biomass carrying a REDII-compliant claim shall, therefore, be in compliance with normative requirements for the SBP-compliant claim (that is, SBP Standards 1 and 2) and the additional requirements for REDII.

Figure 1. SBP normative framework for making claims on SBP-compliant and SBP-controlled biomass.



Feedstock sourced in compliance with the requirements in this Instruction Document, including the REDII sustainability requirements (Section 6), may be recorded by the Biomass Producer as REDII-compliant feedstock and may be used for production of REDII-compliant biomass. A REDII-compliant claim may only be made together with an SBP-compliant claim.

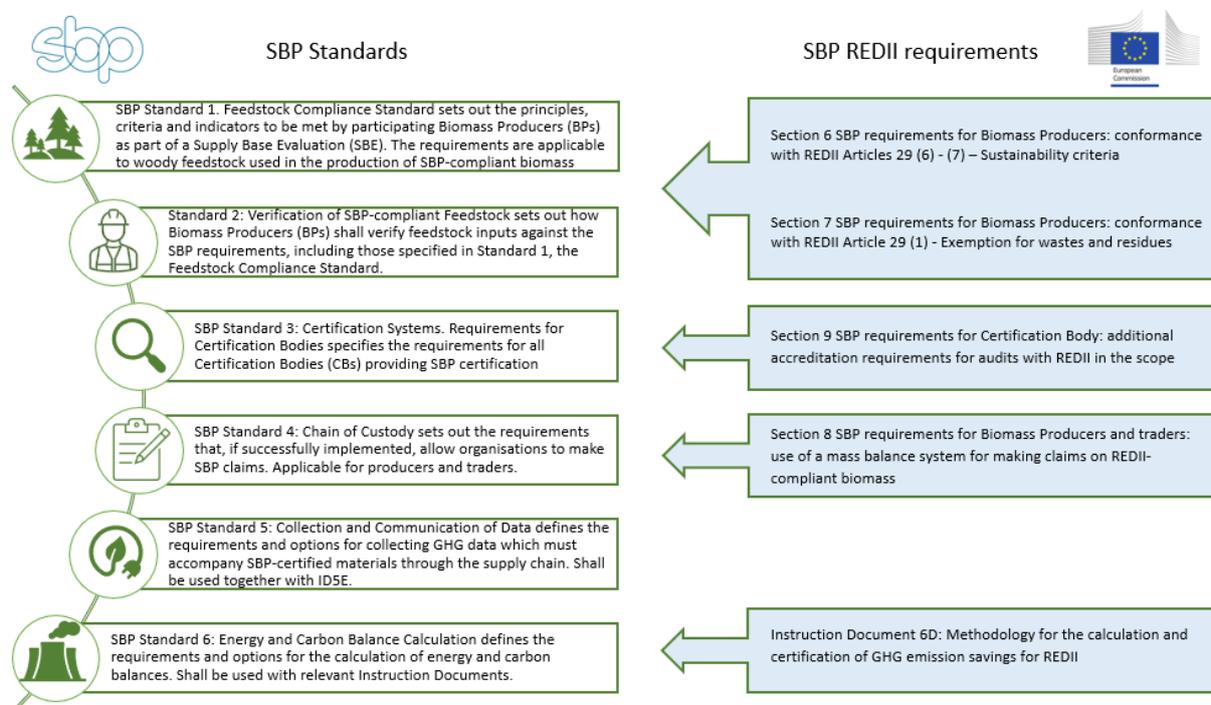
Where there is a difference between requirements in this Instruction Document and the SBP normative framework, the requirements in this document shall prevail. One example is that SBP-approved Forest Management Scheme claims (for example, FSC 100%) shall not automatically be used to comply with the REDII sustainability criteria. Another example is that REDII-compliant biomass shall follow very specific mass balance requirements, which differ from the accounting methods allowed by SBP Standard 4.

Sections 3 to 5 describe the SBP internal management system for REDII, sections 6 to 8 specify additional requirements for Certificate Holders wishing to make SBP REDII-compliant claims. Section 9 specifies additional requirements for Certification Bodies.

Bridging requirements for GHG emissions savings criteria and methodology for GHG emissions savings calculation by biomass End-users are included in a separate document, SBP Instruction Document 6D: Methodology for the calculation and certification of GHG emissions savings.

The relationships between the SBP Standards and SBP REDII requirements are illustrated below (Figure 2).

Figure 2. SBP REDII requirements are additional to the SBP normative framework.



NOTE 1: At the end of June 2021, each of the SBP Standards is under review (the Standards Development Process). It is anticipated that revised Standards (1 to 6) and related normative documents will be published in 2022. One of the objectives of the Standards Development Process is for the revised Standards to be in full compliance with REDII.

NOTE 2: SBP normative documents developed for the purpose of demonstrating compliance with the Netherlands’ SDE+ or Flanders’ sustainability requirements for biomass are not applicable to the SBP REDII scope.

DISCLAIMER: Economic operators certified against this document shall implement all applicable requirements of REDII. Where there is a conflict between the requirements in this document and REDII, REDII shall have precedence.

2 Normative references

- Recast Renewable Energy Directive 2018/2001 of 11 December 2018 (REDII)
- SBP Appeals Procedure
- SBP Complaints Procedure
- SBP Glossary of Terms and Definitions document, January 2019
- SBP Standard 1 Feedstock Compliance Standard, March 2015
- SBP Standard 2 Verification of SBP-compliant Feedstock, March 2015
- SBP Standard 3 Certification Systems. Requirements for Certification Bodies, March 2015
- SBP Instruction Document 3F: Requirements for certified organisation certificates, February 2016
- SBP Instruction Document 3H: Peer Review – SBP Requirements for CBs, December 2017
- SBP Standard 4: Chain of Custody, March 2015
- SBP Standard 5 Collection and Communication of Data, March 2015
- SBP Standard 6 Energy and Carbon Balance Calculation, March 2015
- SBP Instruction Document 5E: Collection and communication of energy and carbon data, March 2021
- SBP Instruction Document 6D: Methodology for the calculation and certification of GHG emissions savings
- SBP Certification Mark and Trade Mark Use, Guidance for Certificate Holders, January 2019
- Biomass Carbon Calculator v2.1
- Biomass Carbon Calculator User Guide v2.1
- Normative Interpretations, April 2021
- SBP Audit Portal User Guide, October 2020
- Data Transfer System 2.0 User Guide, April 2021

The report “Technical Assistance for the preparation of guidance for the implementation of the new bioenergy sustainability criteria set out in the revised Renewable Energy Directive – REDIIIBIO” was used to support the development of this SBP document.

3 Scope and definitions

3.1 SBP REDII scheme scope

The scope of the SBP certification scheme application against REDII Article 30 (4) is the following:

- Type of feedstock(s):
 - Ligno-cellulosic material derived from forest and non-forest land
 - Processing residues from forest and agriculture related industries (outside forest and agricultural land)
 - Woody waste feedstock

NOTE: Agricultural residues from agricultural land are excluded from the SBP scheme.

- Type of fuel(s): Biomass fuels (pellets and wood chips) produced from forest and non-forest ligno-cellulosic material and forest and agriculture related industry processing residues for heat and electricity production

NOTE: “Bioliquids”, “biofuels”, “biogas”, “renewable liquid and gaseous transport fuels of non-biological origin” and “recycled carbon fuels” are outside of the scope of the SBP scheme.
- Geographic coverage: Global
- Chain of custody coverage: Full biomass supply chain

3.2 Definitions

The table below links the relevant definitions of REDII and SBP scheme definitions in currently valid SBP Glossary of Terms and Definitions document, January 2019. The purpose of the linkage is to explain how SBP scheme definitions correspond to REDII definitions.

Table 1. SBP and REDII definitions

| REDII definition | Corresponding SBP definition |
|---|---|
| <p>‘waste’ means waste as defined in point (1) of Article 3 of Directive 2008/98/EC, excluding substances that have been intentionally modified or contaminated in order to meet this definition; => ‘waste’ means any substance or object which the holder discards or intends or is required to discard.</p> | <p>SBP-compliant post-consumer tertiary feedstock: This feedstock originates from a post-consumer source and sourced using SBP Standard 4 Instruction Note 4A: SBP tertiary feedstock requirements.</p> <p>NOTE: REDII specific requirements are included in section 7 below.</p> <p><i>Please note that post-consumer tertiary feedstock either supplied with an SBP-approved recycled claim, or sourced within the scope of the BP’s own SBP-approved Chain of Custody (CoC) System certification, for example, non-certified reclaimed feedstock sourced in compliance with FSC-STD-40-007: FSC Standard for Sourcing</i></p> |

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| | <p><i>Reclaimed Material for Use in FSC <u>does not qualify to be used for production of REDII-compliant biomass</u> because FSC, PEFC and SFI schemes are not recognised by EC for REDII compliance.</i></p> <p><i>Tertiary feedstock is exempt of sustainability criteria and is required to fulfil only the greenhouse gas emissions saving criteria of REDII.</i></p> |
| <p>'biomass' means the biodegradable fraction of products, waste and residues from biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin;</p> | <p>Biomass: end product from a Biomass Producer</p> <p>Wood pellets Wood chips Lignin pellets (black pellets)</p> |
| <p>'agricultural biomass' means biomass produced from agriculture;</p> | <p>N/A as SBP current scope does not cover agricultural biomass</p> |
| <p>'forest biomass' means biomass produced from forestry;</p> | <p>Primary biomass means biomass produced from forestry</p> |
| <p>'biomass fuels' means gaseous and solid fuels produced from biomass;</p> | <p>Wood pellets Wood chips Lignin pellets</p> |
| <p>'sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass;</p> | <p>Supply Base (SB): The area encompassing all places where pre-consumer feedstock was harvested from (i.e. the location of the tree stump).</p> |
| <p>'forest regeneration' means the re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, including fire or storm;</p> | <p>Forest regeneration means the re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, including fire or storm</p> |
| <p>'ligno-cellulosic material' means material composed of lignin, cellulose and hemicellulose, such as biomass sourced from forests, woody energy crops and forest-based industries' residues and wastes;</p> | <p>Primary feedstock Secondary feedstock Tertiary feedstock</p> |

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| <p>‘non-food cellulosic material’ means feedstock mainly composed of cellulose and hemicellulose, and having a lower lignin content than ligno-cellulosic material, including food and feed crop residues, such as straw, stover, husks and shells; grassy energy crops with a low starch content, such as ryegrass, switchgrass, miscanthus, giant cane; cover crops before and after main crops; ley crops; industrial residues, including from food and feed crops after vegetal oils, sugars, starches and protein have been extracted; and material from biowaste. Ley and cover crops are understood to be temporary, short-term sown pastures comprising grass-legume mixture with a low starch content to obtain fodder for livestock and improve soil fertility for obtaining higher yields of arable main crops;</p> | <p>Agricultural industry processing residues: residues arising from agricultural industry processing process. Agricultural processing residue is <u>unintentionally produced by-product</u> reclaimed from a process of agricultural product manufacture or other related industry further downstream.</p> |
| <p>‘residue’ means a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it;</p> | <p>Secondary feedstock (sawmill processing residues) Tertiary feedstock (secondary wood processing residues)</p> <p>Processing residue is unintentionally produced by-product reclaimed from a process of primary or secondary manufacture or other industry further downstream. It comes in a shape of wood chips, sawdust, shavings, offcuts.</p> <p><i>Processing residue feedstock is exempt of sustainability criteria and is required to fulfil only the greenhouse gas emissions saving criteria of REDII.</i></p> <p><i>NOTE: Agricultural residues from the agricultural land are excluded from the SBP scheme.</i></p> |
| <p>‘forestry residues’</p> | <p>Primary feedstock</p> <p>Forest Residues: Feedstock comprising branch wood, diseased wood and storm salvage, end of life timber plantations, thinnings or tree tops.</p> <p><i>NOTE: REDII Articles 29(6)-(7) apply to “forestry residues”. Please see Section 6 of this document.</i></p> |
| <p>‘agricultural, aquaculture, fisheries and forestry residues’ means residues that are</p> | <p>Primary feedstock</p> |

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| <p>directly generated by agriculture, aquaculture, fisheries and forestry and that do not include residues from related industries or processing;</p> | <p>Forest Residues: Feedstock comprising branch wood, diseased wood and storm salvage, end of life timber plantations, thinnings or tree tops.</p> <p><i>NOTE: REDII Articles 29(6)-(7) apply to “forestry residues”. Please see Section 6 of this document.</i></p> |
| <p>Highly biodiverse grassland</p> | <p>Highly biodiverse grassland definition included in SBP Glossary is not applicable to REDII scheme recognition and is not used in any SBP normative framework document.</p> |
| <p>An installation shall be considered to be in operation once the physical production of fuel, heat or cooling, or electricity has started (i.e. once the production of fuels including biofuels, biogas or bioliquids, or production of heat, cooling or electricity from biomass fuels has started).</p> | <p>An installation shall be considered to be in operation once the physical production of fuel, heat or cooling, or electricity has started (i.e. once the production of fuels including biofuels, biogas or bioliquids, or production of heat, cooling or electricity from biomass fuels has started).</p> |

4 SBP process description for internal monitoring

This section describes how the SBP certification scheme meets the REDII Voluntary Scheme Assessment Protocol requirements for internal monitoring and transparency.

Table 2. Internal monitoring and transparency of SBP REDII scheme

| REDII requirement | Corresponding SBP process description |
|---|--|
| <p>30(3),(7): Adequate standards of reliability, transparency and independent auditing</p> <p>Internal monitoring</p> <p>The Voluntary Scheme shall have in place a system of internal monitoring to verify compliance of economic operators with the provisions of the scheme.</p> | <p>The SBP internal monitoring system is based on monthly, quarterly, and annually reports from Assurance Services International (ASI) about certification body and economic operator performance. Based on these reports regular meetings with ASI staff (at least monthly) and bi-annual Certification Body Forum meetings are conducted to discuss the effectiveness and appropriateness of the scheme and to harmonise verification activities by certification bodies.</p> <p>Trainings and instruction documents are developed based on this monitoring and communications with our stakeholders.</p> <p>SBP publishes an annual report including impact indicators and overall monitoring information. See: https://sbp-cert.org/documents/annual-reviews/</p> |
| <p>Such internal monitoring should be undertaken in case relevant information on potential non-conformities has been brought to the attention of the scheme by third parties, and also to cross check the work conducted by external auditors (including the time spent on audits).</p> | <p>See above</p> |
| <p>As part of the monitoring process, the Voluntary Scheme shall require certification bodies to submit to the Voluntary Scheme all audit reports, and actual value GHG emission calculations including related background evidence on the application of GHG emission saving credits (eccr, eccs, esca), where applicable.</p> | <p>All SBP reports are prepared in an Audit Portal and SBP has full access to them. Additionally, SAR reports (prepared by Biomass Producers on their energy use, feedstock and transportation) and Biomass Reports (prepared by End-Users) are uploaded to Data Transfer System. More details about reporting can be found in section 9.7 below.</p> |

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| <p>Internal monitoring shall be undertaken on at least an annual basis and reflect the geographical and feedstock coverage of the Voluntary Scheme, as well as the level of risk of the economic operators. The monitoring activities shall include both audits and the inspection of a sample of audit reports prepared by each certification body.</p> | <p>Assurance Services International (ASI) approves Certification Bodies that certify biomass sector companies against SBP standards (asi-assurance.org).</p> <p>For each Certification Body ASI prepared an annual accreditation plan which includes one HQ assessment and a number of witness assessments depending on the size of certificate portfolio. Oversight includes review of sample of reports.</p> <p>Additionally, SBP carries out annual Assurance Management System Reviews. First review was conducted on 29th of January 2021. Next review will be in January 2022 and it will include REDII scheme.</p> <p>The annual Assurance Management System Review additionally includes:</p> <ul style="list-style-type: none"> • Internal monitoring should be undertaken in case relevant information on potential non-conformities has been brought to the attention of the scheme by third parties, and also to cross check the work conducted by external auditors (including the time spent on audits). • Internal monitoring shall reflect the geographical and feedstock coverage of the Voluntary Scheme (SBP), as well as the level of risk of the economic operators (certificate holders). • The monitoring activities shall include both audits and the inspection of a sample of audit reports prepared by each SBP-accredited certification body. <p>Based on the results of the review, the SBP implements corrective measures if necessary. This could include, for example, issuance of technical guidance and interpretations to certificate holders and certification bodies, development of training material, harmonisation meetings with certification bodies or possible sanctions for certification bodies that are not in compliance with the scheme's requirements. SBP works together with the Accreditation Body, ASI, when implementing possible sanctions, if required.</p> |
| <p>The Voluntary Scheme shall describe how the results of the internal monitoring are acted on. This could include, for example, issuance of technical guidance to economic operators and certification bodies, development of training material, harmonisation meetings with certification bodies or possible sanctions</p> | <p>The SBP internal monitoring system is based on monthly, quarterly, and annually reports from ASI about certification body and economic operator performance. Based on these reports regular meetings with ASI staff (at least monthly) and bi-annual Certification Body Forum meetings are conducted to discuss the effectiveness and appropriateness of the scheme.</p> <p>Trainings and instruction documents are developed based on this monitoring and communications with our stakeholders.</p> <p>SBP publishes an annual report including impact indicators and overall monitoring information. See: https://sbp-cert.org/documents/annual-reviews/</p> |

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| <p>for certification bodies that are not in compliance with the scheme’s requirements.</p> | <p>When necessary SBP may issue technical normative interpretations to clarify the standard requirements: https://sbp-cert.org/documents/interpretative-documents/normative-interpretations/</p> |
| <p>Voluntary Schemes must implement rigorous checks when registering new scheme applicants, including:</p> <ul style="list-style-type: none"> ▪ Requiring applicants to disclose on registration whether they are a current or previous participant of another Voluntary Scheme, and also whether they had a different legal form or name in the past 12 months. ▪ Cross-check against other Voluntary Scheme certificate lists. ▪ Customer Due Diligence/ Know Your Customer, in particular on companies with a limited trading history. <p>Voluntary Schemes shall ensure that economic operators declare to auditors the names of all schemes they participate in and make available all relevant information, including the mass balance data and the auditing reports.</p> | <p>All SBP certification applicants are registered by the Certification Body in SBP Audit Portal and are published on SBP public website.</p> <p>Application registration includes requiring applicants to disclose on registration whether they are a current or previous participant of another EC approved Voluntary Scheme, and also whether they had a different legal form or name in the past 12 months. SBP cross-checks this information against other Voluntary Scheme certificate lists. This is done by the SBP Secretariat.</p> <p>Customer Due Diligence/Know Your Customer (DD/KYC) is implemented by the Certification Body and includes registration of the official business name and number of the applicant organisation in Audit Portal and checking it against the local business registry for possible legal violations. The SBP Secretariat shall review the results of this process.</p> <p>The SBP public audit report includes the information about the names of all schemes applicants participate in and refers to all relevant information, including the mass balance data and the auditing reports.</p> |

SBP accredited CBs can be found on SBP and ASI websites at <https://sbp-cert.org/accreditations-and-certifications/accredited-certification-bodies/> and <https://www.asi-assurance.org/s/find-a-cab> respectively. The accreditation scope will specify whether or not a CB can certify operators for REDII.

5 Supervision of the operation of Voluntary Schemes, Certification Bodies and operators

SBP is committed to support Member States and the European Commission (the Commission) in fulfilling their duties in relation to REDII. The table below specifies the processes.

Table 3. Supervision of SBP REDII scheme and its actors by the Commission and Member States.

| REDII requirement | Corresponding SBP process description |
|---|--|
| <p>Article 30(9) Supervision of the operation of Voluntary Schemes, certification bodies and operators</p> <p><i>REDII Voluntary Scheme Assessment Protocol clause 8.1 Supervision of operation of certification bodies (Article 30(9))</i></p> <p>Voluntary Schemes must ensure via certification procedures as well as contractual arrangements with participating operators and certification bodies that Member States can supervise the operation of certification bodies as set out under Article 30(9) of the Directive.</p> | <p>Each SBP-accredited Certification Body and certified Certificate Holder needs to sign a Trade Mark License Agreement (TMLA) with SBP. This TMLA agreement requires CBs and CHs to comply with all relevant regulations and laws.</p> <p><i>SBP TMLA Clause 11: COMPLIANCE WITH APPLICABLE LAW</i> <i>The Licensee acknowledges and agrees that the exercise of the licence granted to the Licensee under this agreement is subject to all applicable laws, enactments, regulations and other similar instruments, and the Licensee understands and agrees that it shall at all times be solely liable and responsible for such due observance and performance.</i></p> <p>This means that TMLA obliges Certificate Holders and Certification Bodies to agree that Member States can supervise the operation of certification bodies as set out under Article 30(9) of the Directive.</p> |
| <p>8.2 Support for the Commission in fulfilling its duties set out in Article 30(8) and Article 30(10)</p> <p>Upon request of a Member State, or its own initiative, the Commission may be required to investigate whether Voluntary Schemes operate according to the rules or to examine whether the sustainability and greenhouse gas emissions</p> | <p>SBP scheme will support the Commission in fulfilling its duties set out in Article 30(8) and Article 30(10). This includes providing access to audit reports and actual GHG emission calculations.</p> |

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| <p>saving criteria in relation to a particular consignment are met.</p> <p>Voluntary Schemes are required to support the Commission in this effort and need to ensure via procedures as well as contractual arrangements with participating operators and certification bodies that relevant data can be made available upon request, such as audit reports and actual GHG calculations.</p> | |
| <p>8.3 Annual reports</p> <p>Recognised Voluntary Schemes are obliged to submit annually a report to the Commission that includes relevant information concerning the operation of the scheme. The report shall be submitted by 30 April covering the previous calendar year.</p> <p>The scheme shall have a procedure in place to collect the information required to fulfil this reporting obligation.</p> | <p>SBP shall submit an annual report to the Commission.</p> <p>Specific points include:</p> <ul style="list-style-type: none"> o Report shall be submitted by 30 April covering the previous calendar year. o Coverage of points a) to k) of ILUC Directive Article 18(6) – including ‘market data’ on feedstock and fuel certified (since incorporated into REDII Article 30(5)). o Market data shall be submitted using the template published by the Commission. o SBP shall collect all relevant data using its digital tools like Salesforce, Audit Portal, Data Transfer System, ASI Scheme Owner Portal, data received from Certification Bodies. SBP scheme has a complete overview of a number of certified operators, types of feedstocks used, all certified transactions, complaints, raised non-conformances, incidents, accreditation assessments. o SBP shall provide a summary of the complaints to the Commission through the annual reporting process. <p>List of Information to be reported by Voluntary Schemes in their annual activity reports to the Commission is provided in Annex G</p> |
| <p>30(3),(7): Adequate standards of reliability, transparency and independent auditing</p> <p>7.5 Auditor competencies</p> | <p>SBP training courses and guidance for Certification Bodies</p> <p>SBP has developed an official training course for auditors. Training course covers topics about biomass sector, SBP history and purpose, SBP normative framework, Data Transfer System and REDII requirements including GHG calculations, and is delivered as blended course, partly as recorded online webinars in SBP LMS and partly as live sessions using MS Teams or live courses. Several training courses are scheduled every year. To successfully accomplish the training course auditors must pass a written exam.</p> |

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| | <p>Only those auditors who have successfully passed SBP official training course may carry out SBP audits.</p> <p>Additionally, SBP carries out bi-annual SBP Certification Body Forums where various technical topics are discussed, experiences benchmarked and interpretations provided. When standards change or calibration needs arise, SBP organises additional sessions on a particular topic. SBP Secretariat is providing technical support to Certification Bodies and ASI by explaining the requirements, if needed.</p> <p>From January 2021 all SBP audit reports must be prepared in SBP Audit Portal. Only formally approved auditors have access to the Audit Portal and are authorised to develop reports. SBP keep full control of who is doing SBP audits.</p> |
| <p>Article 29(10): Greenhouse gas emissions savings</p> | <p>With respect to Article 29(10) the primary role of SBP as a Voluntary Schemes is to ensure that operators deliver accurate data on GHG emissions of biofuels, bioliquids and biomass fuels.</p> <p>Member States will verify whether these emissions fulfil the requirements of the Renewable Energy Directive recast. For this purpose the Member States need to be informed of the date that the biofuel, bioliquid or biomass installation was in operation. SBP will provide this information in SBP certificate registry on its website (https://sbp-cert.org/accreditations-and-certifications/certificate-holders/) under the scope of each End-User SBP certificate. Certification Bodies are required to verify and document this information as part of the main assessment audit.</p> <p>An installation shall be considered to be in operation once the physical production of fuel, heat or cooling, or electricity has started (i.e. once the production of fuels including biofuels, biogas or bioliquids, or production of heat, cooling or electricity from biomass fuels has started).</p> |

6 SBP requirements for Biomass Producers: conformance with REDII Articles 29 (6) - (7) – Sustainability criteria

Background

The purpose of Chapter 6 is to present two possible approaches for demonstrating compliance with the sustainability requirements on forest biomass, as set out in Article 29.6 and 29.7 of REDII.

REDII includes two sets of sustainability requirements for forest biomass:

1. One in Article 29.6 which aim is to **minimise the risk of using forest biomass derived from unsustainable production**.
2. One in Article 29.7, which aim is to ensure compliance with **Land use, Land-use Change and Forestry (LULUCF)** requirements.

Relevant definitions and concepts for REDII Article 29(6)-(7) are provided in Annexes A and B.

Compliance with these forest biomass requirements can be demonstrated in two ways:

- **Level A:** the harvesting criteria are complied with by complying with the national or subnational legislation applicable in the area of harvest, as well as monitoring and enforcement systems;
- **Level B:** for each criterion for which compliance cannot be demonstrated by means of national or subnational level legislation, compliance needs to be demonstrated through management systems applicable to the forest sourcing area level.

These two ways of demonstrating compliance are the result of the risk-based approach specified in REDII. If a country has legislation and proper enforcement and monitoring in place at a national level (Level A), there is a low risk of forest biomass derived from unsustainable production. Which elements this legislation should comprise in detail is not defined, since sustainable forest practices can differ significantly between regions and thus between countries. If this legislation and enforcement/monitoring is not in place, the risk on a national level is higher, and thus it is important to assure on the level of the sourcing area that forest biomass is derived from sustainable production only (Level B). This approach is intended to balance administrative burden while minimising the risk that unsustainably produced forest biomass is used for energy production under REDII. For Level B the criteria need to be checked in more detail and locally, so more is required than checking whether a law is in place, monitored and enforced.

In order to ensure high level of credibility and unified risk-based approach, Biomass Producers are not permitted to develop Level A risk assessments themselves. Risk-based assessment for Level A shall only be implemented through applying the SBP Regional Risk Assessment Procedure (<https://sbp-cert.org/documents/process-documents/regional-risk-assessment-procedure/>). This procedure includes appointment of independent Working Body (WB) to develop the Regional Risk Assessment. It also requires additional independent quality and technical reviews of a risk assessment prepared by the WB as well as public stakeholder consultations. Detailed requirements for Level A risk assessments are provided in Annexes E and F.

In addition, SBP will recognise official Level A risk assessments developed by the European Commission, EU Member States or published by other REDII recognised voluntary schemes.

All SBP-endorsed Level A risk assessments will be published on SBP website.

6.1 SBP SBE, RBA and REDII

- 6.1.1 The Biomass Producers shall apply a Risk-Based Approach (RBA) when evaluating feedstock against REDII sustainability criteria. The Risk-Base Approach used in SBP scheme is referred as a Supply Base Evaluation (SBE). Thus, when evaluating feedstock against REDII sustainability criteria, in addition to this instruction document, the Biomass Producer shall also follow relevant requirements of SBP Standard 2 (e.g., defining the supply base, implementing stakeholder consultation, ensuring competence, undertaking risk mitigation, management system monitoring and reporting).
- 6.1.2 The Biomass Producer shall implement the RBA process for REDII following requirements specified in 6.3 and 6.4 below.
- 6.1.3 The Biomass Producer *may* use the report “Technical Assistance for the preparation of guidance for the implementation of the new bioenergy sustainability criteria set out in the revised Renewable Energy Directive – REDIIIBIO” as a guidance. This SBP document is developed by adopting much of the REDIIIBIO report.
- 6.1.4 The Biomass Producer applying this section shall hold a valid SBP Certificate including Standards 1 and 2 in its scope.

6.2 REDII-compliant claims and SBP-approved Forest Management Schemes claims

- 6.2.1 SBP-compliant biomass may be sold with REDII-compliant claim only when it is produced using organisation’s own REDII Supply Base Evaluation in case of primary feedstock and/or produced from secondary and/or tertiary feedstock. In other words, SBP-approved Forest Management Scheme claims (i.e., FSC® and PEFC-endorsed Forest Management Schemes claims) may not be used as a blanket proxy for REDII-compliant claim.

NOTE: The Commission may recognise national schemes for compliance with the conditions set out in Directive 2018/2001/EU. The SBP scheme will not refuse mutual recognition with those schemes as regards the verification of compliance with the sustainability criteria set out in Articles 29(2) to (7) and (10).

6.3 Assessment of compliance with REDII Article 29 (6)

Article 29.6 (REDII) requires economic operators to ensure that biomass fuels produced from forest biomass meet a number of **sustainable harvesting criteria**, as reported in the box below (adopted from REDIIIBIO report).

Box 1: Sustainable harvesting criteria (REDII, Article 29.6)

Biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 [of Article 29] shall meet the following criteria to minimise the risk of using forest biomass derived from unsustainable production:

(a) The country in which forest biomass was harvested has national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring (Level A):

- (i) The legality of harvesting operations
- (ii) Forest regeneration of harvested areas
- (iii) That areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected
- (iv) That harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and
- (v) That harvesting maintains or improves the long-term production capacity of the forest

(b) When evidence referred to in point (a) of this paragraph is not available, the biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 [of Article 29] if management systems are in place at forest sourcing area level ensuring (Level B):

- (i) The legality of harvesting operations
- (ii) Forest regeneration of harvested areas
- (iii) That areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected unless evidence is provided that the harvesting of that raw material does not interfere with those nature protection purposes
- (iv) That harvesting is carried out considering the maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and
- (v) That harvesting maintains or improves the long-term production capacity of the forest.

6.3.1 National/sub-national level risk assessment (Level A) shall not be developed by Biomass Producers.

NOTE: In order to ensure high level of credibility and unified risk-based approach, Biomass Producers are not permitted to develop Level A risk assessments themselves. Risk-based assessment for Level A shall only be implemented through applying the SBP Regional Risk Assessment Procedure (<https://sbp-cert.org/documents/process-documents/regional-risk-assessment-procedure/>). This procedure includes appointment of independent Working Body (WB) to develop the Regional Risk Assessment. It also requires additional independent quality and technical reviews of a risk assessment prepared by the WB as well as public stakeholder consultations. Detailed requirements for Level A risk assessments are provided in Annexes E and F.

6.3.2 If any sustainability criteria is designated as specified risk at the national/sub-national level (Level A risk assessment does not indicate low risk for all indicators) or there is no official national/sub-national (Level A) risk assessment available yet, the Biomass Producer shall implement the risk assessment and, if necessary, risk mitigation on a forest sourcing area level (Level B).

6.3.3 So, where evidence of compliance with one or several **harvesting criteria** at national or sub-national level is not available (i.e., it is not possible to justify low risk), the Biomass Producer shall demonstrate that those criteria have been complied with through management systems that are in place and implemented at the level of the sourcing area. To that end, Biomass Producers shall provide accurate, up-to-date, and verifiable evidence of the following elements:

- a) The spatial boundaries of the sourcing area for which compliance needs to be demonstrated, and on which management systems referred to in point (b) apply, including by means of geographical coordinates, plots or parcels.
- b) Management systems applicable to the sourcing area ensuring that:

- i. the legality of harvesting operations, including by ensuring the compliance of harvesting with the due diligence system defined in article 6 of Regulation (EU) No 995/2010 of the European Parliament and of the Council;
- ii. forest regeneration is carried out in a manner that at least maintains the quality and quantity of the harvested forest areas, including by ensuring that the forest is allowed a regeneration period of at least five years after the harvesting operation; and there is no biodiversity degradation in the regenerated forest area, including that primary forests and natural or semi-natural forests are not degraded to or replaced with plantation forests. That shall be proven by using, inter-alia, forest management plans, operational protocols, environmental impact assessments, and results of relevant compliance audits and inspections;
- iii. forest biomass does not originate from areas designated for nature protection, including wetlands and peatlands, unless there is evidence that the harvesting of forest biomass activities does not conflict with the protection objectives of the designated areas. That shall be proven by using, inter-alia, international and national databases, official maps, forest management plans, operational protocols, harvesting protocols, satellite imaging, environmental impact assessments, and official logging permits including conditions or restrictions ensuring that there is no conflict with the relevant nature protection objectives, and results of relevant compliance audits and inspections;
- iv. forest harvesting is carried out in a way that aims at least at preventing negative impacts on soil quality and biodiversity. To that end, the relevant risks associated with forest biomass harvesting shall be identified in advance. Unless otherwise duly justified by national, sub-national or local forest management guidelines, the following appropriate mitigation actions shall be implemented, including no harvesting of stumps and roots; no harvesting on vulnerable soils; harvesting is carried out through logging systems minimising impacts on soil quality, including avoiding soil compaction; harvesting is carried out in a way that minimises impacts on biodiversity features and habitats, including plants and animals protected under international or national legislation; a locally appropriate quantity and assortments of deadwood is left in the forest; clear-cuts are minimised; and harvesting avoids extraction of needles and leaves, where appropriate. Those mitigation actions shall be proven by providing, inter-alia, international and national databases, official maps and satellite imaging, forest management plans, operational protocols, and harvesting protocols, results of relevant compliance audits and inspections.
- v. the harvest maintains or improves the forest's long-term production capacity. This includes ensuring that annual felled timber amounts do not exceed net annual increment in the relevant sourcing area on average within the five-year period prior to the harvesting intervention, unless different amounts are duly justified in order to enhance the future production capacity of the forest; or because of documented forest pests, storms or other natural disturbance. That shall be proven by using, inter-alia, public or private forest inventory data.

Please also see Annex C which provides steps to be taken by Biomass Producers undertaking the Level B risk assessment for Article 29(6).

6.4 Assessment of compliance with REDII Article 29

(7)

Article 29.7 requires economic operators to ensure that biomass fuels produced from forest biomass meet a number of **land-use, land-use change and forestry (LULUCF) criteria**, as reported in the following box.

Box 2: Legal text of REDII Article 29.7 relating to the LULUCF criteria

Biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall meet the following land-use, land-use change and forestry (LULUCF) criteria:

- (a) The country or regional economic integration organisation of origin of the forest biomass is a Party to the Paris Agreement and;
- (i) Has submitted a nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC), covering emissions and removals from agriculture, forestry and land use which ensures that changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC; or
 - (ii) Has national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and providing evidence that reported LULUCF-sector emissions do not exceed removals;
- (b) Where evidence referred to in point (a) of this paragraph is not available, the biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 if management systems are in place at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained, or strengthened over the long term.

6.4.1 National/sub-national level risk assessment (Level A) shall not be developed by Biomass Producers.

NOTE: In order to ensure high level of credibility and unified risk-based approach, Biomass Producers are not permitted to develop Level A risk assessments themselves. Risk-based assessment for Level A shall only be implemented through applying the SBP Regional Risk Assessment Procedure (<https://sbp-cert.org/documents/process-documents/regional-risk-assessment-procedure/>). This procedure includes appointment of independent Working Body (WB) to develop the Regional Risk Assessment. It also requires additional independent quality and technical reviews of a risk assessment prepared by the WB as well as public stakeholder consultations. Detailed requirements for Level A risk assessments are provided in Annexes E and F.

6.4.2 If any sustainability criteria is designated as specified risk at the national/sub-national level (Level A risk assessment does not indicate low risk for all indicators) or there is no official national/sub-national (Level A) risk assessment available yet, the Biomass Producer shall implement the risk assessment and, if necessary, risk mitigation on a forest sourcing area level (Level B).

6.4.3 So, where evidence of compliance with the **LULUCF criteria** at national level is not available (i.e., it is not possible to justify low risk), the Biomass Producer shall demonstrate that those criteria have been complied with by confirming the existence and implementation of management systems at the level of the forest sourcing area, to ensure that carbon stocks

and sinks levels in the forest are maintained or strengthened over the long-term. In SBP context, that means the Biomass Producers shall implement risk mitigation. To that end, Biomass Producer shall provide accurate, up-to-date, and verifiable evidence in accordance with the following requirements:

- a) identify the spatial boundaries of the sourcing area for which compliance needs to be demonstrated, for instance by means of geographical coordinates, plots or parcels, including stands and tracts of land; and identify the relevant forest carbon pools, including aboveground biomass, belowground biomass, litter, deadwood and soil organic carbon.
- b) calculate the average forest carbon stocks and sinks over a historical reference period with the purpose of establishing a benchmark for the comparison of maintenance or strengthening of forest carbon stocks and sinks of a sourcing area. Economic operators shall use the reference period of 2000-2009, or another period of similar length and as close as possible to 2000-2009 to facilitate the use of forest inventory data or to mitigate the impacts of natural disturbances or other extreme events. The economic operators shall duly justify the choice of their reference period. The economic operator shall estimate reference values for all relevant carbon pools individually identified pursuant to point (a).
- c) describe the scenario of the expected forest management practices in a sourcing area for a projected long-term period, covering at least 30 years after the harvesting event from which biomass is sourced. That scenario shall be constructed on the basis of the forest management practices in a sourcing area documented for the historical reference period, or on existing forest management plans or other verifiable evidence;
- d) estimate the average carbon stocks and sinks of the sourcing area over the projected long-term period, covering at least 30 years, or more years depending on the forest growth rate, after the harvesting of the forest biomass. In order to ensure comparability with the historical reference period, those estimates shall use the same carbon pools, data and methods referred to in points (a) and (b). Where economic operators are not able to quantify one or more of the pools identified pursuant to point (a), they shall provide due justification;
- e) compare the average carbon stock and sinks in the relevant forest sourcing area of the projected long-term period with the forest carbon stocks and sinks of the historical reference period. If the average forest carbon stocks and sinks of the projected long-term period are equal to or higher than the average forest carbon stocks and sinks of the historical reference period, the forest biomass is in compliance with the LULUCF criteria at the forest sourcing area level. Economic operators shall put in place adequate monitoring and verification systems of the actual development of carbon stock and sinks in demonstrated compliance with the requirements set out in this article.

Please also see Annex D which provides steps to be taken by Biomass Producers undertaking the Level B risk assessment for Article 29(7).

7 SBP requirements for Biomass Producers: conformance with REDII Article 29 (1) - Exemption for wastes and residues

Background

Article 29 (1) states: “However, biofuels, bioliquids and biomass fuels produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues, are required to fulfil only the greenhouse gas emissions saving criteria laid down in paragraph 10 in order to be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph. This subparagraph shall also apply to waste and residues that are first processed into a product before being further processed into biofuels, bioliquids and biomass fuels.”

Thus, waste and processing residues other than those directly derived from agriculture, aquaculture, fisheries and forestry do not need to comply with the sustainability requirements for sustainable cultivation of biomass.

In SBP context, processing residues from forest and agriculture related industries as well as waste feedstock would be relevant and could be exempt from REDII sustainability criteria. However, it is important for Certificate Holders to demonstrate and certification body auditors to verify that the feedstock does meet the criteria to be classified as processing residues or waste.

SBP considers processing residues from forest and agriculture related industries (e.g., sawdust from sawmills) as well as woody feedstock waste (e.g. used packaging) to be generally low risk due to sufficient level of transparency in supply chains and possibility to classify the feedstock as a processing residues or waste through the documentation review and visual inspection upon receipt at the level of feedstock collection (biomass producer).

In SBP scheme following definitions apply (see also Table 1 in section 3.2):

- **processing residues** may correspond to either **secondary feedstock** or **pre-consumer tertiary feedstock**.
- **waste** correspond to **post-consumer tertiary feedstock**.

Sections 7.1 - 7.3 include requirements for Biomass Producers. Additional requirements for certification body audits of Biomass Producers using processing residue and waste feedstock are included in section 10.

7.1 Verification and monitoring of suppliers

7.1.1 The BP shall conduct a verification process for its suppliers of secondary and tertiary feedstock to determine whether this feedstock is eligible for the exemption per the REDII Article 29 (1).

7.1.2 Verification shall include the following elements:

- a) For each supplier, the BP shall define the necessary evidence, actions and record keeping procedures to show that feedstock received complies with the SBP definitions of secondary and tertiary. These records shall specify:

- i. Name and address of the supplier
- ii. Type of Supplier (e.g. purchaser/ collector from point of reclamation, trader)
- iii. Categories of feedstock supplied
- iv. Level of control required (e.g. visual inspection upon receipt, supplier audits – see 7.2 and 7.3).
- v. Self-declaration that the feedstock qualifies as processing residue or waste according to the REDII

b) The BP shall monitor the compliance of its suppliers with SBP definitions and purchase specifications and shall have a contingency plan to cater for non-compliant feedstock or documentation. For example, the BP might classify feedstock as non-eligible input for SBP products, request correction of purchase documents, or invalidate suppliers temporarily or permanently.

7.2 Feedstock inspection and classification upon receipt

7.2.1 Upon receipt, all secondary and tertiary feedstock shall be subject to visual inspection and shall be classified into secondary and tertiary feedstock.

7.2.2 For all secondary and tertiary feedstock received, the legal owner shall retain documentary evidence that the feedstock comply with SBP definitions. Different types of evidence shall be retained for inspection by the Certification Body, including feedstock samples, pictures, quality analysis reports, invoices, delivery notes and/or shipping documents, depending on the feedstock concerned.

7.2.3 In cases where adequate evidence for the classification of feedstock as secondary and tertiary feedstock is not available at the point of receipt, the BP shall include the supplier in the supplier audit as described in section 7.3 (below).

7.2.4 In cases where feedstock received does not comply with purchase specifications and/or the quantities stated on the invoices are incorrect, the legal owner shall take immediate corrective actions, as required in clause 7.1.2 b (above). These actions shall be recorded and communicated to the CB during the annual audit.

7.3 Supplier audit for secondary and tertiary feedstock

7.3.1 The legal owner shall perform annual or more frequent on-site audit of the suppliers as part of the supplier audit for secondary and tertiary feedstock (including overseas suppliers) based on a justified sampling approach.

7.3.2 Traders or sales offices that do not take physical possession of secondary or tertiary feedstock, and which do not alter, store or re-package the feedstock may be verified remotely through desk audits.

7.3.3 The legal owner may contract another external, suitably qualified party to operate the supplier audit.

7.3.4 In cases where the supplier selected for sampling sells secondary or tertiary feedstock that were previously collected, classified and traded by other companies or sites, the complete supply chain of these feedstock shall be audited back to the point where the classification as secondary or tertiary can be demonstrated through objective evidence.

7.3.5 For all feedstock supplied to it by the supplier under audit, the BP shall evaluate and verify documents and other evidence regarding the quantity, quality and compliance with SBP definitions of secondary and tertiary feedstock, including:

- a) Supplier's instructions or procedures put in place to control and classify the secondary and tertiary feedstock
- b) When applicable, training or instructions provided to the supplier's personnel in relation to classification and control of secondary and tertiary feedstock
- c) Registers establishing feedstock origin (e.g. photographs, addresses of demolished buildings, invoices).

7.3.6 A declaration from the supplier, even if part of the contractual agreement, is not considered sufficient proof of origin and feedstock category. However, it can be used as additional evidence to demonstrate compliance of the feedstock with SBP definitions.

7.3.7 The BP shall document supplier audits, including a record of audit date, findings, names and qualifications of auditors and examples of any evidence concerning classification of feedstock.

8 SBP requirements for Biomass Producers and traders: use of a mass balance system for making claims on REDII-compliant biomass

8.1 General requirements

- 8.1.1 The organisation shall establish and document its commitment to implement and maintain the mass balance requirements. The commitment of the organisation shall be made available to its personnel, suppliers, clients and other stakeholders.
- 8.1.2 The organisation shall have written procedures and/or work instructions or equivalent to ensure the implementation of all elements of the mass balance requirements. This shall include at minimum the following:
- Complete and up to date procedures covering the implementation of all the elements of the supply chain model requirements.
 - Complete and up to date records and reports that demonstrate compliance with the supply chain model requirements (including training records).
 - Identification of the role of the person(s) having overall responsibility for and authority over the implementation of these requirements and compliance with all applicable requirements. This person(s) shall be able to demonstrate awareness of the economic operator's procedures for the implementation of this document.
- 8.1.3 The organisation shall maintain accurate, complete, up-to-date and accessible records and reports covering all aspects of the mass balance requirements. Retention times for all records and reports shall be a minimum of five (5) years. This includes e.g. but is not limited to purchase and sales documents, production records and volume summaries, records of internal procedures and changes thereof, records on training of personnel, records of internal audits. The system for recording data and documents (e.g. software) shall be adequate to the complexity of the organisation.
- 8.1.4 The organisation shall enter all requested information in the Union database as soon as the database starts operation (refer to Section 7.5).
- 8.1.5 The organisation shall have a training plan covering mass balance requirements, which is subject to on-going or at least annual review. Appropriate training shall be provided by the organisation for personnel carrying out the tasks critical to the effective implementation of the mass balance requirements. Training shall be specific and relevant to the task(s) performed. Records of participants and content shall be maintained.
- 8.1.6 The organisation shall conduct an annual internal audit to determine whether the organisation:
- Conforms to the mass balance requirements.
 - Effectively implements and maintains the standard requirements within its organisation. Any non-conformities found as part of the internal audit shall direct corrective actions to be taken. The outcomes of the internal audits and all actions

taken to correct nonconformities shall be subject to management review at least annually. The organisation shall maintain the internal audit records and reports.

- Corrective actions taken as a result of any nonconformities identified in the internal audit shall be documented, including dates and descriptions of actions taken to resolve them.

8.1.7 The procedure for the annual internal audit process shall be documented.

8.2 Input claims and purchasing

8.2.1 The organisation shall ensure the quantity of physical inputs are monitored and documented.

8.2.2 The organisation shall ensure only eligible inputs are used in SBP REDII-compliant biomass.

8.2.3 Primary feedstock used in production of SBP REDII-compliant biomass shall be verified following Section 6 of this instruction document.

8.2.4 Secondary and tertiary feedstock used in production of SBP REDII-compliant biomass shall be verified following Section 7 of this document.

8.2.5 The organisation shall be responsible for verifying conformance of feedstock with all relevant SBP requirements.

8.2.6 The organisation receiving biomass with SBP REDII-compliant claim (e.g., trader) shall ensure the certified claim is verified as certified and purchased directly from the certified supplier by checking the relevant SBP certification scheme database. The receiving economic operator shall verify the current certification status of the supplier at the time of the purchase.

8.2.7 When receiving biomass with an SBP REDII-compliant claim the organisation shall ensure any documentation exchanged between itself and the seller includes a unique identification number which enables delivery to be linked to the SBP DTS.

8.2.8 The receiving organisation shall verify that the supplier contract, invoice and/or supporting documentation (e.g., DTS, SAR, SREG), including associated sustainability characteristics of consignments of certified products meet the following requirements:

- Evidence showing compliance with the SBP and REDII requirements, meaning that the supplier holds a valid SBP certificate.
- SBP certificate number.
- Specification of original raw material. In case of fuel: specification of fuel type.
- Country of origin of the biomass.
- Country of biomass fuel production (for biomass fuels only).
- Statement on whether the raw material, intermediary product or fuel complies with the sustainability requirements in Article 29(2) to (7) of REDII.
- Accurate data on all relevant elements of the GHG emission calculation formula (i.e. e_{ec} , e_l , e_p and e_{td}).
- Information on support which has been received for the production of the fuel or fuel precursor and if so, the type of support (only relevant if support has been received).

8.2.9 The above data shall be transmitted through the whole supply chain. In addition, the receiving organisation shall verify the following transaction data:

- Supplier company name and address.;
- Date of (physical) loading;

- Place of (physical) loading;
 - The mass (kg or tonnes)
- 8.2.10 All the data shall be entered into the receiving organisation's administrative system within one month of taking ownership.
- 8.2.11 In case of discrepancies between the documentation and the material received, the receiving organisation shall contact its supplier and require for data correction. Corrected data shall be received and entered into the receiving organisation's administrative system before sustainability data is passed on to the next economic operator.
- 8.2.12 Multiple receipts with common supplier and with identical sustainability characteristics may administratively be combined as one batch for reporting purposes.

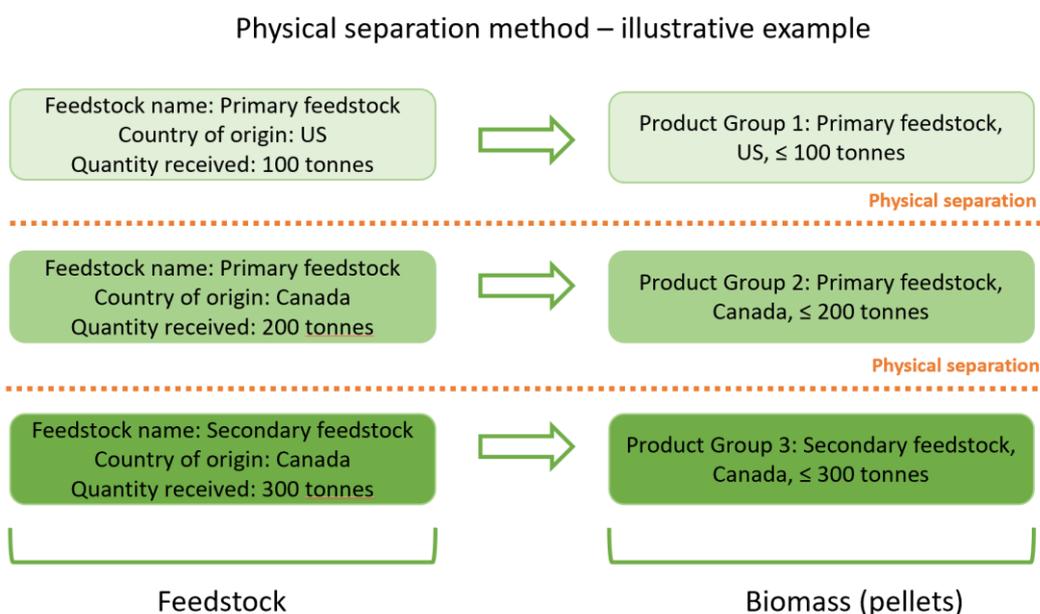
8.3 Mass balance system

NOTE: Under REDII scheme an operator shall use a mass balance method (i.e., "percentage" and "credit" methods as well as the concept of "controlled wood" do not apply under REDII). Depending on their individual process related to scope and complexity, they can opt for "stricter" method such as the physical separation method.

The mass balance system is a central element of the sustainability scheme. It establishes a connection between information or claims related to raw materials or intermediate and end products. It is an essential component of the scheme which ensures that information about the sustainability of raw materials, intermediate and end products is credible in relation to its origin and type and can be verified along the entire production and supply chain.

- 8.3.1 The organisation shall have a consistent methodology for calculating conversion factors and shall keep it up to date. The conversion factor shall be based on the actual output of a specific product.
- 8.3.2 For organisations opting to use a physical separation material accounting methodology, feedstock with varying sustainability and/or energy data shall be kept physically separate and identifiable. The Figure 3 below is provided as an illustrative example.

Figure 3. Physical separation method – illustrative example.



- 8.3.3 If biomass fuels are to be used to produce electricity or heat in the SBP REDII system, economic operators must use a mass balance system which
- allows consignments of raw material or fuels with differing sustainability and greenhouse gas emissions saving characteristics to be mixed for instance in a container, processing or logistical facility, transmission and distribution infrastructure or site,
 - allows consignments of raw materials with different energy contents to be mixed for the purposes of further processing, provided that the size of the consignments is adjusted according to their energy content,
 - requires information about the sustainability and greenhouse gas emission saving characteristics and sizes of the consignments remain assigned to the mixture, and
 - provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture and requires that this balance be achieved over an appropriate period of time.

For organisations opting to use a Mass Balance material account methodology, the organisation shall set up and maintain a Mass Balance account to which additions and deductions of eligible input for a single site shall be recorded. The mass balance system operates at a level where consignments could normally be in contact, such as a container, processing or logistical facility or site.

- 8.3.4 The organisation shall ensure for each site that the quantity of biomass sold with claims does not exceed the quantity of biomass received that qualifies for said claims, within the defined inventory balancing/claim period.
- 8.3.5 In a view to reduce the administrative burden the mass balance system may also be applied to different types of raw materials and fuels provided they have similar physical or chemical characteristics, heating values and/or conversion factors.
- 8.3.6 The organisation shall divide output products (e.g., pellets) into Product Groups for the purpose of mass balancing and controlling claims. Product groups shall be formed by output products that meet following conditions:
- a. Belong to the same feedstock category (i.e., primary, secondary and tertiary)
 - b. Feedstock is sourced from the same origin country
 - c. Have the same conversion factor
 - d. Have the same GHG emission characteristics

NOTE: Feedstock data is collected in a SAR report (Section 2 Feedstock Data). In SBP system GHG data (not GHG intensity values) is transferred through the supply chain and GHG emission calculations are carried out in the end by biomass End-Users.

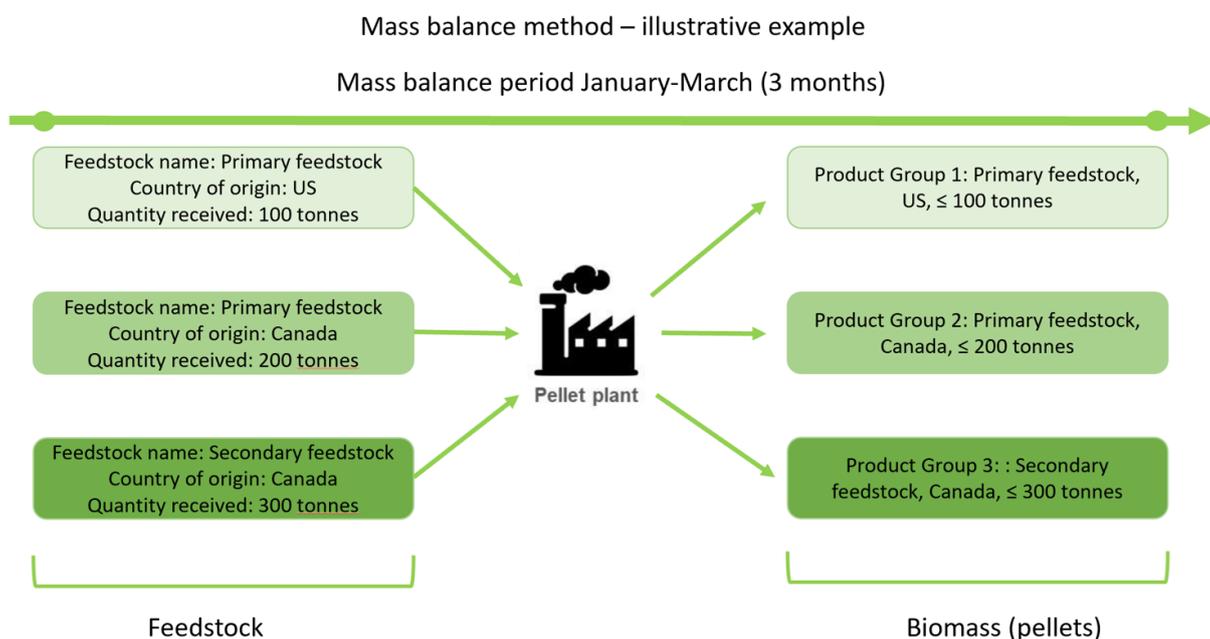
- 8.3.7 The organisation shall set up and maintain a Mass Balance account separately for each Product Group.
- 8.3.8 The organisation shall define a fixed balancing period. For Biomass Producers using primary feedstock the fixed balancing period shall not exceed 12 months. For Biomass Producers using secondary and tertiary feedstock the fixed balancing period shall not exceed 3 months. For Biomass Traders the fixed balancing period shall not exceed 3 months. By the end of the balancing period, the account shall always be positive. If negative credits occur at the end of a mass balance period, the certified company must (proactively) inform the certification body immediately (and without being requested).
- 8.3.9 A positive balance may be carried over in the account (into the next fixed balancing period) up to the total corresponding amount of physical material that is in stock at the end of the previous balancing period. The Figure 4 below is provided as an illustrative example.

Figure 4. Mass balance method – illustrative example.

Mass balance – typical example

Below is a typical example of the mass balance of a pellet mill. The feedstock for the mill is both primary (low grade logs) and secondary (sawmill residues), originating from the US and Canada. All biomass received complies with RED2 requirements. In this example it is assumed that the conversion ratio of biomass to pellets is 1:1 (wet weight basis). The figure below shows the 3 months mass balance of the pellet processing. Following the figure is an example of biomass deliveries and pellet sales over this three months period

Mass balance of pellet production process



Balance of deliveries and sales

| Feedstock deliveries | | | | |
|----------------------|-----------|--------|------------|-----|
| Date | Type | Origin | Mass (t) | |
| 01/01/2022 | Primary | US | 30 | |
| 01/02/2022 | Primary | US | 30 | 100 |
| 01/03/2022 | Primary | US | 40 | |
| 01/01/2022 | Primary | Canada | 100 | |
| 01/02/2022 | Primary | Canada | 50 | 200 |
| 01/03/2022 | Primary | Canada | 50 | |
| 01/01/2022 | Secondary | Canada | 150 | |
| 01/02/2022 | Secondary | Canada | 100 | 300 |
| 01/03/2022 | Secondary | Canada | 50 | |
| Total | | | 600 | |

| Pellet sales | | | | |
|--------------|-----------|--------|----|------------|
| Date | Type | Origin | PG | Mass (t) |
| 15/01/2022 | Secondary | Canada | 3 | 100 |
| 15/02/2022 | Secondary | Canada | 3 | 150 |
| 15/03/2022 | Primary | US | 1 | 40 |
| 15/01/2022 | Primary | US | 1 | 30 |
| 15/02/2022 | Primary | US | 1 | 30 |
| 15/03/2022 | Secondary | Canada | 3 | 50 |
| 15/01/2022 | Primary | Canada | 2 | 50 |
| 15/02/2022 | Primary | Canada | 2 | 50 |
| 15/03/2022 | Primary | Canada | 2 | 50 |
| Total | | | | 550 |

| Balance | | | |
|-----------------------|--------|----|-----------|
| Type | Origin | PG | Mass (t) |
| Primary | US | 1 | 0 |
| Primary | Canada | 2 | 50 |
| Secondary | Canada | 3 | 0 |
| Physical stock | | | |
| Mass (t) | | | 50 |

At the end of 3-month period there is 50 tonnes of pellets made of primary feedstock and Canada origin (Product Group 2). Other mass balances are 0. 50 tonnes corresponds to physical stock and thus maybe transferred to the next 3-month mass balance period (April-June 2022)

NOTE: GHG data is communicated through the DTS platform using Production Batch ID (PbID) and SAR report. PbID includes identifier of specific Biomass Producer, Product Group and Scope End-Point (e.g., factory gate). PbID is complemented with additional transportation data using SREG. All data is recorded in SBP DTS system. GHG emissions calculations are carried out by biomass End-Users based on data collected for each consignment and transferred through the system.

- 8.3.10 The organisation shall make available to auditors all mass balance data in advance of the planned Certification Body audit.
- 8.3.11 If a consignment of raw material or fuel has already been taken into account in the calculation of the share of renewable energy in any Member State, no further sustainability claims shall be issued for the consignment.
- 8.3.12 The transfer of sustainability characteristics shall always be accompanied by a physical transfer of material.
- 8.3.13 The organisation shall track their inputs and outputs at each physical site they operate. For example, if a company has more than one production plant, they shall operate a massbalance system for each production site. This applies throughout the supply chain, including sites used for storage as well as processing.
- 8.3.14 If more than one legal entity is operating at a single site (for example at a port), each legal entity shall operate its own mass balance system at the site covering the material that they own.
- 8.3.15 Where a consignment is processed, information on the sustainability and greenhouse gas emissions saving characteristics of the consignment shall be adjusted and assigned to the output in accordance with the following rules:
- a. when the processing of a consignment of raw material yields only one output that is intended for the production of biomass fuels, the size of the consignment and the related quantities of sustainability and greenhouse gas emissions saving characteristics shall be adjusted applying a conversion factor representing the ratio between the mass of the output that is intended for such production and the mass of the raw material entering the process (e.g., 1.3 t sawdust is needed to make 1 t pellets, so 100 t of sawdust will yield 77 t of pellets);
 - b. when the processing of a consignment of raw material yields more than one output that is intended for the production of biomass fuels, for each output a separate conversion factor shall be applied and a separate mass balance shall be used (e.g., if low quality stemwood is used to produce wood chips and pellets, separate conversion factor shall be applied).
- 8.3.16 In cases where a SBP certified organisation outsources activities to independent third parties (e.g. subcontractors for storage, transport or other outsourced activities), the certified organisation shall ensure that the independent third party complies with the mass balance requirements. It is not required to list the contractors performing outsourced activities on the certificate of the certified organisation. This requirement is not applicable to outsourced storage facilities where the management of the SBP certified product(s) and instructions for tank movements are controlled by the certified organisation.
- 8.3.17 A SBP certified organisation which includes outsourcing within the scope of its certificate shall ensure the following:
- The certified organisation has legal ownership of all input material to be included in outsourced processes;
 - The certified organisation has an agreement or contract covering the outsourced process with each contractor through a signed and enforceable agreement with the contractor. The certified organisation shall ensure that its certification body has access to the outsourcing contractor or operation if an audit is deemed necessary, including all necessary documentation. If this is not possible, the outsourced contractor shall obtain a SBP certificate independently.

- The organisation has a documented control system with explicit procedures for the outsourced process which is communicated to the relevant contractor.
- The organisation shall record the names and contact details of all contractors used for the processing or physical handling of SBP certified products. An up to date record shall be made available to the organisation's certification body at its next audit.

8.4 Dynamic Batch Sustainability Data (DBSD)

- 8.4.1 Additional requirements apply to those Biomass Producers who want to make SBP REDII-compliant claims on SBP-compliant biomass using mass balance system. These additional requirements include transferring additional data about characteristics of the feedstock through the DTS by using Dynamic Batch Sustainability Data (DBSD).
- 8.4.2 The organisation shall apply following sustainability characteristics:
- a) Feedstock type¹
 - b) Country of origin of the feedstock²
 - c) Feedstock verified through supply base evaluation (following section 6 of this instruction document)
 - d) Feedstock is exempt from sustainability criteria (following section 7 of this instruction document)
- 8.4.3 The Biomass Producer shall collect and communicate GHG data using the SAR report.
NOTE: In SBP scheme, the collection and communication of GHG data is implemented by following the Instruction Document 5E: Collection and Communication of Energy and Carbon data. It defines the requirements and options for collecting energy and carbon data that accompany SBP-certified biomass through the supply chain.
- 8.4.4 Sustainability information shall be allocated from a mixture on a proportional or non-proportional basis.
NOTE: If information is allocated on a proportional basis, material removed from a mixture containing different consignments is assigned sustainability characteristics in the same proportions as the original mixture. If information is allocated on a non-proportional basis, material removed from a mixture can be assigned sustainability characteristics from any of the consignments in the original mixture in any proportion as long as the overall quantities and mass balance rules are respected. Under the REDII, it is permitted to allocate sustainability information on a proportional or nonproportional basis. However, organisations may find there are examples where a particular approach works better for their circumstances. For example, if a customer requests a particular feedstock blend for technical purposes, it can be logical to accompany that physical flow with matching sustainability information. For example, if a customer requests pellets made from wood

¹ Refers to Instruction Document 5E: Collection and Communication of Energy and Carbon Data, section 6

² The origin of the material is the forest/farm/plantation where biomass is produced/harvested, or the site/processing facility that generated the waste or residue. The origin of the material is where the chain of custody needs to start. For example, in the case of forestry residues, the origin and therefore the first point in the chain of custody is the forest. In the case of sawmill residues, the origin and first point in the chain is the sawmill. If wastes or residues are collected across multiple sites, the first point in the chain can be the first collection point (also called first gathering point). Country of origin is the country in which the biomass 'origin' is located. This is the country in which the original material, residue or waste is harvested or produced (e.g. the forest, sawmill or municipal parks). Note the country of origin must refer to where the material originated and not the country where e.g. the pellet plant is located.

industry residues and waste wood (secondary and tertiary feedstock), sustainability data should be passed on that matches that feedstock mix, even if other sustainability data is available in the mass balance system.

8.5 Data Transfer System (DTS)

- 8.5.1 When registering a REDII-compliant biomass transaction in the SBP DTS an organisation must add following additional sustainability characteristics data:
- Market Specific Status: REDII-compliant
 - Country of origin of the feedstock
 - Feedstock is sourced using REDII Supply Base Evaluation: Yes/No/N/A
 - Feedstock belongs to secondary or tertiary category: Yes/No/N/A
- 8.5.2 Where relevant, the mass balance system and the biomass transaction must further include information on whether support has been provided for the production of that consignment, and if so, on the type of support scheme.

9 SBP requirements for Certification Body: additional accreditation requirements for audits with REDII in the scope

NOTE: SBP-accredited Certification Bodies need to follow requirements of SBP Standard 3. If a Certification Body audits Certificate Holders with REDII compliant claim in the scope they shall follow additional requirements below.

9.1 Management system

9.1.1 The Certification Body shall have a **documentation management system** that addresses each of the following elements:

- i) General management system documentation (e.g. manual, policies, definition of responsibilities);
- ii) control of documents; control of records;
- iii) management review of management system;
- iv) internal audit;
- v) procedures for identification and management of non-conformities; and
- vi) procedures for taking preventive actions to eliminate the causes of potential non-conformities.

9.1.2 Records shall be retained for a minimum of five (5) years and comply with legal and regulatory requirements.

9.2 Working with applicants

9.2.1 The certification Body shall do the following checks when **registering new applicants** in Audit Portal:

- a) Requiring applicants to disclose on registration whether they are a current or previous participant of another REDII recognised Voluntary Scheme, and also whether they had a different legal form or name in the past 12 months.
- b) Cross-check against other Voluntary Scheme certificate lists.
- c) Customer Due Diligence/ Know Your Customer, in particular on companies with a limited trading history.
- d) Furthermore, if an applicant seeks re-certification, but was previously found to be in non-conformity with the requirement to inform SBP about participation in other Voluntary Schemes or any other aspect of the mandatory sustainability criteria, then the auditor shall be required to bring this to the attention of the SBP.

9.2.2 For new applicants, the Certification Body shall conduct an initial evaluation before issuing a certificate to the organisation.

9.3 Requirements to audits

- 9.3.1 The certificate validity shall be five (5) years.
- 9.3.2 Initial evaluations shall always be conducted onsite.
- 9.3.3 The Certification Body shall ensure that a re-evaluation is conducted prior to the expiration date of the certification for any organisation seeking to maintain their certification status beyond the expiration date.
- 9.3.4 The Certification Body shall hold a formal ISO 17065 accreditation relevant for the specific scope of the SBP scheme (e.g., as part of PEFC accreditation).
- 9.3.5 The Certification Body shall be accredited by Assurance Services International
- 9.3.6 The Certification Body shall implement audits according to requirements set out in ISO 19011.
- 9.3.7 Audits under the REDII need to establish at least a “limited assurance level”.
NOTE: A “limited assurance level” implies a reduction in risk to an acceptable level as the basis for a negative form of expression by the auditor such as “based on our assessment nothing has come to our attention to cause us to believe that there are errors in the evidence”.
- 9.3.8 A technical expert shall not act as an auditor in the audit team. The technical experts shall be accompanied by an SBP-qualified auditor.
- 9.3.9 The Certification Body shall have a process for selecting and appointing the audit team set out in ISO 19011, taking into account the competence needed to achieve the objectives of the audit.
- 9.3.10 The Certification Body shall assign at least one Technical Reviewer to review all information and results related to the evaluation and make a certification decision. The Certification Body shall ensure that the review is carried out and certification decision is taken by a Technical Reviewer that was not part of the audit team.
- 9.3.11 The Certification Body shall use SBP Audit Portal for preparing initial audit, surveillance audit and re-certification audit reports.

9.4 Competence management

- 9.4.1 The Certification Body shall ensure that auditors have successfully passed the initial auditor training courses approved by SBP.
- 9.4.2 The Certification Body shall ensure that active auditors have successfully passed any auditor training courses that are required to maintain competence (example: after standard revision) approved by SBP.
- 9.4.3 The Certification Body shall ensure that active auditors maintain their competence regarding SBP interpretations, CB procedures and best audit practice through regular training events.
- 9.4.4 The Certification Body shall ensure that auditors are free of Conflict of Interest and conduct audit activities impartially.
- 9.4.5 The auditor shall have the appropriate specific skills necessary for conducting the audit related to the scheme's criteria.
 - a) Land use criteria (Supply Base Evaluation): Experience in ecology, natural science, forestry, silviculture or similar.
 - b) GHG criteria (GHG emission calculation at the End-User level): A minimum of two years’ experience in biofuels life-cycle assessment, and specific experience in auditing

GHG emission calculations following the RED/REDII calculation methodology. Relevant experience in depending on the type of audits to be conducted by the individual auditor.

- 9.4.6 Chain of Custody criteria (all certificate holders): Experience in mass balance systems, supply chain logistics, book-keeping, traceability, data handling or similar.

9.5 Auditing mass balance

9.5.1 When auditing a mass balance, the Certification Body shall ensure the following:

- a) For an initial certification audit before participation in a scheme, the auditor shall check the existence and set-up of the mass balance system.
- b) For annual audits thereafter, the auditor shall check at least the following:
 - i. List of all sites that are under the scope of certification. Each site shall have its own mass balance records.
 - ii. List of all inputs per site, including description of materials and details of all suppliers.
 - iii. List of all outputs per site, including description of materials and details of all customers.
 - iv. Conversion factors applied (especially in the case of processing residues to ensure that the process is not being modified to produce more waste or residue material).
 - v. Mass balance timeframe should be transparent, documented, and consistent, and an appropriate period of time.
 - vi. A sample of the calculations (inputs, outputs, conversion factors, and any balances carried forward). All data should be checked against the book keeping system.
 - vii. Inputs and outputs should be accompanied, where relevant, by a set of sustainability characteristics. Auditors should check that sustainability characteristics have been allocated appropriately. At the end of the mass balance period, the sustainability data carried forward should be equivalent to the physical stock.

9.6 Auditing secondary and tertiary feedstock

9.6.1 It is the responsibility of the certification body auditor to determine whether a material is a waste or residue at the point in the supply chain that the material originates. Following aspects shall be considered:

- a) The whole chain of custody needs to be covered starting from its origin (i.e. the economic operator where the waste or residue material arises).
- b) The frequency and intensity of the auditing frequency needs to reflect the level of risk.

9.6.2 When auditing processing residues or waste feedstock, the auditor shall implement the audit activity that cover the following:

- a) Biomass Producers keeps documentation for the origin of the feedstock

- i) Name and address of the supplier
 - ii) Type of supplier (e.g., sawmill, furniture factory, trader)
 - iii) Classification of the feedstock as secondary or tertiary
 - iv) Description of the feedstock (e.g., wood chips, sawdust, shavings, offcuts)
 - v) Self-declaration that the feedstock qualifies as processing residue or waste according to the REDII
 - b) The systems used by Biomass Producers are accurate, reliable, and protected against fraud, including verification ensuring that process was not deliberately modified to produce additional residue or waste material.
- 9.6.3 When auditing Biomass Producer that uses processing residues or waste feedstock, the auditor shall conduct audits of the feedstock suppliers to confirm that Biomass Producer system for feedstock verification described in point 9.6.2 above is effective.
- 9.6.4 Auditor shall apply sampling of a square root from the total number of processing residues and waste feedstock suppliers. As a minimum, a sample of the square root of the number of processing residues and waste feedstock suppliers (or 10% whichever is higher) shall be audited individually annually and increased depending on the level of risk. The sample must be representative of the whole group and determined using a combination of risk and random selection (random selection must be used to select a minimum of 25% of the sample). The suppliers selected for audit should vary from year to year. The verification can be undertaken remotely, unless there is doubt concerning the existence of the point of origin and/or feedstock definition.
- 9.6.5 As additional guidance, in the context of a sawmill or secondary processor, auditors should check that processing facilities are producing an expected ratio of any main product (e.g., timber) to processing residues (e.g., wood chips, sawdust and cutter shavings), thereby checking that the process was not deliberately modified to produce additional residue material. The auditor should have access to historical data to be able to determine that the ratio of process streams has not materially changed over time. The deliberate or intentional production of waste or residues violates the requirements of REDII and shall be considered a major non-conformity. It is the responsibility of the auditor to determine whether a material is a waste or residue at the point in the supply chain that the material originates.
- 9.6.6 Collecting points (e.g. Biomass producers) are required to submit a list of all points of origin that have signed a self-declaration, and their indicative volume of waste or residue (secondary or tertiary feedstock) that they can supply, to the auditor prior to the audit of the collecting point. The auditor shall verify the existence of and volume supplied from at least the square root of the points of origin on the list. The verification can be undertaken remotely, unless there is doubt concerning the existence of the point of origin.
- 9.6.7 Mandatory surveillance audit by the certification body is required six months after the first (initial) certification. For collecting points and traders that deal with both waste and residues and with virgin materials (using primary feedstock alongside with secondary and tertiary feedstock), the surveillance audit is conducted three months after the first certification audit (covering the first mass balance period).

9.7 Requirements to audit reports

- 9.7.1 A Certification Body shall use SBP Audit Portal and official report templates for documenting audit process and results.
- 9.7.2 A Certification Body shall use a full (confidential) audit report checklist to document assessment of conformance against this document. The audit checklist is provided by SBP.
- 9.7.3 In case of biomass End-Users the auditor shall document the date that the biomass installation was in operation (i.e., power plant started using biomass). The date shall be registered in an audit report and will also be published on SBP website.

9.8 Non-conformities

- 9.8.1 Non-conformities identified during an audit shall be classified as **critical**, **major** and **minor** in accordance with the second, third and fourth subparagraphs.
- 9.8.2 The intentional violation of an SBP standards such as fraud, irreversible non-conformity, or a violation that jeopardies the integrity of the SBP scheme shall be considered to be a **critical non-conformity**. Critical non-conformities shall include, but are not limited to, the following:
 - (a) non-compliance with a mandatory requirement of Directive (EU) 2018/2001, such as land conversion which contravenes Article 29(3), (4) and (5) of that Directive;
 - (b) fraudulent issuance of proof of sustainability, for example, intentional duplication of proof of sustainability to seek financial benefit;
 - (c) deliberate production of wastes or residues, for example, the deliberate modification of a production process to produce additional residue material, or the deliberate contamination of a material with the intention of classifying it as a waste;
- 9.8.3 Failure to comply with a mandatory requirement of Directive (EU) 2018/2001, where the non-conformity is potentially reversible, repeated and systematic problems, or aspects that alone, or in combination with further non-conformities, may result in a fundamental system failure, shall be considered to be a **major non-conformity**. Major non-conformities shall include, but are not limited to, the following:
 - (a) systematic problems with mass balance or GHG data reported for example, incorrect documentation is identified in more than 10% of the claims included in the representative sample;
 - (b) the omission of an economic operator to declare its participation in other voluntary schemes during the certification process;
 - (c) failure to provide relevant information to auditors for example, mass balance data and audit reports.
- 9.8.4 A non-conformity that has a limited impact, constitutes an isolated or temporary lapse, is not systematic and does not result in a fundamental failure if not corrected, shall be considered to be a **minor non-conformity**.
- 9.8.5 The **consequences of non-conformities** for economic operators shall be the following:

(a) In the case of critical non-conformities, economic operators applying for certification shall not be issued a certificate. Economic operators may re-apply for certification after the lapse of a fixed period of time, determined by the SBP. Critical non-conformities identified during surveillance or re-certification audits, or through a voluntary scheme's internal monitoring or complaints process, shall lead to the immediate withdrawal of the economic operator's certificate;

(b) in the case of major non-conformities, the economic operators shall not be issued a certificate. Major non-conformities identified during surveillance or re-certification audits, or through a voluntary scheme's internal monitoring or complaints process, shall lead to the immediate suspension of the economic operator's certificate. Where economic operators do not provide a remedy for any major non-conformities within 90 days from notification, the certificate shall be withdrawn;

(c) in the case of minor non-conformities, voluntary schemes may define the time period for their resolution, not exceeding 12 months from their notification and the date of next surveillance or re-certification audit. SBP decided it to be 12 months.

Annex A: Relevant definitions and concepts for REDII

Article 29(6)

This section explains the relevant definitions related to the harvesting criteria set out in Article 29(6), in the order as they appear in the legal text.

(a1) National or sub-national laws applicable in the area of harvest

For level A compliance, the harvesting criteria need to be fulfilled at national level, for the country where the biomass was harvested. Laws, enforcement and monitoring systems can be a national, or a sub-national competence. In the latter case, we refer to such sub-national areas as regions. All regions need to comply with a criterion for a country to be considered to pass it at “level A”.

The regional level can be referred to differently depending on the country. In federal countries, like Austria (10 Länder), Belgium (3 regions), Canada (10 provinces), Germany (16 Bundesländer) and the United States of America (US, 50 states), or in decentralised countries like Spain (17 regions) and Italy (20 regions), important parts of the legislative power in the area of forestry have been transferred from the country level to the sub-national level. Note that different laws may apply for different types of forest ownership. For example, private forests in the US are regulated at State level, while federally owned forests are regulated through federal (national) legislation.

(a2) Monitoring and enforcement systems

REDII requires **monitoring and enforcement systems** to be in place for all five harvesting criteria. **Monitoring systems** assess the correct implementation of the legislation through various possible forms of assessment (e.g. field checks, inventory, remote sensing), while **enforcement systems** seek to remedy infringements of the legislation. Enforcement systems can include sanctions and other mechanisms designed to punish (enforcement through deterrence), as well as remedial actions to bring a private or economic actor into compliance (enforcement through cooperation).³

Mandated competent authorities that monitor and enforce adherence to legislation in the area of harvesting and forest management are typically ministries responsible for forest, national forest agencies, forest directorates, nature protection agencies etc.

The monitoring and enforcement criteria could be considered satisfied when:

- a) The relevant legislation includes mandatory monitoring and enforcement provisions, including that a competent authority to monitor and enforce legislation is specified in relevant legislation as well as sanctions which are enforced in case of infraction (source of information would be relevant national laws/regulations); and

³ Mark A. Cohen, 1998. Monitoring and Enforcement of Environmental Policy. Owen Graduate School of Management, Vanderbilt University, Nashville TN.

- b) There is no substantiated alert or evidence from international or national governmental organisations of a *significant* and a *systematic* lack of enforcement, caused for instance by widespread corruption of forest enforcement authorities or continued unaddressed illegality. Possible sources of information would be reports from international government organisations, such as the UNEP-WCMC briefing notes for third countries, or the Commission infringement procedures for EU Member States, as well as national governmental sources.⁴

In the context of the legality criterion, the EU Member States have implemented the EU Timber Regulation (EUTR, Regulation EU 995/2010), for which they have mandated a variety of public agencies to perform checks on operators and monitoring organisations. This is done to ensure that they fulfil their obligations under the EUTR, and to sanction if obligations would not be fulfilled⁵. According to the EUTR, the placing on the market of illegally harvested timber or timber products derived from such timber is prohibited. Operators shall exercise due diligence⁶ when placing timber or timber products on the market and through adequate due diligence ensure negligible risk of illegally harvested timber or timber products entering the market. The EUTR requires Member States to lay down the rules on penalties applicable to infringements of the provisions of the regulation. The well-functioning of the EUTR itself is also being monitored and transparently reported through regular monitoring and review processes. Ultimately the EU can launch infringement procedures against a Member State that has demonstrated lacking implementation of the regulation.

More examples of monitoring and enforcement systems regarding the harvesting can be found in the country sheets included in **Error! Reference source not found.** of REDIIIBIO report..

(b1) Management system

The term '**management system**' means an information management system run by an economic operator to demonstrate that biomass sourcing is in compliance with the sustainability criteria at forest sourcing area level defined in Articles 29.6(b) and 29.7(b).

The management system has to document management practices with relevance to the sustainability criteria (as further described in this guidance) that have been and are planned to be applied by forest managers/owners in the sourcing area. The management system is thus not to be confused with a forest management system, as in most cases the economic operator will have no legal power or mandate to manage the forests where it sources the biomass from.

The management system ensures that information necessary to demonstrate compliance with all sustainability criteria through a risk-based approach is collected, verified, assessed, securely stored by the economic operator and appropriately passed down the supply chain using a mass balance chain of custody (see Chapter **Error! Reference source not found.**). The system needs to be accurate, reliable and protected against fraud, including verification ensuring that materials are not intentionally modified or discarded so that consignments or part thereof could become a waste or residue (REDII Article 30.3). Stepwise approaches such as proposed in this report (see section **Error! Reference s**

⁴ NGO based sources are included only indirectly (for example through the UNEP-WCMC briefing notes) as to ensure a quality check has taken place on the information in these sources and ensuring no conflicting findings and outcomes.

⁵ Nominated competent authorities for implementation of the Regulation EU 995/2010: https://ec.europa.eu/environment/forests/pdf/list_competent_authorities_eutr.pdf

⁶ See https://ec.europa.eu/environment/forests/pdf/28_02_2020_Guidance_on_Due_Diligence.pdf

source not found.), can be used to help define the information requirements, identify available information sources, and assess the available information.

(b2) Sourcing area

According to Article 2(30) of REDII, the term ‘**sourcing area**’ is defined as “*the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass*”. This definition implies:

- A “*geographically defined area*” means that the area of origin from which the forest biomass feedstock is harvested, is known and can be shown on a map, typically on the basis of administrative boundaries.
- “*From which reliable and independent information is available*” means that the Information required to assess compliance with the REDII criteria is available from competent organisations, public or private, which have the legal mandate to produce reliable information. For public forests this could concern the competent forest management authority. For private forests, this could concern e.g. forest extension organisations⁷, or those directly responsible for the forest management.
- “*Where conditions are sufficiently homogenous to evaluate the risk of the sustainability and legality characteristics of the forest biomass*”: this means that within the administrative area, the set of legislative conditions covering the elements of the sustainability criteria, shall be the same (e.g. regions as corresponding to the ISO standard 3166-2⁸). If an economic operator’s supply base spreads over two countries or regions where the elements addressed in REDII are governed through different sets of legislation, then that results in two separate sourcing areas for which the risk-based approach would have to be implemented separately.

The supply base comprises the sourcing area or assembly of all sourcing areas from which a biomass operator sources its forest biomass feedstock.

Figure 5 shows four examples of different scenarios for the division of an operator’s supply base into sourcing areas.

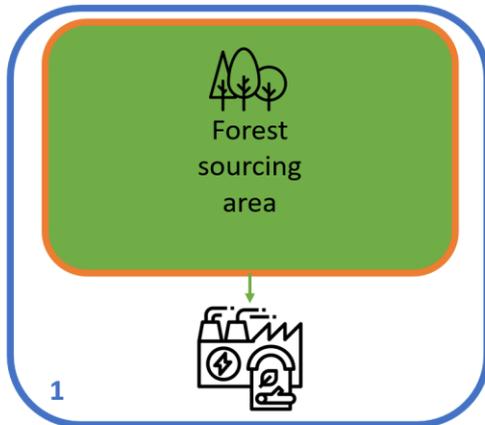
Figure 5. Examples of sourcing areas

Note: the location of the bioenergy plant does not affect the compliance requirements – it can be located within a sourcing area or outside the sourcing areas.

⁷ Forest extension organisations typically have a role in ensuring that private forest owners’ implement forest management, including regeneration and harvesting, in adherence to legislation. The organisations can offer practical assistance and training to private forest owners. They may also fulfil an enforcement role in the implementation of forest and nature legislation.

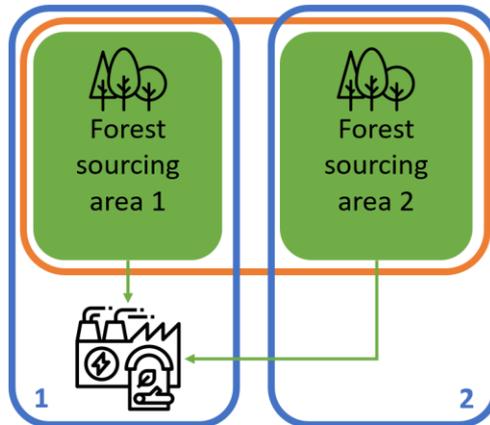
⁸ The International Standard 3166 defines internationally recognised codes of letters and/or numbers that can be used to refer to countries (ISO 3166-1) and their subdivisions (ISO 3166-2).

Scenario 1



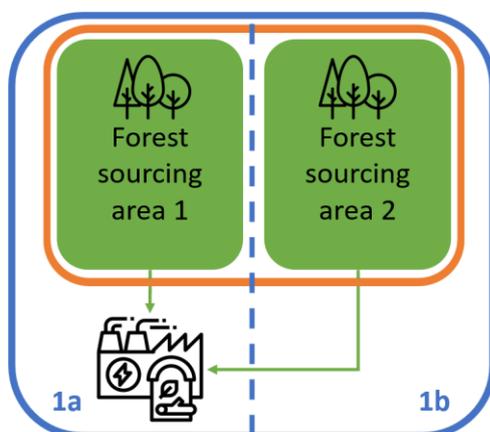
The entire supply base of an economic operator is based in one country. Country 1 does not comply with one or more REDII sustainability criteria at level A. One risk-based assessment is needed to demonstrate compliance with those failed criteria, for the entire supply base.

Scenario 2



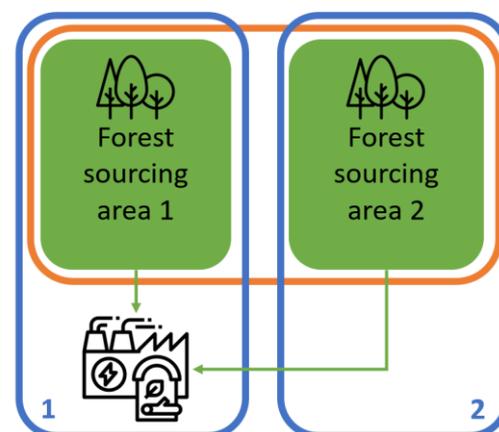
An economic operator sources biomass from two countries. Neither country 1 nor country 2 comply at level A for one or more REDII sustainability criteria. Two separate risk-based assessments are needed to demonstrate compliance for the entire supply base: one assessment for the forest sourcing area in country 1, and one assessment for the forest sourcing area in country 2.

Scenario 3



An energy plant acquires biomass from two regions within one country. The country has sub-national legislation in the area of harvest. Region 1a complies with REDII sustainability criteria at level A and region 1b is non-compliant for one or more criteria. Therefore there is no country-level compliance at level A and a risk-based assessment is needed to demonstrate compliance for the failed level A criteria, for the entire supply base.

Scenario 4



The supply base of an energy plant is based in country 1, while it sources biomass also from country 2. Country 1 does not comply at level A for one or more criteria, while country 2 does comply at level A for all criteria. A risk-based assessment is needed to demonstrate compliance for the failed level A criteria in the forest sourcing area 1.

(i) Legality of harvesting operations

In line with the EUTR⁹, the term **'legality of harvesting operations'** means that forest biomass harvesting activities shall comply with applicable legislation in force in the country of harvest. This includes the following requirements:

- Rights to harvest timber within legally gazetted boundaries;
- Payments for harvest rights and timber including duties related to timber harvesting;
- Timber harvesting, including environmental and forest legislation including forest management and biodiversity conservation, where directly related to timber harvesting;
- Third parties' legal rights concerning use and tenure that are affected by timber harvesting;
- Trade and customs, in so far as the forest sector is concerned.

For complete and legally applicable information concerning EUTR compliance requirements, please refer to the Commission implementing Regulation (EU) No 607/2012 of 6 July 2012 on the detailed rules concerning the due diligence system and the frequency and nature of the checks on monitoring organisations, the guidance documents as well as to the country risk profiles available on the Commission website¹⁰.

(ii) Forest regeneration of harvested areas

The REDII defines the term **'forest regeneration'** as the *'re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, including fire or storm'* (Article 2.31). Some of the possible scenarios are described in the following examples:

- Example 1: A final cut was applied to a forest stand and the biomass was removed. Seed trees are left from the previous tree generation, which will form the foundation from which the new forest will establish;
- Example 2: A forest was harvested. On the site no seedlings exist. The forest is regenerated through planting of seedlings originating from a tree nursery.

In the spirit of the REDII sustainability criteria, highly biodiverse forests cannot be converted into forest stands that would in one rotation evolve into stands of significantly lower biodiversity values.

Land-use change, i.e. a conversion from forest to another land-use type, would imply that the forest regeneration criterion cannot be fulfilled.

(iii) Areas designated by international or national law or by the relevant competent authority for nature protection purposes, including wetlands and peatlands

The term **'designated areas'** means land areas – which can include wetlands and peatlands - that are managed for nature protection purposes. The geographical boundaries of the protected areas need to be clearly defined. In case biomass extraction would be permitted, it can only be done with official

⁹ Regulation (EU) no 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market. Official Journal of the European Union, L 295/23. Article 2 (h). <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:295:0023:0034:EN:PDF>

¹⁰ https://ec.europa.eu/environment/forests/timber_regulation.htm

approval that the intervention would comply with the nature protection purposes and management objectives of the area (see iiib).

Designated areas can be classified according to management or protection objective categories, either following official national or sub-national classifications, and/or following the classification system of the International Union for Conservation of Nature (IUCN): (Ia) strict nature reserve; (Ib) wilderness area; (II) national park; (III) natural monument or feature; (IV) habitat/species management area; (V) protected landscape/seascape; and (VI) protected area with sustainable use of natural resources. IUCN maintains the World Database on Protected Areas (WDPA). This most comprehensive global database on protected areas contains information on location and boundaries of protected areas, legal status and other indicators.

Several other international networks of designated areas exist, e.g. the UNESCO Biosphere Reserves promote solutions reconciling the conservation of biodiversity with its sustainable use. There are currently 701 biosphere reserves in 124 countries, including 21 transboundary sites, that belong to the World Network of Biosphere Reserves. Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Biosphere Reserves are designated under the intergovernmental MAB Programme by the Director-General of UNESCO following the decisions of the MAB International Coordinating Council (MAB ICC). Their status is internationally recognised.¹¹

(iii-b) Areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected unless evidence is provided that the harvesting of that raw material does not interfere with those nature protection purposes

The requirement that ‘harvesting (...) **does not interfere with nature protection purposes**’ means that harvesting is only allowed if the intervention does not contravene, or helps to achieve or maintain the nature protection purposes. In case harvesting is lawfully carried out in a designated area, it must meet the protection requirements of the designated site.

The objectives of habitat specific or species-specific nature protection legislation need to be complied with in order to avoid detrimental impacts of harvesting regarding any such objectives. To this end, it has to be assessed if designated areas are included in the sourcing area. Means of verification can include country-specific information systems on nature protection or international sources such as the IUCN World Database on Protected Areas (WDPA), a comprehensive global database on terrestrial and marine protected areas.¹²

For example, the Habitats Directive 92/43/EEC¹³ for the conservation of natural habitats and of wild fauna and flora has established the so-called Natura2000 network of protected habitats. In these areas, forest harvesting has to be carried out in such a way that it meets the requirements of the

¹¹ UNESCO, 2020. <https://en.unesco.org/biosphere>

¹² IUCN, 2019. World Database on Protected Areas (WDPA). URL accessed on 20191105: <https://www.iucn.org/theme/protected-areas/out-work/quality-and-effectiveness/world-database-protected-areas-wdpa>

¹³ Council Directive 92/43/EEC of 21 May 1992.

designated site¹⁴. Another example of when harvesting could be implemented on a protected site is when for phytosanitary reasons the removal of infected trees will safeguard the remaining forest, or when the removal of trees creates a more structurally diverse landscape.

(iv) Harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimising negative impacts

The term **‘maintenance of soil quality’** means keeping the physical, chemical, biological and ecological state of the soil after an intervention at comparable level to before the harvesting intervention. A simple method for maintaining the forest soil nutrient balance is to exclude residue harvest on poor or vulnerable soils (according to local soil maps and guidelines); and that harvest and extraction of foliage is omitted^{15, 16}.

The JRC European Soil Data Centre defines soil quality as “an account of the soil's ability to provide ecosystem and social services through its capacities to perform its functions under changing conditions”¹⁷. **‘Minimising negative impacts’** means keeping soil disturbance due to harvesting to a minimum by applying a site-suitable harvesting system and preventing soil erosion, while allowing established sustainable forestry practice. Low-impact harvesting can for example be implemented by extracting the biomass via purpose-specific cableways in order prevent erosion on steep slopes or in the vicinity of waterways¹⁸. Furthermore, forests on wet soils that are easily compacted by heavy machinery could be harvested e.g. by applying low harvesting impact techniques or in winter when the ground is frozen. Heavy machinery for logging or extracting timber should not be used in situations when that would result in irreversible damage to soil structure and productive capacity.

The term **‘maintenance of forest biodiversity’** means that genetic and diversity of animal and plant species is unharmed during an intervention or can establish again after an intervention. This would include measures directly targeted at the conservation of habitats and species or indirectly by ensuring species can re-establish. This leads to consider e.g. genetic diversity and species richness that relate to the dominant plant and animal species that characterise a given forest ecosystem, while also vegetation structure (height, density, complexity) and age of the trees play an important role. Protecting and restoring biodiversity serves to maintain resilience in forests, in time and space.¹⁹ **‘Minimising negative impacts’** requires that biodiversity and habitat features are identified (e.g. habitat features for rare and endangered species, features and prevalent species with a high

¹⁴ See e.g. European Union, 2015. Guidance document “Natura 2000 and Forests Part I - III”. S. Leiner and F. Kremer, European Commission, DG Environment Ubit B.3 – Nature. EC: Brussels. <https://ec.europa.eu/environment/nature/natura2000/management/>

¹⁵ Vis, M & Dees, M (Eds.), 2011. Biomass Resource Assessment Handbook: Harmonisation of Biomass Resource Assessments, Best Practices and Methods Handbook. VDM Verlag Dr. Müller. 256pp. ISBN-13: 978-3639290189.

¹⁶ Mantau, U. et al. 2010: EUwood - Real potential for changes in growth and use of EU forests. Final report. Hamburg/Germany, June 2010. 160 p.

¹⁷ Tóth, G., Stolbovoy, V. and Montanarella, L. 2007. Soil Quality and Sustainability Evaluation - An integrated approach to support soil-related policies of the European Union. EUR 22721 EN. 40 pp. Office for Official Publications of the European Communities, Luxembourg. ISBN 978-92-79-05250-7.

¹⁸ Definition by the authors of this report, based on - Mantau, U. et al. 2010: EUwood - Real potential for changes in growth and use of EU forests. Methodology report. Hamburg/Germany, June 2010. 165 p.

¹⁹ Thompson, I., et al., 2014, Forest resilience, biodiversity, and climate change: a synthesis of the biodiversity, resilience, stability relationship in forest ecosystems, Technical Series No 33, Secretariat of the Convention on Biological Diversity, Montreal, Canada.

biodiversity value), and that harvesting operations are planned in such manner that these features are left unharmed or their establishment encouraged as much as possible. Measures could include exclusion of rare tree species from harvesting, maintaining a minimum amount of standing and laying deadwood of mature dimensions or a prohibition of harvesting during breeding season.

(v) Long-term production capacity of forests

The term **'long-term production capacity'** refers to the ability of forest land to sustainably deliver products (such as wood of various quality grades, and non-wood-forest products) and services (such as forest recreation, air and water purification) over a long period of time, bridging several successive forestry rotations. A single forestry rotation lasts in duration from the forest regeneration to the final logging event, which can be 20 years for coppice and some fast-growing plantation species or up to 100 years and more in forests for the production of quality sawn timber.

The production capacity of forests is influenced by the tree species, variety and provenance, and climate and soil quality (determined by among others mineral composition, texture, nutrients, organic matter, soil moisture). But also, forest management influences the extent and condition (amount and quality) of ecosystem services that a forest can deliver. For example, it can impact the amount of wood and/or the amount of non-wood forest products.

Under sustainable harvesting intensity, the impact of forest harvesting on the forest production capacity will be low to non-significant when either the nutrient-rich foliage is left behind on the harvesting site, or that after ashes resulting from wood-based bio-energy production are returned to the forest in a way that nutrients are slowly released back into the ecosystem. It is to be noted that the impact of harvesting on the long-term production capacity depends strongly on local soil conditions. Long-term studies are not available in sufficient numbers to conclude clear implications of residue harvesting on long-term productive capacity.²⁰

A typical indicator for maintenance of the long-term production capacity, at country level or at forest sourcing area level, is that the harvested biomass should not exceed the net annual increment.

An estimate of the net annual increment (NAI) of the forest - i.e. the net amount of stem wood that grows over a year's time - determines the maximum volume of wood that timber companies can harvest without endangering future possible harvesting levels. A maximum annual allowable cut (AAC) can be country-specific or applicable to smaller areas. This AAC is a very basic guidance to help maintain the long-term production capacity of the forest in a country. Estimates of NAI and AAC can be derived from national forest inventory data or yield tables for example, or they can be prescribed by a local forest management authority.

Forest biomass that results from salvage logging after natural disturbances will need to be taken into account when reporting the harvesting and increment levels. Temporary higher harvesting levels due to natural disturbances and salvage logging operations in an area must be justified and compensated for in the long term.

²⁰ D.L. Achat et al./Forest Ecology and Management 348 (2015) 124–141.

Annex B: Relevant definitions and concepts for REDII

Article 29(7)

This section explains the relevant definitions related to LULUCF in the order as they appear in the legal text. Please note that definitions and concepts already introduced in Annex B are not repeated.

LULUCF - Land Use, Land-Use Change and Forestry

A greenhouse gas inventory sector defined by UNFCCC that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities.²¹

Regional economic integration organisation

A regional economic integration organisation maintains a process of overcoming barriers that divide neighbouring countries, by common accord, and of jointly managing shared resources and assets. Regional integration essentially is a process by which groups of countries liberalise trade, creating a common market for goods, people, capital and services. For example, the European Union advocates regional integration as an effective means of achieving prosperity, peace and security.²²

Paris Agreement

The Paris Agreement, inter alia, sets out a long-term goal in line with the objective to keep the global temperature increase well below 2°C above pre-industrial levels and to pursue efforts to keep it to 1,5°C above pre-industrial levels. Forests, agricultural land and wetlands will play a central role in achieving this goal. The Paris Agreement entered into force on 4 November 2016. The Paris Agreement was concluded on behalf of the Union on 5 October 2016 by Council Decision (EU) 2016/1841²³. For information on the ratification status as of [10 December 2019], please refer to **Error! Reference source not found.**

Nationally determined contribution (NDC)

Nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) embody planned efforts by each country to reduce national emissions and adapt to the impacts of climate change. Each NDC reflects a country's ambition for reducing emissions, taking into account its domestic circumstances and capabilities. NDCs may include emissions and removals from agriculture, forestry and land use (AFOLU) to ensure that changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC.

The [Paris Agreement](#) (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall

²¹ <https://unfccc.int/process-and-meetings/the-convention/glossary-of-climate-change-acronyms-and-terms>

²² European Commission. https://ec.europa.eu/europeaid/sectors/economic-growth/regional-integration_en

²³ Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU. Official Journal of the European Union L156/1.

pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions²⁴.

Emissions

Anthropogenic (i.e. originating from human activity) emissions of greenhouse gases into the atmosphere by sources.²⁵

Removals

Anthropogenic (i.e. originating from human activity) removals of greenhouse gases from the atmosphere by sinks.²⁶

Agriculture, Forestry and Other Land Use

This refers to the Land Use, Land-Use Change and Forestry (LULUCF) and Agriculture emission sectors. These are two greenhouse gas inventory sectors defined by the Intergovernmental Panel on Climate Change (IPCC) and are also known as Agriculture, Forestry and Other Land Use (AFOLU).²⁷

National or sub-national laws in accordance with Article 5 of the Paris Agreement

One of the criteria, which, when fulfilled, can in part assure national-level compliance with the requirements of REDII Article 29.7(a), stipulates that national or sub-national laws need to be in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and evidence is provided that reported LULUCF-sector emissions do not exceed removals. This implies that comprehensive national or sub-national monitoring frameworks need to be in place to report on carbon emissions and removals by the LULUCF sector. This could be checked for example from a country's annual greenhouse gas inventory report submitted to the UNFCCC. Greenhouse gas inventory data can be checked e.g. from https://di.unfccc.int/detailed_data_by_party.

Carbon stock

The mass of carbon stored in a carbon pool.²⁸ Examples of relevant carbon pools are forest biomass (above- and belowground), deadwood, litter and soil organic carbon.

Carbon sink

Any process, activity or mechanism that removes a greenhouse gas, an aerosol, or a precursor to a greenhouse gas from the atmosphere²⁹. Carbon sinks are reservoirs that take-in and store more

²⁴ UNFCCC website. <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>

²⁵ Decision No 529/2013/EU of the European Parliament and of the Council of 21 May 2013 on accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities.

²⁶ Decision No 529/2013/EU.

²⁷ IPCC 2006: 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4: Agriculture, Forestry and Other Land Use. <https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.html>

²⁸ Regulation (EU) 2018/841.

²⁹ Regulation (EU) 2018/841.

carbon than they release. Examples of carbon sinks are forests and oceans.³⁰ Once the carbon is stored, it becomes part of a carbon stock (see carbon stock definition).

³⁰ Article 1.8 of the UNFCCC.

https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

Annex C: Additional guidance for Biomass Producers undertaking the Level B risk assessment for REDII Article 29(6)

This section provides the approach to demonstrate compliance with the harvesting criteria at the forest sourcing area level (level B). These compliance checks have to be implemented at forest sourcing area level only for those criteria for which level A evidence could not be provided. This section presents a stepwise approach for each criterion, followed by the summarising checklist with specific indicators and sources for verification of the indicators. The checklists were prepared based on a review of best practices applied in the industry. Given that legal systems, silvicultural approaches and available information approaches and sources differ considerably between countries and regions, the checklists are not exhaustive.

Adopted from a REDIIBIO report.

(i) Legality criterion

As mentioned in preceding sections, any wood and products made of wood that are placed on the EU market, need to comply with EUTR requirements. The procedure to comply with the legality criterion is to be the same for level A and level B. For further clarification on the link between REDII and EUTR see Annex A on (i) Legality of harvesting operations.

The following guidance therefore applies to the harvesting criteria (ii) to (v).

(ii) Regeneration criterion

Figure 6 shows the stepwise approach for demonstrating compliance with the **regeneration criterion**. Key steps include:

Step 1.1: The economic operator shall identify whether the forest biomass results from final felling, clearcutting or selective logging, or from a calamity (such as storm, fire, or for phyto-sanitary reasons to prevent the spread of biotic pests and diseases). In this case, regeneration is required.

Step 1.2: When biomass results from thinning or from the pruning of trees, then regeneration would not be an issue and the biomass would be considered automatically compliant with the criterion. Thinning means a reduction of the number of stems to give more space for the crowns of the main trees of interest to develop to maturity. This is undertaken while maintaining a maximum possible tree cover, not leading to forest degradation and instead ensuring quantity and quality of next generation forest resources.

The information to assess these first steps should be specified in forest management plans/operational reports/harvest protocols by specifying the type of forest operation from which forest biomass stems from (e.g. final felling, thinning, salvage cuttings). The information must be

specified for each stand individually. The relevant information could be obtained e.g. from the forest owner directly, or from a competent authority that compiles such information from forests within the sourcing area.

Step 2: If regeneration is required, the operator shall provide evidence to make sure that regeneration will be carried out in an appropriate manner. This means that it is implemented either through natural regeneration, planting and seeding, or coppice regrowth. Also, evidence is required that forest regeneration is done in a manner that ensures quantity and quality of next generation forest resources. This also means that forest composed of site-natural species shall not be replaced with non-site natural plantations (e.g. site-natural forests will not be replaced by agriculturally managed monocultural plantations). Regeneration should be implemented at least within five years upon timber harvesting, unless otherwise required by the applicable legislation. This to have a limited time period without forest cover, ensuring the maintenance of forest productivity as well as the carbon sink.

This information required in this step should be available from forest management plans. These shall include a regeneration goal regarding species composition and establishment period, as well as identified measures to prevent abiotic and biotic hazards. The information must be specified for any stand individually. The information could be obtained e.g. from the forest owner directly, or from a competent authority that compiles such information from forests within the sourcing area.

Figure 6. Stepwise approach for demonstrating compliance with the regeneration criterion

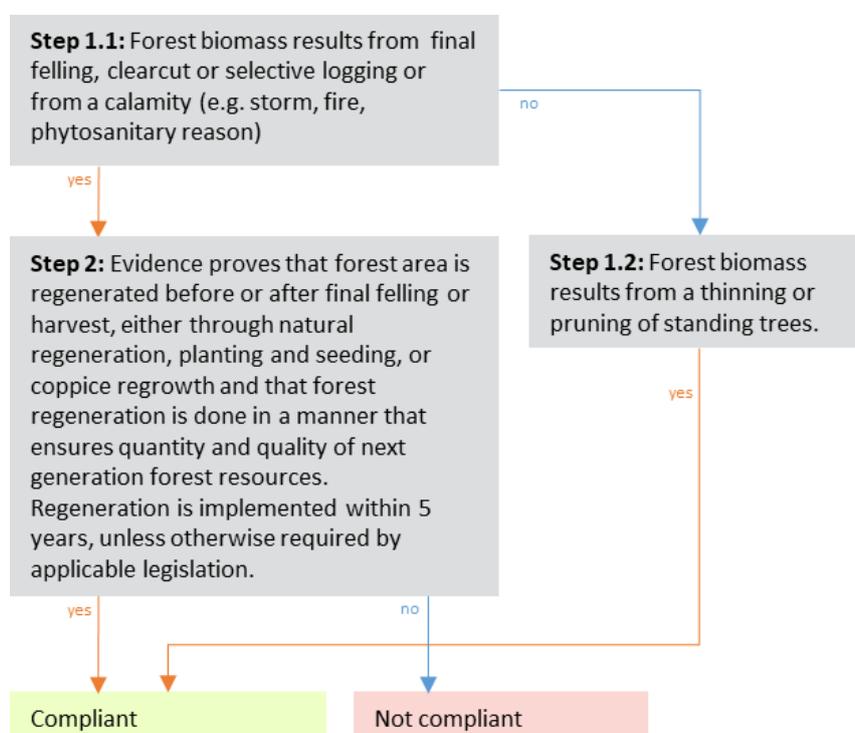


Table 4 presents the checklist for demonstrating compliance with the regeneration criterion, including indicators and related sources of information.

Table 4. Checklist for demonstrating compliance with the regeneration criterion

| Step | Indicator | Sources of information |
|--------------|--|--|
| 1.1. and 1.2 | Type of forest operation from which forest biomass results | Forest management plans obtained e.g. from the forest owner directly, or from a competent authority that compiles such information from forests within the sourcing area |
| 2 | Quality and quantity of next generation forest resources | Forest management plans obtained e.g. from the forest owner directly, or from a competent authority that compiles such information from forests within the sourcing area |

(i) Protected area criterion

Figure 7 shows the stepwise approach for demonstrating compliance with **the criterion on protected areas**. Key steps include:

Step 1: Ensure whether areas designated for nature protection, including wetlands and peatlands, are excluded from the forest sourcing area. If no biomass is sourced from such areas, then the criterion on protected areas is de facto complied with. If the sourcing area does however include such areas, then it needs to be ensured that the interventions were permitted and that all conditions and restrictions are followed, as laid out in the following steps.

The information required in Step 1 can be queried e.g. from the IUCN World Database on Protected Areas (WDPA). This most comprehensive global database on protected areas contains information on location and boundaries of protected areas, legal status and other indicators. Other international networks of designated areas include e.g. the UNESCO Biosphere Reserves, which promotes solutions reconciling the conservation of biodiversity with its sustainable use. There are currently 701 biosphere reserves in 124 countries, including 21 transboundary sites, that belong to the World Network of Biosphere Reserves.

Step 2: Provide evidence that an official permission for biomass harvesting was granted by the relevant competent authority, and clarify the conditions and restrictions that apply to the harvesting from such areas, the species, amounts and locations where these can be logged from. Restrictions could include specification of certain time periods within which the harvesting should or should not be implemented, equipment specifications, protective measures to be implemented with methods for felling and timber extractions, etc.

This information must be provided upon every consignment originating partly or fully from nature protection areas. Otherwise, proof of compliance with relevant legislation is provided through operational reports/harvest protocols describing amounts and harvesting systems in the respective type of nature protection area.

Step 3: Provide evidence of compliance with the relevant conditions and restrictions for harvesting, by means of operational reports that describe measures undertaken in the respective areas, in order to ensure compliance with the condition statements of the relevant competent authority.

Such reports are either implemented by a second or third party and endorsed by the competent authority, or the reports are implemented via field-inspections with an agent of the relevant competent authority. The information must be provided upon every consignment originating partly or fully from nature protection areas.

When all three steps are backed-up with credible evidence, then the biomass is considered compliant with this criterion.

Table 5 presents the checklist for demonstrating compliance with the criterion **on protected areas**.

Figure 7. Stepwise approach for compliance with the protected area criterion

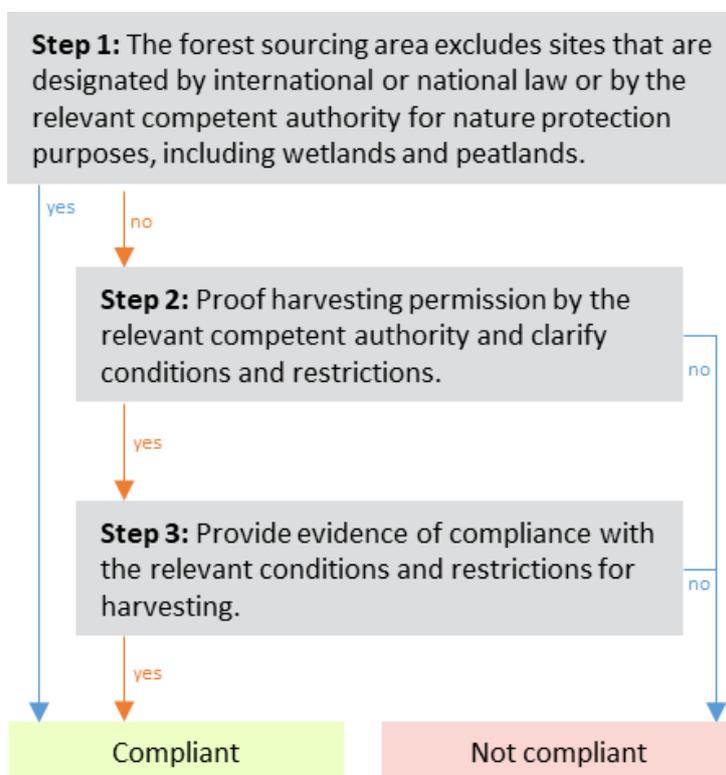


Table 5. Checklist for demonstrating compliance with the protected areas criterion

| Step | Indicator | Sources of information |
|------|--|--|
| 1 | Presence of designated areas for nature protection, including wetlands and peatlands | <ul style="list-style-type: none"> IUCN maintains the World Database on Protected Areas (WDPA) Other international networks of designated areas e.g. the UNESCO Biosphere Reserves |

| | | |
|---|---|--|
| 2 | Permissions for biomass removal in the protected areas | <ul style="list-style-type: none"> • Harvesting permission issued by the relevant competent authority • Alternatively, proof of compliance with relevant legislation is provided through operational reports/harvest protocols |
| 3 | Implementation of plans/measures in the protected areas | <ul style="list-style-type: none"> • Operational reports describe compliance measures undertaken in the respective areas, obtained via field-inspections with an agent of the relevant competent authority, or • The confirmations are implemented by second or third party and thereafter endorsed by the competent authority |

(i) Maintenance of soil quality and of biodiversity criterion

Figure 8 shows the stepwise approach for demonstrating compliance with **the soil and biodiversity criterion**. Steps 1 to 4 concern the part of the criterion that requires minimising harvesting impacts on soil quality, while step 5 to 8 relate to impacts on biodiversity:

Step 1: Removal of stumps and roots can detrimentally affect soil structure, soil proneness to water and wind erosion, reduce soil fertility and reduce soil carbon. Therefore, in order to protect any soil type, ensure that stumps and roots are excluded from the biomass harvested.

Step 2.1: Identify sensitive areas in the forest sourcing area (prone to compaction, erosion through wind or water, steep slopes etc.). This can be done e.g. on the basis of soil maps, soil sensitivity maps by the operator or supplier or through the provision of detailed field inventory data. Areas must first be identified before forest biomass can be acquired. If no detailed field inventory data for the forest sourcing area is available. The operator has to interpret (digital) available soil maps or on-site analysis with own or third-party expertise with regard to sensitivity including soil type, slope, and soil quality.

Step 2.2: As a general guideline, no biomass extraction is allowed from soil types Rendzina, Lithosol, Ranker, Histosols, Fluvisols, Gleysols and Andosols, unless with explicit permission from the competent authority.

Step 3: When the sourcing area does comprise poor or vulnerable soils, then evidence needs to be provided that logging on such areas is implemented with the correct logging permit and according to specifications mentioned in the permit. Residues cannot be removed unless explicitly permitted in documentation provided by the competent authority.

Otherwise confirmation of compliance with local guidelines or best practice guidelines regarding vulnerable soils through operational reports/harvest protocols is provided (e.g. justification of chosen harvesting system in respect of soil type and slope). If such guidelines do not exist, the operator may require suppliers and forest owners to adopt specific Best Management Practices for certain tasks. These should be specified in supply contracts, or the suppliers and forest owners include a report from qualified experts regarding soil vulnerability and possible harvesting systems endorsed with a statement that harvesting practices were implemented according to required standards. Officially

approved forest management plans specify measures to be taken and operational reports confirm implementation of required protocols.

Step 4: Requires for any soil type that measures are planned and implemented to minimise impact on soils (e.g. by means of low or reduced impact logging (RIL), soil protecting harvesting system, low tire pressure, residue topping on logging trails, logging and removal when soil is frozen or under protective snow cover, optimised trail location without redundant driving, permanent logging trails, power shift clutch, skid chains, traction-assisting-winch, exclusion of logging within a certain distance from water bodies, exclusion of logging of forests smaller than a certain size, etc.). In order to minimise impacts of forest management, appropriate assessment of impacts and planning to minimise impacts is necessary. The measures have to be in accordance with the level of vulnerabilities of respective soil types.

At sourcing area level, maintenance of biodiversity according to the harvesting criteria laid down in Article 29.6 requires that, after biomass harvesting, the forest will be re-established with comparable or more biodiversity-favourable characteristics.

Step 5: Assess biodiversity and habitat features so they can be appropriately addressed during planning and implementation of harvesting operations (e.g. habitat features for rare and endangered species, features and prevalent species with a high biodiversity value, including estimated or measured amounts of standing and laying deadwood per hectare, veteran trees, occurrence of rare tree species etc.).

Step 6: Ensure that deadwood is recognised as an important indicator and substrate for many plant and animal species. Recommended or required levels for standing and laying deadwood, including of mature dimensions, need to be left in the forest. The amounts shall either depend on official regulations or on scientifically based recommendations.

Step 7: Verify if during the harvesting operations, the level of deadwood was kept at least at the recommended level, or if the present amounts of deadwood are lower than the recommended level, then biomass sourcing should incur measures to allow deadwood amounts and dimensions to increase.

Step 8: Verify if preventive and protective measures were taken to protect biodiversity and habitat features, as identified in Step 5, during harvesting operations.

Example: A pre-harvesting inventory or forest management plan (or equivalent) of a logging site which registered the occurrence of endangered tree species. The harvesting plan should then document the practical steps taken during the harvesting intervention to retain the endangered trees in a viable micro habitat. A second example is that standing and laying large dead tree trunks fulfil important ecological functions as substrate e.g. for rare fungi and saproxylic beetles. Harvesting is therefore implemented according to plans that specify minimum amounts of these dead tree trunks to be left in the forest, which is confirmed afterwards as part of a post-harvest inspection.

Protecting biodiversity also means that site-natural forests should not be replaced by agriculturally managed monocultural plantations. This issue is more related to the forest regeneration criterion and referred to that section of this report.

Table 6 presents the checklist of indicators and sources for demonstrating compliance with **the soil and biodiversity criterion**.

Figure 8. Stepwise approach for compliance with the maintenance of soil quality and biodiversity criterion

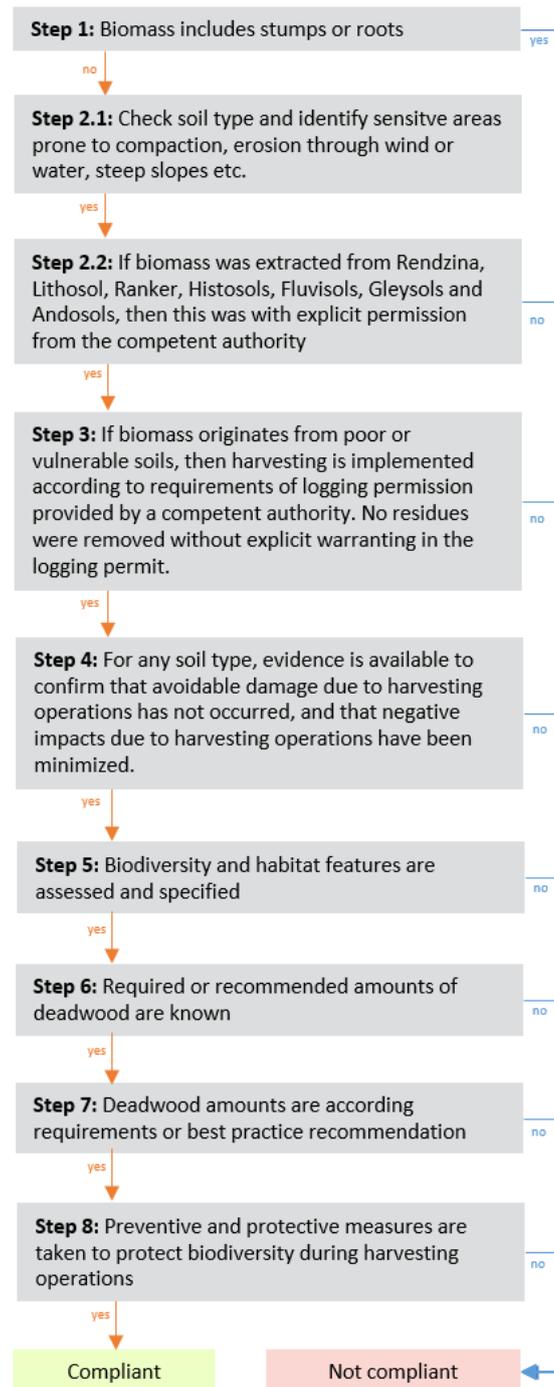


Table 6. Checklist for demonstrating compliance with the soil quality and biodiversity criterion

| Step | Indicator | Sources for verification of the indicator |
|-----------|---|--|
| 1 | Biomass includes stumps or roots | <ul style="list-style-type: none"> Operational post-harvest reports confirm that stumps or roots were not harvested in the sourcing area |
| 2.1 ; 2.2 | Existence of poor or vulnerable soils in the forest sourcing area | <ul style="list-style-type: none"> FAO/UNESCO Soil Map of the World ³¹ Harmonised World Soil Database – FAO ³² National or regional soil maps Identification of poor or vulnerable soils in forest management plans |
| 3 | Harvesting on poor or vulnerable soils is implemented according to requirements of logging permission | <ul style="list-style-type: none"> Post-harvest report issued or approved by the competent authority |
| 4 | Impacts on soil quality are minimised during and after harvesting | <ul style="list-style-type: none"> Forest management plans/operational reports/harvest protocols could include a "checklist" for the assessment of potential impacts as well as an assessment of measures to minimise such at operational level Operational reports created during or after harvest show proof that precautionary measures have been implemented regarding soil protection and include dated and geo-tagged pictures before-and after-the intervention or written description of impacts on logging trails and damages on the remaining stand Operational reports/harvest protocols confirm that local best practice guidelines or relevant legislation regarding soil protection during harvesting operations are complied with (i.e. chosen harvesting system is justified in respect of soil type and slope) |
| 5 | Biodiversity and habitat features are assessed and specified | <ul style="list-style-type: none"> Forest management plans Operational reports Pre-harvest inventory Regional biodiversity assessments |
| 6 | Required or recommended amounts of deadwood are known | <ul style="list-style-type: none"> Applicable legislation or regulation Regionally applicable best practices Scientific recommendations |

³¹ <http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/faunesco-soil-map-of-the-world/en/>

³² <http://www.fao.org/soils-portal/soil-survey/soil-maps-and-databases/harmonized-world-soil-database-v12/en/>

| Step | Indicator | Sources for verification of the indicator |
|------|---|--|
| 7 | Deadwood amounts are according requirements or best practice recommendation | <ul style="list-style-type: none"> • Harvesting protocols • Operational reports • Pre-harvest inventory • Post-harvest assessments |
| 8 | Preventive and protective measures are taken to protect biodiversity during harvesting operations | <ul style="list-style-type: none"> • Harvesting protocols • Operational reports • Post-harvest assessments |

(i) Long-term production capacity criterion at sourcing area level

The proposed approach is to retrospectively consider average sustainable harvesting levels in the sourcing area over the five-year period preceding harvesting. When observed in isolation from the requirements to fulfil the first four REDII sustainable harvesting criteria, this approach could be seen as oversimplifying the issue of long-term productivity. However, as all sustainable harvesting criteria need to be fulfilled at all times, the combined requirements are reinforcing one another. While one of the weaknesses of the approach is that climate change impacts are not explicitly considered, the possible need for climate change adaptation measures does need to be taken into account in context of the regeneration criterion and of the LULUCF criterion.

Figure 9 shows the stepwise approach that economic operators should follow to demonstrate compliance with the criterion **on long-term production capacity** at the forest sourcing area level (level B), following a retrospective approach.

Step 1: Requires that data for ‘annually logged wood amounts’ and for ‘net annual increment’ are available for the forest sourcing area in its entirety. Inventory and growth data must cover the entire forest sourcing area and should be based on regional markers, such as growth/drain, harvest level, mortality, and age class distribution, relative to forest types. This requires that a relevant competent party conducts forest inventories periodically, based on in-situ measurements and/or state of the art remote sensing. Detailed harvesting reports need to be compiled periodically for the forest management unit or geographical unit that is as close as possible to the forest sourcing area.

When national or regional forest inventory data are used, it is important to consider data only for forest available for wood supply. Harvested wood amounts from any illegal logging in the forest sourcing area, also needs to be accounted for. The forest inventory information should be considered for an area that is congruent as much as possible with the forest sourcing area.

Step 2: The average annual felled timber amounts is compared to the average net annual increment (e.g. an average measured over a 5-year period preceding the harvesting intervention). When the amount of felled timber does not exceed the net annual increment, current wood extraction is assumed not to impede the long-term production capacity.

Step 3: Evidence and well-argued reasons need to be presented to exceptionally justify if logged amounts would exceed net annual increment. Examples of such justifying reasons include e.g. restructuring of for example exotic intensively managed monocultural single-species even-aged forests into site-natural multi-species uneven-aged woodlands, habitat management or restoration of biodiversity, or that increased extraction took place to counter the effect of biotic or abiotic forest disturbances.

When observed in isolation of the requirements to fulfil the first four REDII sustainable harvesting criteria, this approach would be oversimplifying the issue of long-term productivity. However, as all criteria need to be fulfilled at all times, the combined requirements are reinforcing one another to ensure long-term productivity is maintained. Appendix F presents an alternative approach for demonstrating compliance with this sustainability criterion.

Table 7 presents the checklist for demonstrating compliance with criterion **on long-term production capacity**.

Figure 9. Stepwise retrospective approach for compliance with the long-term production capacity criterion

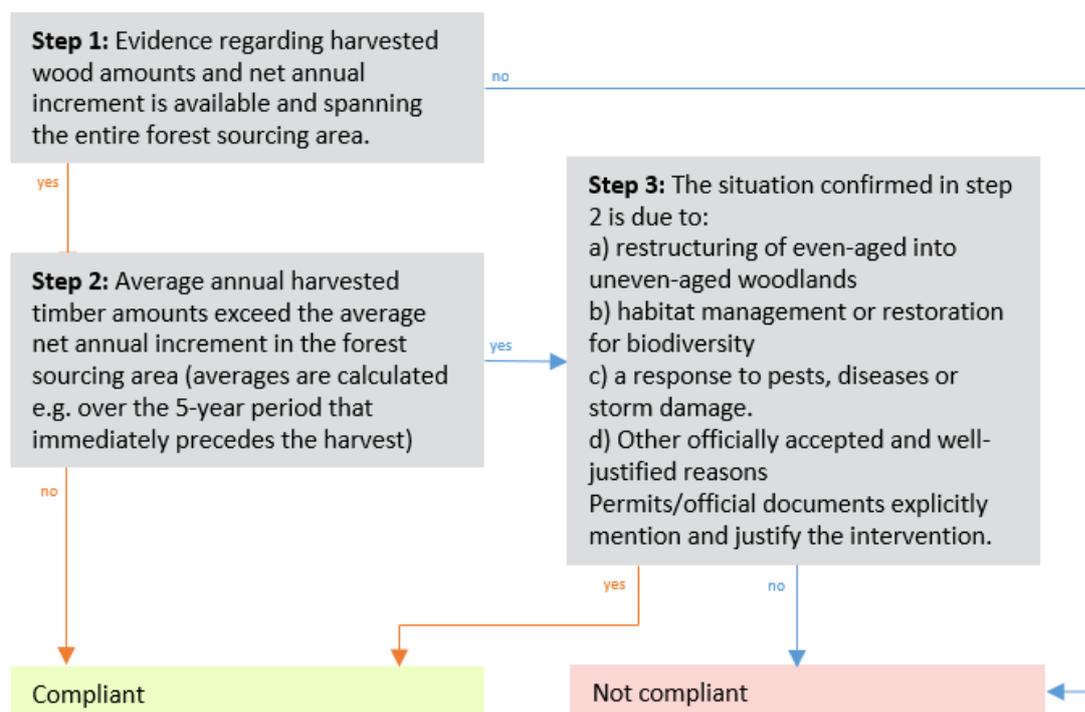


Table 7. Checklist for demonstrating compliance with the long-term production capacity criterion, following a retrospective approach

| Step | Indicator | Sources for verification of the indicator |
|------|--|--|
| 1; 2 | Sustainable harvest levels on forest available for wood supply | <ul style="list-style-type: none"> Regional data for net annual increment is published by national or regional forest inventories but can also be calculated on the basis of forest growth models specifically for the forest sourcing area Regional data for annual harvested timber amounts can be obtained from national or regional forest inventories, or from forest authorities |
| 3 | Harvest amounts exceed net annual increments | <ul style="list-style-type: none"> Permits or documents including reports of the relevant competent forest authority Specific permits issued by the relevant competent authority allow these temporally higher harvest levels, for one of the reasons as indicated in Figure Step 3 |

Annex D: Additional guidance for Biomass Producers undertaking the Level B risk assessment for REDII Article 29(7)

This section provides a guidance for when compliance cannot be demonstrated through level A evidence and an economic operator needs to demonstrate at forest sourcing area level that management systems (see Annex A for the definition of a sourcing area and management systems) are in place to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened, both over the long term. Such systems should include information from (forward-looking) planning and periodic monitoring of the development of forests and their carbon stocks and sinks.

Adopted from a REDIIBIO report.

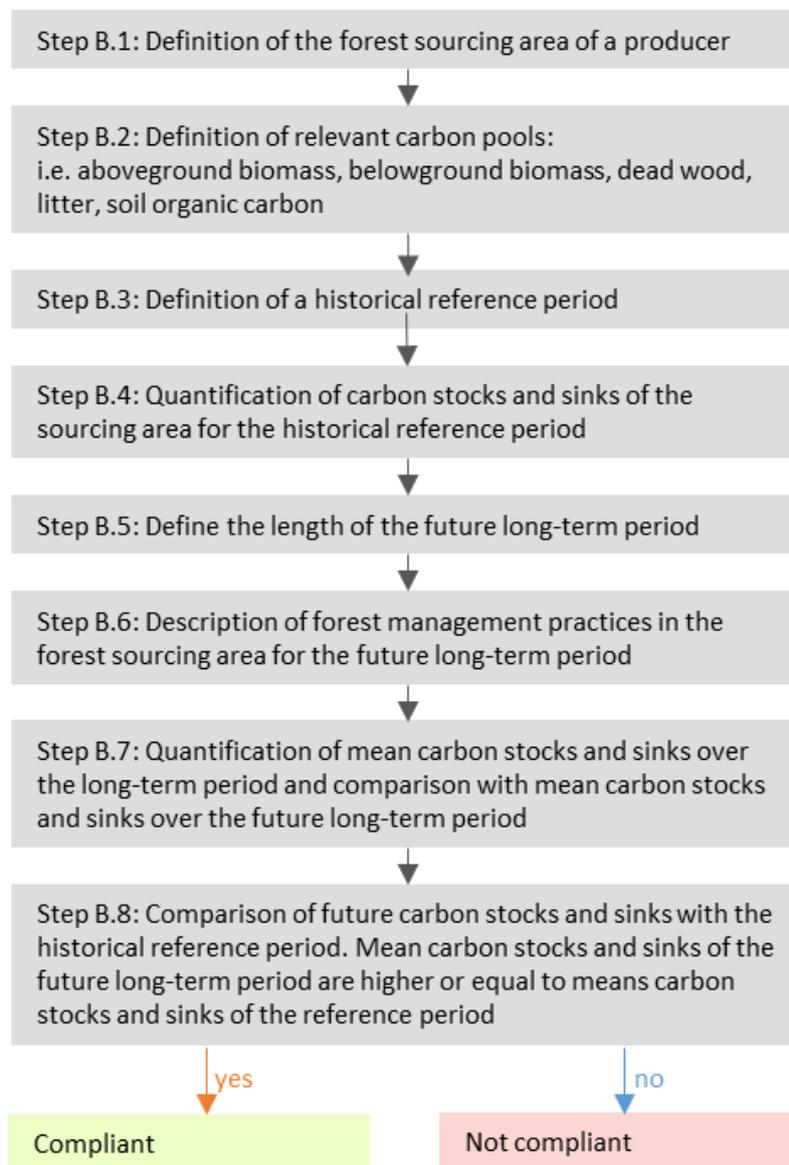
Methodologies to assess carbon stocks and sinks in forests already exist and could be adapted by an economic operator to provide evidence of compliance with the LULUCF criterion at the level of a sourcing area. Such methodologies are used for national level reporting and assessments to UNFCCC (see IPCC supporting documents) under the LULUCF Regulation (see supporting documents by Grassi et al. (2018)³³ and Forsell et al. (2018)³⁴) and by voluntary carbon standards for certifying carbon emissions reductions through AFOLU activities at landscape or stand level. These methodologies serve as a useful starting point for developing approaches to demonstrate compliance with the LULUCF sub-criterion, but they need to be adapted as they have not been designed for demonstrating compliance with REDII.

Building on existing methodologies, the following section describes a stepwise approach, including eight steps (see also Figure 10), to demonstrate compliance with the LULUCF criterion on the level of a forest sourcing area (Level B). The approach builds on existing methods for which tools and data can be used that are freely available from public sources. However, it is considered that familiarity with calculations on forest carbon stocks and sinks is needed to be able to provide evidence for compliance. Furthermore, the approach described below requires an economic operator to ensure that a forest management is implemented in the forest sourcing area that will result in equal or higher carbon stocks in the long-term period.

³³ Grassi, G., Pilli, R., House, J., Federici, S., Kurz, W.A., 2018. Science-based approach for credible accounting of mitigation in managed forests. *Carbon Balance and Management* 13, 8.

³⁴ Forsell, N., Korosuo, A., Federici, S., Gusti, M., Cristóbal, J.J.R., Rüter, S., Jiménez, B.S., Dore, C., Brajterman, O., Gardiner, J., 2018. Guidance on developing and reporting Forest Reference Levels in accordance with Regulation (EU) 2018/841. European Commission Directorate-General for Climate Action, Brussels.

Figure 10. Steps to demonstrate LULUCF criteria compliance at forest sourcing area level (Article 29.7(b))



Step B.1: Define the spatial boundaries of the compliance check

The sourcing area of an economic operator comprises the area for which compliance needs to be demonstrated (see Annex A for the definition of a sourcing area). To satisfy the requirements as set out in REDII Article 2.30, it is recommended that the compliance check is conducted for a geographically explicit area belonging to a single country or a region, depending on which level forest legislation is regulated. Furthermore, it is recommended to conduct the compliance check for a geographically explicit area having common forest management practices that ensure implementation of sustainable yield management in the sourcing area during the assessment period (please see step B.6 for a definition of the temporal boundaries). Please note that spatial boundaries are not necessarily relating to a continuous, unfragmented patch of land, but may comprise several mutually unconnected areas.

Step B.2: Define relevant carbon pools

REDII requires maintaining or increasing of carbon stocks and sink levels at the sourcing area level, without specifying which carbon pools to consider. Carbon stocks and sinks in forests include multiple pools. It is good practice to consider all the carbon pools in forests, as specified by UNFCCC which include:

1. Aboveground biomass
2. Belowground biomass
3. Litter
4. Dead wood
5. Soil (mineral and organic soils)

These pools also encompass the carbon pools considered relevant by the LULUCF Regulation³⁵ except the Harvested Wood Products pool. The Harvested Wood Products pool can be excluded because it is not a **forest** carbon pool.

Step B.3: Determine a historical reference period

REDII does not specify a historical year or period that can serve as a reference to compare the future development of carbon stocks and sinks in the sourcing area. It is recommended that an economic operator uses the average carbon stocks and sinks over a reference period that will serve as a benchmark against which maintenance or strengthening of carbon stocks and sinks of a sourcing area will be compared.

It is recommended that a fixed period in time is used to avoid the effects of biomass harvest progressively lowering carbon stocks and sinks. In line with the reference period used in the LULUCF Regulation³⁶, it is proposed to focus on the period 2000-2009, but it can be shorter or longer to facilitate the use of forest inventory data or to mitigate the impact of annual disturbance or any eventual stochastic events on the levels of carbon stocks and sinks in the sourcing area. In any case, the selected reference period should reflect representative carbon stocks and sinks in the supply area (i.e. is consistent with any broader historical data used as evidence). The economic operators are encouraged to provide argumentation for the definition of their reference period. An economic

³⁵ EU 2018/841, Annex 1, Section B.

³⁶ EU 2018/841.

operator should avoid using short periods (or a single year) as reference period in which significant natural disturbance took place as they may strongly disrupt forest carbon stocks and especially sinks.

Step B.4: Quantify carbon stocks and sinks of the sourcing area for the historical reference period

The requirement “*to maintain or strengthen*” carbon stocks and sinks (REDII, 29.7(b)) requires the existence of a historical reference value that can be used to estimate if a specific carbon stock and sink value has been maintained or increased. Hence, data need to be collected to estimate mean values for carbon sinks and stocks of the sourcing area during a reference period as reference values for a compliance check.

Data on carbon stocks and sinks in the sourcing area may be obtained from (repeated) forest inventories or forest management plans, provided they are transparent, accurate and reliable. If there are no existing data on carbon stocks and sinks in the sourcing area, an economic operator can estimate mean carbon stocks and sinks of the sourcing area for the historical reference period, for example by applying forest carbon calculators or models (see Table). Data (tree species, growing stock, age-structure, increment rate, see Table 9) to be used in these tools can be obtained from historical forest management plans or inventories conducted in the sourcing area, but additional data (e.g. basic wood density, carbon content, factors to estimate whole-tree biomass) may be needed to provide necessary information on all of the relevant carbon pools (see step B.2).

It is recommended that an economic operator provides or estimates reference values for all the relevant carbon pools individually. When estimating historical carbon stocks and sinks, it is recommended to further stratify the sourcing area in homogenous units. Stratification is not an explicit requirement by REDII but is suggested to improve accuracy of the estimates. When stratifying the sourcing area, an economic operator can consider some of the following factors:

- Administrative/legal conditions:
 - Administrative region where sourcing level is located (e.g. region, province, municipality);
 - Ownership type (e.g., private, public);
- Biophysical conditions:
 - Topography;
 - Site conditions (e.g. forest site index);
- Forest characteristics:
 - Tree species composition;
 - Forest management regime.

In case an economic operator is not able to quantify one of the above-mentioned pools (e.g. litter or soil carbon, see step B.2), it is recommended that a justification is provided why a pool cannot be quantified (e.g. absence of data on the litter or soil carbon pools) and why omitting the pool does not affect compliance with the requirement to maintain or strengthen carbon stocks in the long term.

Step B.5: Define the length of the future long-term period

REDII requires that the levels of carbon stocks and sinks of a sourcing area are maintained or strengthened, both over the long term. However, the Directive does not specify the period of time

that needs to be considered. It is recommended to conduct a compliance check for a period of at least 30 years. The rationale behind such operationalisation of the concept “long-term” is provided in Box 4. Please note that the assessment period is not static and always forward looking. Accordingly, it is recommended that the assessment period covers at least 30 years after a harvesting event from which biomass is sourced.

Box 4: Methodological considerations for the choice of temporal boundaries of the assessment

REDII requires that the levels of carbon stocks and sinks of a sourcing area are maintained or strengthened, both over the long term. The size of the forest sourcing area is important for defining the choice of the period of time to be considered. In a small forest sourcing area, it can be expected that a long period needs to be considered for demonstrating that carbon stocks and sinks of a sourcing area are maintained or strengthened, while for a larger area a shorter period may suffice. Two main issues influence the methodological decisions of the proposed stepwise approach.

Firstly, according to REDII, Article 29, the sustainability and greenhouse gas emissions saving criteria apply only to installations producing electricity, heating, cooling and fuels with a total rated thermal input equal to or exceeding 20 MW in the case of solid biomass fuels and in the installations with a total rated thermal input equal or exceeding 2MW in the case of gaseous biomass fuels. The forest sourcing areas of such installations are considered to comprise a large area, covering multiple forest stands and age classes. Accordingly, carbon sinks and stocks of such an area can be maintained or strengthened over a time period shorter than an average rotation period of a single forest stand. The forest sourcing area is not necessarily relating to a continuous, unfragmented patch of land, but may comprise several mutually unconnected areas.

Secondly, the temporal boundaries of the compliance check are recommended to be set to a period of at least 30 years, in line with Article 15 of EU Regulation 2018/1999. This Regulation requests member states to submit long-term strategies for greenhouse gas emissions reduction with a perspective of at least 30 years. Defining the temporal boundaries as at least 30 years ensures that economic operators and EU member states are subject to a similar level of stringency.

Step B.6: Describe forest management practices in a sourcing area for the future long-term period

To prove that carbon stocks and sinks of a sourcing area are strengthened or maintained over a long-term period (recommended 30 years, see step B.5 and Box 4), an economic operator should describe forest management practices that are reasonably expected to be practiced in the long term. Information on future forest management may be derived from existing forest management plans or other verifiable evidence. The future forest management practices must at minimum comply with legal requirements that are valid in a sourcing area.

When describing the future forest management practices in the sourcing area, the following factors could be considered that may affect the development and calculation of forest carbon balances and sinks in subsequent steps:

- Annual harvest level;
- Tree species composition;
- Forest reproductive material used (provenance);
- Thinning intensity and frequency;
- Cutting regime (e.g. even-aged clearcutting, shelterwood, group or tree selection, coppice);
- Other management decisions (e.g. fertilisation, drainage, herbicide and pesticide application, etc.);
- Average minimum and maximum rotation length.

Potential data sources for these factors are listed in Table .

Step B.7: Quantify mean carbon stocks and sinks over the future long-term period

To assess how carbon stocks and sinks will develop over the long term, it is recommended that economic operators develop a projection of the development of carbon stocks and sinks in the forest sourcing area, based on forest growth and planned management practices. Assumptions on the effects of future impact of policies and markets should be avoided as much as possible. Economic operators can apply forest carbon calculators and models (for an overview of potential tools, see Table 8) as a basis for these calculations. Such tools will require information on future forest management practices (see Step B.6), forest structure (e.g., tree species, growing stock, age-structure) and growth (increment), as well as additional data (e.g. basic wood density, carbon content, factors to estimate whole-tree biomass) (for an overview of potential data sources, see Table 9). In line with the recommendations provided in step B.4, it is recommended to stratify the sourcing area in homogenous units to improve accuracy of the estimates.

To ensure comparability of the estimates, it is recommended that the same carbon pools (see step B.2), data and methods are employed as for estimating carbon stocks and sinks in the reference period. The future and historically oriented estimates should be methodologically and quantitatively comparable.

In a case when an economic operator is not able to quantify any of the abovementioned pools (e.g. litter or soil carbon, see step B.2), it is recommended that a justification is provided why a pool cannot be quantified (e.g. absence of data on the litter or soil carbon pools). Also, it is recommended to consider relevant secondary data and information to explain how forest biomass removals are expected to affect these carbon pools in the long term at the forest sourcing area.

Finally, it is recommended to document the temporal development of all carbon pools to facilitate the comparison with results obtained from monitoring, as a basis for the verification of compliance under REDII Article 30.

Step B.8: Compare future carbon stocks and sinks with the historical reference period

The compliance with the LULUCF criterion may be proven by comparing both the mean carbon sinks and stocks for the long-term period (step B.7) with the carbon stocks and sinks of the reference period (step B.4). If mean carbon stocks and sinks of a long-term period are higher or equal to mean carbon stocks and sinks of a reference period, an economic operator is compliant with the LULUCF criteria.

Several issues must be noted regarding the above described stepwise approach for demonstrating compliance at the sourcing area level. These relate inter alia to the need for monitoring of the actual development of forest carbon stocks and sinks to support the verification of compliance with the sustainability and greenhouse gas emissions saving criteria, under REDII Article 30. These challenges are described in Box 5.

Box 5: Challenges related to demonstrating compliance at the sourcing area level

There are several distinct challenges that must be pointed out with respect to the above described compliance assessment approach. The challenges are related to how to respond to **uncertainties, non-permanence, and time dynamics**.

It is essential that the above-described approach is supported by monitoring activities that would verify estimates of future carbon stocks and sinks as estimated by carbon models. This is because actual forest developments might differ from the modelled development, for example as a result of changes in forest management objectives and practices or natural disturbances. A monitoring and verification system actual development of carbon stocks and sinks should be used to support documentation of compliance.

Deviations between the projected and actual development of stocks and sinks due to natural disturbances would require adaptive responses by the management of the forest. Management plans need to consider such circumstances and be flexible enough to respond and assessments of likely disturbances need to be an integral part of the plan. Emissions caused by natural disturbances are to be excluded from the accounts of an economic operator, only if a disturbance event represents a statistical outlier in a natural disturbance regime of a supply area. To prove that a disturbance represents a statistical outlier, an economic operator can adapt the methodology described in Article 10 and Annex VI of LULUCF Regulation as well as Forsell et al. (2018) .

Some tree species may be negatively affected by climate change through changes in productivity or through natural disturbances, which could negatively affect the development of their carbon stocks and sinks levels over the long term. REDII does not specify how climate change impacts should be considered. A change of tree species (or provenance), or another change in the management of the future stand to anticipate or adapt to new conditions, may result in a (temporary) decrease in carbon stocks and sinks in the short term with the aim to maintain or strengthen carbon stocks and sinks in the long term. It may be necessary to allow for a temporary reduction of carbon stock and sinks if this will result in maintaining or strengthening carbon stocks and sinks in the long term. At the forest sourcing area level, carbon stocks and sinks levels in the forest are considered to be maintained, or strengthened over the long term if forest management will be continued or improved on the basis of regionally adopted specific site-suitable practices under current and future conditions.

Table 8. Checklist of possible tools to demonstrate LULUCF criteria compliance at forest sourcing area level

| Name of tool | Brief description | Reference | URL |
|-------------------------|--|---|---|
| CO2FIX | Stand level simulation model, which quantifies the C stocks and fluxes in the aboveground biomass, belowground forest biomass, soil organic matter and the wood products chain | <ul style="list-style-type: none"> Masera et al. (2003)³⁷ Schelhaas et al. (2004)³⁸ | http://dataservices.efi.int/casfor/models.htm |
| CBM-CFS3 | Stand- and landscape-level modelling framework that simulates the dynamics of all forest carbon stocks required under the Kyoto Protocol (aboveground biomass, belowground biomass, litter, dead wood and soil organic carbon) | <ul style="list-style-type: none"> Kull et al. (2016)³⁹ Kurz et al. (2009)⁴⁰ | https://www.nrcan.gc.ca/climate-change/impacts-adaptations/climate-change-impacts-forests/carbon-accounting/carbon-budget-model/13107 |
| YASSO soil carbon model | Dynamic model of the cycling of organic carbon in soil. Yasso calculates the amount of soil organic carbon, changes in the amount of soil organic carbon and heterotrophic soil respiration | <ul style="list-style-type: none"> Liski et al. (2005)⁴¹ | https://en.ilmatiiteenlaitos.fi/yasso |
| CASMOFOR | Tool to assess the amount of carbon sequestered in a forest system (aboveground biomass, belowground biomass, litter, dead wood and soil organic carbon) | <ul style="list-style-type: none"> Somogyi (2019)⁴² | http://www.scientia.hu/casmofofor/index.php |
| FORMIND | Individual tree-based vegetation model that simulates the growth of forests on the hectare scale. It allows to explore forest dynamics and forest structure | <ul style="list-style-type: none"> Köhler and Huth (1998)⁴³ | http://formind.org/model/ |

³⁷ Masera OR, Garza-Caligaris JF, Kanninen M, Karjalainen T, Liski J, Nabuurs GJ, et al. Modeling carbon sequestration in afforestation, agroforestry and forest management projects: the CO2FIX V.2 approach. *Ecological Modelling*. 2003;164(2-3):177-99.

³⁸ Schelhaas MJ, Esch PWv, Groen TA, Jong BHJd, Kanninen M, Liski J, et al. CO2FIX V 3.1 - Manual. Wageningen: CATIE, EFI, Alterra and Wageningen University; 2004.

³⁹ Kull SJ, Rampley G, Morken S, Metsaranta J, Neilson ET, Kurz WA (2016) Operational-scale Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3) version 1.2: user's guide. Natural Resources Canada, Canadian Forest Service, Northern Forestry Centre, Edmonton, Alberta. 346 p. <http://cfs.nrcan.gc.ca/publications/download-pdf/36556>

⁴⁰ Kurz WA, Dymond CC, White TM, Stinson G, Shaw CH, Rampley GJ, Smyth C, Simpson BN, Neilson ET, Trofymow JA, Metsaranta J, Apps MJ (2009) CBM-CFS3: A model of carbon-dynamics in forestry and land-use change implementing IPCC standards. *Ecol. Model.* 220(4): 480-504.

⁴¹ Liski J., Palosuo, T., Peltoniemi, M., Sievänen, R. (2005) Carbon and decomposition model Yasso for forest soils. *Ecological Modelling* 189(1):168-182. DOI: 10.1016/j.ecolmodel.2005.03.005.

⁴² Somogyi, Z. 2019. CASMOFOR version 6.1. NARIC Forest Research Institute, Budapest.

⁴³ The effect of tree species grouping in tropical rain forest modelling – Simulation with the individual based model FORMIND.

Table 9. Potential data sources to demonstrate LULUCF criteria compliance at forest sourcing area level

| Variable affecting carbon stock and sinks in forests | Potential source of information |
|--|--|
| Tree species composition | <ul style="list-style-type: none"> • Forest inventories • Forest management plan |
| Age structure | <ul style="list-style-type: none"> • Forest inventories • Forest management plan |
| Forest reproductive material used (provenance) | <ul style="list-style-type: none"> • Forest management plan |
| Growth rate of the selected tree species and forest reproductive material used | <ul style="list-style-type: none"> • Forest inventories • National or regional yield tables • Producer of seedlings or seeds used for regeneration |
| Basic wood density | <ul style="list-style-type: none"> • IPCC 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol |
| Carbon content | <ul style="list-style-type: none"> • IPCC 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol |
| Whole-tree biomass in relation growing stock volume | <ul style="list-style-type: none"> • IPCC 2013 Revised Supplementary Methods and Good Practice Guidance Arising from the Kyoto Protocol • National GHG inventory report to UNFCCC • FAO method collection, see http://www.fao.org/3/w4095e/w4095e06.htm . • Scientific literature |
| Thinning intensity and frequency | <ul style="list-style-type: none"> • Forest management plan • Forest management recommendations applicable to the forest sourcing level |
| Rotation length | <ul style="list-style-type: none"> • Forest management plan • Forest management recommendations • Empirical historic data for the sourcing area on rotation cycles applied |
| Cutting regime | <ul style="list-style-type: none"> • Forest management plan • Forest management recommendations |
| Other management decisions | <ul style="list-style-type: none"> • Forest management plan • Forest management recommendations |

Annex E: Requirements for developing Level A risk assessment for REDII Article 29(6)

The risk assessment of compliance with the **harvesting criteria** on a national/sub-national level shall provide accurate, up-to-date and verifiable evidence of all the following elements:

- a) the country of harvest, and, where applicable, the sub-national region where the forest biomass was harvested, including the sourcing area; and
- b) the national or sub-national laws applicable to the area of harvest ensure:
 - i. the legality of harvesting operations, by demonstrating compliance of harvesting with the applicable legislation in the country of harvest, as set out in point (h) of Article 2 of Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market;
 - ii. forest regeneration, by demonstrating that the applicable laws require natural or artificial regeneration, or a combination of both, aiming at the establishment of a new forest in the same area and within at least five years after the harvesting operation, and that there is no biodiversity degradation in the regenerated forest area, including that primary forests and natural or semi-natural forests are not degraded to or replaced with plantation forests;
 - iii. the effective protection of areas designated by international or national law, or by the relevant competent authority, for nature protection purposes, including areas being defined as wetlands and peatlands;
 - iv. that forest harvesting is carried out in a way that minimise negative impacts on soil quality and biodiversity, by demonstrating that the applicable laws ensure, during the harvesting operations, the protection of soils, species and habitats, and regulate the removal of stumps, roots, deadwood, and where appropriate, needles or leaves;
 - v. that the long-term production capacity of the forest is maintained or increased, by demonstrating that the applicable laws ensure that the forest harvesting does not exceed the annual growth on average, except in cases where it is temporarily justified due to documented forest pests, storms or other natural disturbances; and that it does not hamper the forest's health and the related ecosystem services;
- c) the existence of systems for ensuring monitoring, implementation and enforcement of the national and sub-national laws referred to in paragraph (b), including information on the following elements: authorities competent for carrying out monitoring, implementation and enforcement, sanctions for non-compliance, systems for appealing against decisions, and public access to information;
- d) that there is no significant lack of enforcement of the national and/or sub-national laws and regulations referred to in point (b).

NOTE: With regard to the evidence required by point (d), economic operators shall take into account any legal assessments and reports, prepared by national or international governmental organisations, detailing a lack of enforcement of the national or sub-national laws referred to in point (b). Any on-going infringement procedure brought by the European Commission against a Member State, on the basis of relevant Union legislation, shall be also taken into account. The existence of a ruling of the Court of

Justice against a Member State, for the violation of relevant Union legislation, such as Regulation (EU) No 995/2010 of the European Parliament and of the Council, shall be considered evidence of such a lack of enforcement.

The main process for the level A assessment shall follow the two steps as described below, where each step will be repeated for each criterion.

Step 1: Assessment if laws/regulation is in place:

For each criterion within the sustainable harvesting criteria a check is done if legislation is in place in the country covering that criterion. This could be either in specific forest legislation (e.g. forest laws mentioning need for regeneration) or more environmental legislation (e.g. identifying and limiting activities in protected areas).

Several countries are organised in such a way that several topics of legislation are not nationally regulated but regionally (for example Belgium, Italy or Germany). In those cases, a country as a whole can only pass the criterion if legislation is present in each underlying region to comply with that criterion. So, in these cases, all underlying regions would need to be reviewed for relevant legislation, or the presence of an overarching framework with the criterion is present.

As it would be beyond the legal requirement of REDII, which only requires active legislation to address the criteria topic, this step does not require to assess the effectiveness of the laws (e.g. if the regulation on the longer term actually obtains the objective of the criteria in the manner the regulation is currently formulated). The assessment only aims to identify whether laws exist that explicitly or implicitly aim to achieve the criteria and sub-criteria. In this assessment the concept the criterion covers, needs to be identified in legislation, regulation or underlying technical codes. It could be in different terminology, as long as the essence is the same and regulation is in place to safeguard the criteria. Since sustainable forest management is detailed differently in different countries (influenced by management practices, climate impacts and forestry types), the details of the regulations are not prescribed or included in the assessment. The main objective is to identify countries which are 'low risk', because they have legislation and monitoring/enforcement in place covering the forest sustainability criteria. It is the responsibility of the country to identify which sustainable management practices and resulting regulatory details are suitable for their specific forests.

Step 2: Assessment of monitoring and enforcement in place:

Once relevant legislation has been identified that covers the criteria, in a following step a review shall be done to ensure that monitoring and enforcement systems are in place and that there is no evidence of a significant and systematic lack of enforcement.

This step comprises of the following elements:

- Check if for each of the identified national or sub-national laws/regulations as identified in the first step, monitoring and enforcement provisions, including sanctions are detailed in the regulations;
- Check the absence of robust evidence of significant and systematic lack of enforcement. This is done by:

- Review if there is an ongoing infringement procedure by the European Commission against the country in any field relevant to the criteria (e.g. illegal logging, insufficient conservation of protected areas). If there is an active infringement procedure, the enforcement element of the criteria will be set to No and thus the criterion regarded as non-compliant;
- Secondly, review the UNEP-WCMC “briefing notes on the implementation of the EU Timber Regulation” of the past two years to check for any mention of serious offenses. If these are mentioned, it is important to review if the briefing notes later report that the issues have been resolved. These briefing notes consider forest sector governance broadly so its reporting can be of relevance for the assessment of any of the sustainable harvesting criteria. If offenses were reported in these briefing notes, the description of these offenses can be used to assess for which criteria enforcement will be set to No. If the comment indicates ‘corrupt or dysfunctional forest governance’ or a similar statement, all criteria on sustainable harvesting will be set to No;
- Any other evidence from (international) governmental organisation can be used to substantiate a lack of compliance once this evidence is recent and structural.

Table 111 provides a checklist of types of proof and possible information sources to demonstrate sustainability compliance at level A. However, note that the checklist does not specify benchmark requirements that would allow qualitative assessment of a country’s laws, as the latter is outside the scope of REDII requirements.

Table 11. Checklist for demonstrating compliance with the harvesting criteria through national or sub-national laws (level A).

Note that the sustainability criteria are referred in abbreviated format, while the wording of REDII remains the official reference

| REDII Criteria | | Requirement | Type of evidence/verified information | Possible information sources |
|----------------|---------------------|-------------|---|--|
| 29.6a(i) | Harvesting legality | Laws | <ul style="list-style-type: none"> • Adequate and efficient due diligence as required under the EU Timber Regulation (EUTR, (EU) 995/2010) has determined negligible risk of illegal logging | <ul style="list-style-type: none"> • Legislation in the area of forestry can be checked from national official legislation journals and databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |

| REDII Criteria | | Requirement | Type of evidence/verified information | Possible information sources |
|----------------|---------------------|----------------------------|--|--|
| 29.6a(i) | Harvesting legality | Monitoring/ Enforcement | <ul style="list-style-type: none"> • Proof that there is no evidence from national or international governmental organisations⁴⁴ that there is significant and continued lack of enforcement | <ul style="list-style-type: none"> • The UNEP-WCMC briefing notes on EUTR implementation: www.unep-wcmc.org/featured-projects/eu-timber-regulations-and-flegt |
| | | | <ul style="list-style-type: none"> • Evidence that the relevant Member State is not subject to any ongoing EU infringement procedure for non-compliance with the EU Timber Regulation | <ul style="list-style-type: none"> • For information on EU infringement procedures, query for "MISCELLANEOUS - FORESTS - Non-compliance with EUTR and FLEGT Regulations" in the query form's Title field: https://ec.europa.eu/info/law/infringements_en |
| 29.6a(ii) | Forest regeneration | Laws | <ul style="list-style-type: none"> • Legal analysis showing that the relevant legislation complies with the forest regeneration criteria | <ul style="list-style-type: none"> • Legislation in the area of forestry can be checked from official national legislation journals and databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |
| 29.6a(ii) | Forest regeneration | Monitoring/ Enforcement | <ul style="list-style-type: none"> • Legal analysis showing that the relevant forest legislation includes monitoring and enforcement requirements for forest regeneration | <ul style="list-style-type: none"> • Legislation in the area of forestry can be checked from official national legislation journals and databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |
| | | | <ul style="list-style-type: none"> • Proof that there is no evidence from national or international governmental organisations that there is significant and continue lack of enforcement | <ul style="list-style-type: none"> • The UNEP-WCMC briefing notes on EUTR implementation: www.unep-wcmc.org/featured-projects/eu-timber-regulations-and-flegt • Other recent and relevant official information from national governmental or international inter-governmental sources, such as World Bank, FAO, UNEP. |

⁴⁴ NGO based sources are included only indirectly (for example through the UNEP-WCMC briefing notes) as to ensure a quality check has taken place on the information in these sources and ensuring no conflicting findings and outcomes.

| REDII Criteria | | Requirement | Type of evidence/verified information | Possible information sources |
|----------------|-----------------|----------------------------|--|---|
| 29.6a(iii) | Protected areas | Laws | <ul style="list-style-type: none"> Legal analysis showing that the relevant legislation complies with the protect areas requirement | <ul style="list-style-type: none"> Legislation in the area of forestry can be checked from official national legislation journals and databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex European Environment Agency Common Database on Designated Areas for all its 36 member countries. https://www.eea.europa.eu/data-and-maps/data/nationally-designated-areas-national-cdda-14 World Database on Protected Areas (WDPA), including reports on the effective management of protected areas for most countries in the World. http://www.protectedplanet.net |
| 29.6a(iii) | Protected areas | Monitoring/ Enforcement | <ul style="list-style-type: none"> Legal analysis showing that the relevant forest legislation includes monitoring and enforcement requirements for protected areas | <ul style="list-style-type: none"> Legislation in the area of forestry can be checked from official national legislation journals and databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |
| | | | <ul style="list-style-type: none"> Proof that there is no evidence from national or international governmental organisations that there is significant and continue lack of enforcement | <ul style="list-style-type: none"> The UNEP-WCMC reports on EUTR implementation: www.unep-wcmc.org/featured-projects/eu-timber-regulations-and-flegt World Database on Protected Areas (WDPA), including reports on the effective management of protected areas for most countries in the World. http://www.protectedplanet.net Other recent and relevant official information from national governmental or international inter-governmental sources, such as World Bank, FAO, UNEP. |

| REDII Criteria | | Requirement | Type of evidence/verified information | Possible information sources |
|----------------|--|----------------------------|--|--|
| 29.6a(iv) | Maintenance of soil quality and biodiversity | Laws | <ul style="list-style-type: none"> Legal analysis showing that the relevant legislation complies with the maintenance of soil quality and biodiversity criteria | <ul style="list-style-type: none"> Legislation in the area of forestry can be checked from national legislation databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |
| 29.6a(iv) | Maintenance of soil quality and biodiversity | Monitoring/ Enforcement | <ul style="list-style-type: none"> Legal analysis showing that the relevant forest legislation includes monitoring and enforcement requirements for protected areas | <ul style="list-style-type: none"> Legislation in the area of forestry can be checked from national legislation databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |
| | | | <ul style="list-style-type: none"> Proof that there is no evidence from national or international governmental organisations that there is significant and continue lack of enforcement | <ul style="list-style-type: none"> The UNEP-WCMC reports on EUTR implementation: www.unep-wcmc.org/featured-projects/eu-timber-regulations-and-flegt Other recent and relevant official information from national governmental or international inter-governmental sources, such as World Bank, FAO, UNEP |
| 29.6a(v) | Long-term production capacity | Laws | <ul style="list-style-type: none"> Legal analysis showing that the relevant legislation complies with the long-term production capacity criteria | <ul style="list-style-type: none"> Legislation in the area of forestry can be checked from national legislation databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |
| 29.6a(v) | Long-term production capacity | Monitoring/ Enforcement | <ul style="list-style-type: none"> Legal analysis showing that the relevant forest legislation includes monitoring and enforcement requirements for long-term production capacity | <ul style="list-style-type: none"> Legislation in the area of forestry can be checked from national legislation databases or from the UN-FAO FAOLEX database of national legislation, policies and bilateral agreements on environment, forestry, land & soil, agriculture and natural resources management, amongst other. http://www.fao.org/faolex |

| REDII Criteria | | Requirement | Type of evidence/verified information | Possible information sources |
|----------------|--|-------------|--|--|
| | | | <ul style="list-style-type: none"> • Proof that there is no evidence from national or international governmental organisations that there is significant and continue lack of enforcement | <ul style="list-style-type: none"> • The UNEP-WCMC reports on EUTR implementation: www.unep-wcmc.org/featured-projects/eu-timber-regulations-and-flegt • Other recent and relevant official information from national governmental or international inter-governmental sources, such as World Bank, FAO, UNEP |

Annex F: Requirements for developing Level A risk assessment for REDII Article 29(7)

The risk assessment of compliance with the **criteria on land use, land use change and forestry (LULUCF)** at national level (Level A) shall provide accurate, up-to-date and verifiable evidence that the country or regional economic integration organisation from which the forest biomass originates, is Party to the Paris Agreement and fulfils either of the two conditions:

- a) it has submitted a nationally determined contribution (NDC), under the 2015 Paris Agreement on Climate Change following the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, that meets the following requirements:
 - i. the NDC integrates the agriculture, forestry and land use sectors, either combined as one agriculture, forestry and other land use (AFOLU) sector, or as agriculture and LULUCF sectors separately;
 - ii. the NDC explains how the agriculture, forestry and land use sectors have been considered in the NDC;
 - iii. the NDC counts the emissions and removals from the agriculture, forestry and land use sectors against the country's overall emission reduction target, including emissions associated with harvesting of forest biomass; or
- b) there are national or sub-national laws, applicable to the area of harvest, to conserve and enhance carbon stocks and sinks in forests. In addition, evidence shall be provided that the reported LULUCF sector emissions do not exceed removals on average over the ten years preceding the harvesting of the forest biomass and that carbon stocks and sinks are conserved or enhanced between the last two successive ten-year periods preceding the harvesting of forest biomass.

In the following, a three-step approach to estimate compliance with the LULUCF sub-criterion at a national level (level A) is described (see also a summary in Table 12).

Step A.1: Determine if a country or a regional economic integration organisation is a party to the Paris Agreement

As a first step, it is necessary to check whether the country or regional economic integration organisation is listed as a Party to the Paris Agreement. This could be verified from the United Nations list of parties to the Paris Agreement. If this condition is not met, demonstrating compliance at national level (level A) is not possible and an economic operator should proceed with demonstrating compliance at forest sourcing area level (level B) (see Section 6.4 and Annex D).

Step A.2: Determine if a country or a regional economic integration organisation has submitted a Nationally Determined Contribution (NDC)

In the second step, it is necessary to determine whether the country or regional economic integration organisation from which forest biomass is originating has submitted a Nationally Determined Contribution and whether it has integrated the agriculture, forestry and land use sectors into its NDC (either combined as one AFOLU sector, or as Agriculture and LUCUCF sectors separately). Please note that countries and regional economic integration organisations are requested to submit the next round of NDCs (new or updated NDCs) by 2020 and every five years thereafter (i.e. by 2020, 2025,

2030), regardless of their respective implementation time frames⁴⁵. Some countries have already submitted new NDCs and more countries will submit them towards the end of 2020⁴⁶.

As NDCs are nationally determined and there are no mandatory accounting methods for LULUCF in the Paris Agreement, but only provisions aimed at ensuring transparency of the method used. Hence, countries will have different approaches to setting national targets in their NDCs and apply different methods to account AFOLU emissions and removals towards their climate targets. Similarly, also the approaches addressing the AFOLU sector in the NDCs may differ; countries might exclude the AFOLU sector from their NDC at all, they might include the AFOLU sector within the overall target for emission reductions, or they might have a separate target for the AFOLU sector (or even separately for agriculture and the LULUCF sectors).

The mere existence of a submitted NDC mentioning the AFOLU sector (or the agriculture and the LULUCF sectors) is not enough for demonstrating compliance with the criteria of Art. 29.7. Instead, the NDC should:

- Explain how the AFOLU sector (or separately for agriculture and the LULUCF sectors) has been considered in the NDC; and
- Count the emissions and removals from the AFOLU sector against the country's overall emission reduction target; and
- Consider carbon stock changes associated with harvesting forest biomass in the total emissions of the AFOLU sector.

In case that all three requirements are met, biomass from any forestry operator in the country/region complies with the LULUCF requirements of REDII. In case the requirements are not met, an economic operator could proceed with the next (third) step.

Step A.3: Determine if national or sub-national laws that aim to conserve and enhance carbon stocks and sinks in forests are in place

For the third step, it is necessary to check whether national or sub-national laws are in place that aim to conserve and enhance carbon stocks and sinks in forests. For example, such laws could be (sub-) national laws implementing the LULUCF Regulation, or other climate change or protection-related laws in case they require that forest carbon stocks and sinks are maintained or enhanced. The presence of a law that merely requires that forest area should be maintained is not sufficient as it does not guarantee that the carbon stocks and sinks are maintained or enhanced.

The presence of such laws must be accompanied with evidence that reported LULUCF sector emissions do not exceed removals. Such information can be obtained from National Greenhouse Gas Inventory Reports submitted to UNFCCC. It is recommended to consider emissions and removals data from a period of the last 10 years, but can be shorter or longer to mitigate the impact of annual disturbance or any eventual stochastic events on the levels of carbon emissions and removals. Compliance is demonstrated when the sum of reported LULUCF sector emissions (reported as positive values) and removals (reported as negative values) is zero or negative. If this condition is not met, demonstrating compliance at national level (level A) is not possible and an economic operator should

⁴⁵ <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs#eq-1>

⁴⁶ <https://www4.unfccc.int/sites/ndcstaging/Pages/LatestSubmissions.aspx>

proceed with demonstrating compliance at forest sourcing area level (level B) (see Section 6.4 and Annex D).

Table 12. Summary of LULUCF criteria, related proof of compliance and possible sources of evidence (Article 29.7(a))

| Criteria | Evidence of compliance | Source |
|--|---|--|
| The country or regional economic integration organisation of origin of the forest biomass: | | |
| (i) is a Party to the Paris Agreement | <ul style="list-style-type: none"> The country or regional economic integration organisation is listed as a Party to the Paris Agreement | <ul style="list-style-type: none"> United Nations list of parties to the Paris Agreement: https://unfccc.int/process/the-paris-agreement/status-of-ratification |
| (ii) has submitted a nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC), covering emissions and removals from agriculture, forestry and land use which ensures that changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC | <ul style="list-style-type: none"> Presence of a Nationally Determined Contribution in the UNFCCC registry, submitted by the country or regional economic integration organisation | <ul style="list-style-type: none"> NDC is included in the UNFCCC NDC Registry: https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs https://cop23.unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs#eq-2 |
| | <ul style="list-style-type: none"> Emissions and removals by agriculture, forestry and land use are included in the country's or regional economic integration organisation's NDC | <ul style="list-style-type: none"> Information provided in the NDC |
| | <ul style="list-style-type: none"> Changes in carbon stock associated with biomass harvest are considered in the emissions and removals by agriculture, forestry and land use | <ul style="list-style-type: none"> Information provided in the NDC |
| (iii) has national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and providing evidence that reported LULUCF-sector emissions do not exceed removals | <ul style="list-style-type: none"> Presence of national or sub-national laws to conserve and enhance carbon stocks and sinks in forests | <ul style="list-style-type: none"> National or sub-national legislation |

| Criteria | Evidence of compliance | Source |
|----------|---|--|
| | <ul style="list-style-type: none"> Reported LULUCF-sector emissions for the country or regional economic integration organisation do not exceed removals | <ul style="list-style-type: none"> Compare emissions and removals for the LULUCF sector, as reported in National Inventory Reports submitted to UNFCCC: https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/national-inventory-submissions-2019 https://unfccc.int/ghg-inventories-annex-i-parties/2021 |

Annex G: List of Information to be reported by Voluntary Schemes in their annual activity reports to the Commission

Voluntary schemes must report the following information in their annual activity reports to the Commission:

- (a) rules on the independence, method and frequency of audits as approved by the Commission upon accreditation of the voluntary scheme and any changes to them over time to reflect Commission guidance, the modified regulatory framework, findings from internal monitoring on the auditing process of certification bodies and evolving industry best practice.
- (b) rules and procedures for identifying and dealing with non-compliance by economic operators and members of the scheme.
- (c) evidence of fulfilling the legal requirements on transparency and publication of information in line with Article 6.
- (d) stakeholder involvement, in particular on the consultation of indigenous and local communities prior to decision-making during the drafting and review of the scheme as well as during audits and the response to their contributions.
- (e) overview of the activities carried out by the voluntary scheme in cooperation with the certification bodies in order to improve the overall certification process and the qualification and independence of auditors and relevant scheme bodies.
- (f) market updates of the scheme, the amount of feedstock, biofuels, bioliquids and biomass fuels certified, by country of origin and type, and the number of participants.
- (g) overview of the effectiveness of the implementing system put in place by the governance body of the voluntary scheme in order to track proof of conformity with the sustainability criteria that the scheme gives to its member(s). This shall cover, in particular, how the system effectively prevents fraudulent activities by ensuring timely detection, treatment and follow-up of suspected fraud and other irregularities and where appropriate, the number of cases of fraud or irregularities detected.
- (h) criteria for the recognition of certification bodies.
- (i) rules on how the internal monitoring system is conducted and the results of its periodic review, specifically on oversight of the work of certification bodies and their auditors as well as on the system of handling complaints against economic operators and certification bodies;
- (j) possibilities to facilitate or improve the promotion of best practices.
- (k) voluntary schemes certifying forest biomass must include information on the way the risk assessment required in article 29 (6) and (7) of the Directive (EU) 2018/2011 is made.