Instruction Document

Instruction Document 6B: Biomass Compliance for Flanders

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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Contents

A	Background	**1**
B	Purpose	**1**
C	Scope	**2**
D	How to use this document	**2**
E	Normative references	**3**
F	Glossary of terms and definitions	**3**
1	General principles	**5**
2	Quality management system	**9**
3	Methodology for the Biomass Report	**10**
4	Methodology for the calculation of the energy use	**26**
5	Methodology for the calculation of GHG emissions in the Biomass Report for Flanders	**37**
6	Accreditation, role and responsibilities of the Certification Body	**50**

List of abbreviations

BP	Biomass Producer
CB	Certification Body
CoC	Chain of Custody
DTS	SBP Data Transfer System
DTR	Downstream Transport Route
GHG	Greenhouse Gas
JRC	Joint Research Centre of the European Commission
MJ	Megajoules or million joules accounting primary energy use
OVAM	Public Waste Agency of Flanders (Belgium)
PB ID	Production Batch ID
RRA	Regional Risk Assessment
RA	Risk Assessment
SAR	SBP Audit Report for Energy and Carbon data
SBE	Supply Base Evaluation
SBR	Supply Base Report
SBP	Sustainable Biomass Program
SDI	Static Data Identifier
SREG	SBP Report on Energy and Carbon for Supplied Biomass
VEKA	Flemish Energy & Climate Agency, the Regulator

A Background

The Sustainable Biomass Program (SBP) is a certification scheme designed for biomass, mostly in the form of wood pellets and chips.

The SBP certification scheme provides assurance to stakeholders that biomass is sourced both legally and sustainably, and it provides a means to collect and communicate reliable and verified data throughout the supply chain, including energy data, allowing companies in the biomass sector to demonstrate their responsible sourcing achievement and compliance with regulatory requirements, and to calculate their Greenhouse Gas (GHG) footprint.

There are six SBP Standards, which collectively represent the SBP certification scheme, against which Organisations can be assessed (as applicable) for certification by independent third-party accredited Certification Bodies (CBs). The Standards were developed and revised following a rigorous process aligned with ISEAL Standard-setting Code of Good Practice, considering and building on existing regulatory requirements, peer voluntary certification standards and stakeholders' input.

An Organisation that satisfactorily demonstrates conformance with the SBP Standards receives a certificate and may be entitled to make use of the SBP Data Transfer System (DTS) and SBP claims in relation to the biomass it produces, sells, buys and/or uses.

B Purpose

The SBP certification scheme provides assurance to End-users that the biomass is sourced from legal and sustainable feedstock as defined in SBP Standard 1. SBP certification relies on a third-party, independent certification process carried out by accredited CBs.

In order to stimulate the production of renewable energy a production support system is in place in Flanders, the Flemish region in Belgium, according to the Energy Decision and related legislation. On a monthly basis the amount of support, given in the form of green certificates that have a market value, is calculated based on in-situ measurements at the energy plant, combined with both quantitative and qualitative properties of the biomass used in that month.

Among quantitative properties are:

a) the energy needed to produce the biomass (pre-treatment energy); and

b) the energy needed to transport the biomass (transport energy).

Support is only given to the net green electricity production. In this context that means that the equivalent electricity, which could have been produced by using the amount of primary energy needed for the pre-treatment and transport of the biomass, is subtracted from the in situ measured net green electricity generation by the energy plant. So, when pre-treatment or transport energy get lower, the amount of support for the energy plant increases.

Among qualitative properties are the sustainability criteria. When the applicable sustainability criteria are not met, the green electricity production is not eligible for support.

All relevant properties of the biomass supply chain are bundled in the Biomass Report as defined in Chapter II of the Ministerial Decree.

In order to provide confidence in the amount of support an End-user may expect, as well as to provide public confidence about the legitimacy of the granted support, these Biomass Reports shall be certified against Instruction Document 6B. The requirements for CBs performing evaluations of Certificate Holders against Instruction Document 6B are described in Section 6 of Instruction Document 6B: Accreditation, role and responsibilities of the CB.

C Scope

Compliance with this Instruction Document 6B is not mandatory to make SBP claims. It is optional within the SBP Framework and only of interest to End-users who need a certified Biomass Report, as a regulatory requirement in the Flemish region of Belgium, to obtain production support for their energy plant located in the Flemish region.

This Instruction Document 6B is a normative document for the certification of a Biomass Report. It describes the principles and methodology for the Certificate Holder to fill in a Biomass Report and for the CB to verify it.

In this version of Instruction Document 6B the scope is limited to feedstock that is:

– neither short rotation coppice;

– neither residues originating from agriculture, aquaculture, fisheries.

When reported in the SBP Audit Report (SAR), a claim shall be made in the DTS for excluding those corresponding Feedstock Groups used by the BP that may be considered Short rotation coppice or Residues originating from agriculture, aquaculture, fisheries according to Flemish legislation. The yearly biomass production under section 3.6 shall be recalculated by subtracting the raw material made of those corresponding Feedstock Groups.

Normative requirements for the CB to provide a certification of a Biomass Report are presented in Section 6 of this Instruction Document 6B: Accreditation, role and responsibilities of the CB.

D How to use this document

A Biomass Report describes all relevant properties – named 'Characteristics' – of the biomass supply chain as defined in Chapter II of the Flemish Ministerial Decree. Depending on these Characteristics the amount of support is determined according to the Flemish Energy Decision and related legislation. A certified Biomass Report provides confidence about the amount of support an End-user may expect, as well as public trust on the legitimacy of that granted support.

The Biomass Report shall reflect the Characteristics of the biomass and its supply-chain as delivered to a given energy plant operated by the End-user. As such it reflects the Characteristics of the process of supplying biomass to a given energy plant.

When the Certificate Holder satisfactorily demonstrates compliance with this Instruction Document, the Biomass Report shall be certified and claims may be used in accordance with this Biomass Report for using the biomass originating from a well specified BP during its validity period in Flanders.

E Normative references

Related SBP Standards:

SBP Standard 1: Sustainability criteria for feedstock conformance;

SBP Standard 2: Verification of SBP-compliant feedstock with risk-based analysis;

SBP Standard 3: Requirements for Certification Bodies;

SBP Standard 4: Chain of Custody;

SBP Standard 5: Collection and Communication of GHG Data;

SBP Standard 6: Energy and Carbon Balance Calculation.

NOTE: This document may be used in conjunction with both versions of SBP Standards, v1.0 and v2.0. From a future-oriented perspective, in the document only reference is made to SBP Standards v2.0, but SBP Standards v1.0 is also applicable for biomass handled in the period before the effective date of version 2.0 of the SBP Standards (10 August 2023) and during the transition period ending on 09 November 2025.

Related instruction documents:

Instruction Document 5E: Collection and Communication of Energy and Carbon Data v1.5 – effective from 22 July 2021;

Instruction Document 5E: Collection and Communication of Energy and Carbon Data v2.1 – effective from 27 November 2023.

Applicable Flemish legislation:

Energy Decision: Besluit van de Vlaamse Regering houdende algemene bepalingen over energiebeleid (Decision of the Flemish Government concerning general provisions on energy policy of 19 November 2010);

Ministerial Decree: Ministerieel besluit houdende het aantonen van biomassakenmerken (Ministerial Decree on demonstrating biomass characteristics, of 05 April 2019, published on 23 July 2019).

F Glossary of terms and definitions

The definitions of the Glossary v2.0 of SBP, if necessary definitions of the Glossary v1.0 of SBP, are applicable to the exception of specific definitions of the Flemish legislation listed here after. The definitions listed below are specific to this Instruction Document.

Biomass Report

A Biomass Report bundles all relevant properties of the biomass supply chain as defined in Chapter II of the Ministerial Decree, see also section 5.3.

Characteristics

The characteristics of the biomass supply chain as described in the Biomass Report in conformance with Chapter II of the Ministerial Decree.

Date of assignment

This date is structured as [dd mm yyyy] and is the audit closure date of the last audit of the SAR used to complete the Biomass Report.

Forest residues

Residues that are directly generated by forestry and that do not include residues from related industries or processing. Only bark, branches, pre-commercial thinnings, leaves, needles and tree tops may be considered as residues originating from forestry.

OVAM
The Flemish waste institute in charge of defining the acceptable use of biomass and waste.

PB ID (ID5E version 1.5)
A unique identifier for a Production Batch. It takes the form 'XX-YY-ZZ-AA', where 'XX-YY-ZZ'is the Static Data Identifier within the scope of the BP's SBP Certificate and 'AA' is a unique Dynamic Batch Sustainability Data Identifier for that Production Batch.

PB ID (ID5E version 2.1)
A unique identifier for a Production Batch that takes the form 'SBP-XX-YY-ZZAA-BB', where 'XX-YY-ZZ' is the Static Data Identifier within the scope of the BP's SBP Certificate and 'AA-BB' is a unique Dynamic Data Identifier for that Production Batch.

Pre-commercial thinnings
Wood originating from the trees felled during the implementation of a thinning performed prior to trees reaching merchantable size, in any case not significantly larger than 11 cm (4,5 inches) dbh (diameter at breast height measured at 137 cm (4.5 ft) above the ground).

Plantation (Art.1.1.1.§2 47/2° of the Energy Decision)
A forest consisting of similarly aged trees of one or a few species, usually exotics, established in an even layout by planting or sowing for the purpose of wood production.

Processing residues (Art.6.1.16.§1/1 of the Energy Decision)
Residues not originating from agriculture, aquaculture, fisheries, forestry or nature reserves but from industries or processing.

Production forest (Art.1.1.1.§2 81/2° of the Energy Decision)
A forest area intended primarily for the production of wood, fiber, bioenergy or non-wood forest products.

Residue (Art.1.1.1.§2 87/1° of the Energy Decision)
'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.

Roundwood (Art.1.1.1.§2 88/1° of the Energy Decision)
Raw wood from the trunk of a tree; not from the branches, stump or root.

Static Data Identifier (SDI, ID5E version 1.5)
Each Scope End-point shall be allocated an SDI whose purpose is to permit the correct Reporting Period data to be associated with biomass supplied by a BP over multiple Reporting Periods and where a BP has multiple Scope End-points. A Static Data Identifier refers only to a single Reporting Period. A new Static Data Identifier is allocated for each Reporting Period.

VEKA:
Vlaams Energie- en Klimaatagentschap, Flemish regulator.

Verification Statement
Written statement issued by the CB to confirm that a particular Biomass Report issued by the Certificate Holder complies with the requirements of SBP Instruction Document 6B.

1 General principles

1.1 SBP Standards

Adoption of SBP Standard 1, 2, 3, 4, 5 and 6 may lead to a certified Biomass Report.

Adoption of SBP Standard 1, 2, 3, 4 and 5 may lead to the SBP claim that biomass is either SBP-compliant or SBP-controlled. As described in section 3, the conclusion about the value of some Characteristics may (in part) be based upon the claim that the biomass is SBP-compliant.

SBP Standard 6: Energy and Carbon Balance Calculation defines the requirements and options for the calculation of energy and carbon balances. This is usually undertaken by the End-user and compliance with other SBP standards is not a pre-requisite for the entity in demonstrating compliance with this standard. The requirements for energy and carbon balance calculations vary between different regulatory frameworks. As such, the methodology by which calculations shall be made is specified in this document which is specific to regulatory requirements in Flanders, respectively. Compliance with this standard alone does not permit any claims to be made on the sustainability of biomass used or supplied. This means that Standard 6 does not verify sustainability criteria related to BPs.

1.2 SBP Concepts from Standard 5

Because BPs supply biomass from a range of locations (for example, ex-works, ports, quaysides, delivered-in) and use a range of transport systems to reach the physical point of legal transfer, those differences in energy and carbon data shall be captured in the Static Data Identifier (SDI) or Downstream Transport Route (DTR). Additionally, the energy and carbon data will change between each Reporting Period.

SBP uses Data Identifiers that correspond to the physical points of transfer of the biomass in order to enable the correct data to be allocated in function of the range of locations and the transport systems that are used to supply the biomass (for example, ex-works, ports, quaysides, etc.). As different transport routes correspond to a change of energy and carbon data, there shall be separate calculations per transport route and they shall be reported in distinct Biomass Reports associated to the same BP.

Certificate Holders wishing to supply biomass outside of the transport routes that are described in the SAR of the BP shall record the relevant energy and carbon data for inland and/or sea transport in the corresponding DTS form "SBP Report on Energy and Carbon for Supplied Biomass (SREG)". Additionally, where an End-user requires biomass to be supplied with an SREG, BPs and Traders shall record the relevant energy and carbon data in the SREG, whether that be for inland transport and/or sea transport, by using the correct form in the DTS.

BPs selling biomass with an SBP Claim shall define production batches. Biomass produced in a single production batch is considered identical in terms of energy and carbon data. Each Production Batch is allocated a unique identifier, the Production Batch ID (PBid). The PBid enables all legitimate Legal Owners of the biomass to access relevant energy and carbon data.

Transactions shall be recorded in the SBP Data Transfer System (DTS) and claims are only valid if transferred through the DTS.

Feedstock description is used per group of feedstock used by the BP for making the biomass product. It can be found in Paragraph 2.1 of the SAR. Each Feedstock Group is referenced with an ID and 12 different properties recorded in different columns of the Feedstock Table 2.1 of the SAR.

Those properties are used by the Certificate Holder to fill in the Biomass Report:

– Feedstock Group ID

1.2 SBP Concepts from Standard 5 (continued)

The following properties are used for the compliance of every feedstock group with the sustainability criteria as reported in the Biomass Report:

- Feedstock Type
- Origin
- Physical Description
- Country of harvest (new row for each country)

The following properties are used with a weighted average per group for the sake of energy and GHG savings calculations:

- Raw mass as received in metric tonnes
- Moisture as received (weighted average, single figure)
- Any pre-processing (chipping, drying, none)

In the SAR for pellets, for mobile and for stationary chipping of wood chips only, the following properties are also used with a weighted average per group for the sake of energy and GHG savings calculations

- Weighted average distance (km)
- Maximum distance (km)
- Type of vehicle used
- Fuel or driving force used by the vehicle
- Weighted average truckload

Table 4.1 of the SAR delivers transport data for the final biomass product (mode of transport, fuel and distance).

1.3 Biomass Report

The Biomass Report reflects the properties of a biomass supply chain from the harvest or origination as waste or residue, up to the energy plant of the end-user. SBP Standard 4 guarantees that when determining the properties of such a supply chain, as referred to in the Biomass Report, the principles of traceability and the Mass Balance System are assured at all times.

In conformance with Art. 6 of the Ministerial Decree, the period of validity of the Biomass Report is **two years after the date of assignment**. That date of assignment of the Biomass Report cannot be before any underlying certificate or any SAR used to derive any of the Characteristics. As from this date the energy production can be claimed as being sustainable for the sake of the Flemish Energy & Climate Agency.

Example 1. The properties as stated in the Biomass Report may thus be claimed, starting from the date of assignment, even though the physical transport of the biomass took place before that date.

Example 2. As the maximum period of validity is two years from the date of assignment, the biomass Characteristics shall be conservatively estimated by VEKA once this period has expired and no other valid Biomass Report for this biomass flow is submitted.

1.4 Use of claims within the DTS

The DTS of SBP allows the BP to make a Claim assuring that some sustainability properties are valid on a subset of the feedstock of the BP.

The Claim area of the DTS foresees the following information:

General batch info

1. Product Batch ID (PBid)
2. Biomass tonnage

Market Specific Status: this is the market specific status of the biomass covered by the PBid (multiple options can be chosen):

- Not Applicable
- NL SDE+ Compliant
- NL SDE+ Controlled
- REDII Compliant
- Flanders Restricted: this field indicates that part of the biomass production is restricted to a specific feedstock subset such as to facilitate compliance for final use in Flanders according to Instruction Document 6B.

The use of these statuses is described in the DTS user guide. Compliance is monitored through the SPB certification scheme as every claim needs to be integrated in the SAR as required by Instruction Document 5E.

Three different types of claims, linked to the market status 'Flanders Restricted' are foreseen in the DTS. In the case of the use of such a claim, the yearly biomass production under section 7.6 shall be recalculated by subtracting the raw material made of excluded Feedstock Groups:

1. Flanders restricted biomass from processing residues

Biomass covered by the PBid may be categorized as "Flanders restricted biomass from Processing residues" when for the corresponding Feedstock Group, represented as a row in Table 2.1 of the SAR, the two sub-conditions below are met:

a. column "Feedstock type for biomass production", contains the term "Processing residues" for the corresponding Feedstock Group or Feedstock Groups, and

b. column "Origin", contains the term "Sawmill and wood industry residues" for the corresponding Feedstock Group or Feedstock Groups.

When all the biomass covered by the PBid is categorized as "Flanders Restricted" with the claim "Flanders restricted biomass from processing residues" according to the above procedures, the sub-section "Flanders restricted biomass from processing residues" may be marked as "yes", otherwise it shall be marked as "no" or "n/a" (not applicable).

2. Flanders restricted biomass from processing residues restricted to sawdust

Biomass covered by the PBid may be categorized as "Flanders restricted biomass from processing residues restricted to sawdust" when for the corresponding Feedstock Group or Feedstock Groups, represented as a row in Table 2.1 of the SAR, the three sub-conditions below are met:

a. column "Feedstock type for biomass production", contains the term "Processing residues" for the corresponding Feedstock Group or Feedstock Groups, and

b. column "Origin", contains the term "Sawmill and wood industry residues" for the corresponding Feedstock Group or Feedstock Groups, and

c. column "Physical Description", contains the term "Sawdust" for the corresponding Feedstock Group or Feedstock Groups.

1.4 Use of claims within the DTS (continued)

When all the biomass covered by the PBid is categorized as "Flanders Restricted" with the claim "Flanders restricted biomass from processing residues restricted to sawdust" according to the above procedures, the sub-section "Flanders restricted biomass from processing residues restricted to sawdust" may be marked as "yes", otherwise it shall be marked as "no" or "n/a" (not applicable).

3. Flanders restricted biomass from processing residues restricted to sawdust and shavings

Biomass covered by the PBid may be categorized as "Flanders restricted biomass from processing residues restricted to sawdust and shavings" when for the corresponding Feedstock Group or Feedstock Groups, represented as a row in Table 2.1 of the SAR, the three sub-conditions below are met:

a. column "Feedstock type for biomass production", does contain the term "Processing residues" for the corresponding Feedstock Group or Feedstock Groups, and

b. column "Origin", contains the term "Sawmill and wood industry residues" for the corresponding Feedstock Group or Feedstock Groups, and

c. column "Physical Description", contains one of the terms "Sawdust" or "Shavings" for the corresponding Feedstock Group or Feedstock Groups.

When all the biomass covered by the PBid is categorized as "Flanders Restricted" with the claim "Flanders restricted biomass from processing residues restricted to sawdust and shavings" according to the above procedures, the sub-section "Flanders restricted biomass from processing residues restricted to sawdust and shavings" may be marked as "yes", otherwise it shall be marked as "no" or "n/a" (not applicable).

1.5 Roles and responsibilities

1.5.1 Scheme owner and respective roles

Sustainable Biomass Program Limited (SBP), registered in England and Wales under company number 8793480, is the legal holder of the certification scheme for certifying Biomass Reports.

The users of SBP certification scheme are:

- Biomass Producers (BP) who create biomass with SBP-claims.
- Traders who take legal ownership of biomass, but neither produce nor consume biomass.
- End-users who consume biomass in their energy plants.
- Any legal entity who may take on more than one of these roles.

1.5.2 Certificate Holder

Certificate Holders are certified against Standard 6 and the corresponding Instruction Documents.

1.5.2.1 The Certificate Holder shall draft a Biomass Report according to the principles and methodology described in this Instruction Document 6B.

1.5.2.2 The Certificate Holder shall monitor the conformance of its supplying BP with SBP definitions and purchase specifications, and shall have a contingency plan to cater for non-compliant feedstock or documentation. For example, the Certificate Holder might classify feedstock as non-eligible input for SBP products, request correction of purchase documents, or invalidate BPs temporarily or permanently. When this occurs, the Certificate Holder shall inform his CB for Standard 6.

1.5.2.3 The Certificate Holder shall require biomass to be supplied with an SREG, such that BPs and Traders shall record the relevant energy and carbon data in an SREG, whether that be for inland transport and/or sea transport, by using the latest version of the correct SBP Standard 5 template, unless the SAR contains all relevant information. In case the Certificate Holder is in charge of long distance transport, he will be in charge of the corresponding SREG.

1.5.3 Certification Body

The CB's responsibilities are described in Section 6 of this Instruction Document 6B.

2 Quality management system

This chapter refers to Art.10, §2, 5° and 6° of the Ministerial Decree.

The following requirements concerning the quality management system apply to the Certificate Holder for the drafting the Biomass Report.

2.1 Responsibilities

2.1.1 The Certificate Holder shall appoint a management representative that has overall responsibility and authority for the Certificate Holder's conformity with all applicable certification requirements.

2.1.2 The Certificate Holder shall define the personnel responsible for each procedure, together with the qualifications and/or training measures required for implementation of said procedure.

2.2 Documented procedures

2.2.1 The Certificate Holder shall implement and maintain documented procedures and work instructions covering all applicable Instruction Document 6B requirements according to the scope and adequate to the End-user's scale and complexity.

2.2.2 The last approval date and version number of the documented procedures shall be specified.

2.3 Training

2.3.1 The Certificate Holder shall train its staff to ensure that all applicable Instruction Document 6B requirements and the measures defined in his documented procedures are correctly implemented.

2.3.2 All relevant staff shall demonstrate awareness of the organisation's procedures and competence in implementing the required management system.

2.4 Record keeping

2.4.1 The Certificate Holder shall maintain complete and up-to-date records covering all applicable requirements of Instruction Document 6B.

2.4.2 Retention time for all records shall be at least five years.

2.4.3 All evidence that is of interest for inspection by the CB or VEKA shall be handed over upon simple request, as demonstrating

a. the Characteristics;
b. the declarations made in the context of green energy support by VEKA;
c. the audit reports SARs and SBRs;
d. the deliveries of biomass.

2 Quality management system (continued)

2.5 Complaints

2.5.1 The Certificate Holder shall define the controls and related responsibilities and authorities for receiving, handling, and recording complaints relating to conformity with Instruction Document 6Brequirements, including the following minimum requirements:

a. Acknowledge receipt of complaints;
b. Provide initial response to the complainant, including an outline of the proposed course of action to follow up on the complaint, within two weeks of receiving a complaint;
c. Investigate the complaint and specify its proposed actions in response to the complaint within two months of receiving the complaint;
d. Take appropriate actions with respect to complaints and any deficiencies found in products that affect conformity with the requirements for certification;
e. Notify the complainant when the complaint is considered to be closed.

2.5.2 A complaint may be considered closed when the organisation has gathered and verified all necessary information, investigated the allegations, taken a decision on the complaint, and responded to the complainant.

3 Methodology for the Biomass Report

3.1 Data sources

Much of the data needed to determine the values of the Characteristics mentioned in the Biomass Report may be drawn from a valid SAR established for the relevant BP.

3.2 Header of the Biomass Report

Reference code: the reference code takes the form of BE-VL-BM-[XXX]-[YYY]-[##L], where:

BE-VL-BM is a fixed prefix;

a. [XXX] is the unique 3-letter code of the CB that issues the Verification Statement for this Biomass Report (SGS, PBN, CUN);
b. [YYY] is the unique 3-letter code of the country of origin;
c. [##L] is the unique 2-digit code of the BP and 'L' is a letter to differentiate between different load ports, as reported with a SDI/DTR in the DTS.

Certificate number: the unique certificate number [0YYYYMMDDHHMM]-[##], where:

d. [0YYYYMMDDHHMM] is an arbitrary date and time during the redaction period of the Biomass Report;
e. [##] is the 2-digit control number obtained as the remainder of the division of 0YYYYMMDDHHMM by 97.

Date of assignment: this date is structured as [dd mm yyyy] and is defined in section F.

3.3 Block 1 – Biomass producer

Biomass Producer: Information on the identity of the BP comprises at least the information copied from its valid SAR:

a. [Company name and legal form];
b. [Company number];
c. [Street and house number/part];
d. [Postcode and Town/City];
e. [Country];

Person responsible:

f. [First name and name];
g. [phone number];
h. [e-mail].

3.4 Block 2 – Production chain

The Production Chain Identification shall provide a summary of the different biomass forms and processing steps throughout the production chain in chronological order, from the harvest or generation of the waste or residue until final use, a summary of all the processing steps (harvesting, chipping, drying, pelletizing...) and intermediate forms (logs/chips/sawdust, etc.). Different pathways shall be described in case different types of raw materials are processed.

Example:

- harvesting > roundwood > logs, offcuts and barks >milling, drying, pelletizing > pellets;
- harvesting residues > chipping > chipped forest residues;
- harvesting residues > chipping > milling, drying, pelletizing > pellets;
- sawmill residues > chips, offcuts > wood chips;
- sawmill residues > chips, sawdust > milling, drying, pelletizing > pellets;
- shavings > milling, pelletizing > pellets;
- composting residues.

Power plant: unique identification of the power plant where the final consumption takes place, including its name and address.

3.4.1 Characteristic 1. Pre-treatment energy

Pre-treatment energy: [#,###] kWh/kg biomass product.

The pre-treatment energy shall be calculated **for all feedstock types** and for the entire production chain thereof; starting from – but not including – harvest when feedstock types are products, as referenced in the corresponding column of the Table in section 2.1 of the SAR, and starting from the origination of the waste when feedstock types are not products.

Energy consumed in pre-treatment shall include all electricity consumption of the preparation plant, all fossil fuels and other forms of fossil energy consumed by the preparation plant and shall be expressed as kWh electric equivalent per kilogram of final biomass product, rounded to three decimals.

The following quantities shall be summed to obtain the value for the pre-treatment energy as mentioned in the Biomass Report:

- specific electricity use, as found in section "Electricity use" of the SAR, converted to kWh/kg biomass product;
- all fossil fuel use, as found in section "Use of fossil fuels" of the SAR, converted to the electric equivalent in kWh/kg biomass product, as described in sections 4.4 & sections 3.4.2.1 and 3.4.2.2 of this Instruction Document 6B.
- all other forms of energy use (e.g. heat for drying), except the proportion which is documented in the SAR to originate from biomass fuel, converted to the electric equivalent in kWh/kg biomass product, as described in sections 4.4 & sections 3.4.2.1 and 3.4.2.2 of this Instruction Document 6B.

3.4.2 Characteristic 2. Transport energy

Transport energy: [#,###] kWh/kg biomass product.

The transport energy shall be calculated **for all feedstock types** and for the entire production chain thereof; starting from – but not including – harvest when feedstock types are products, as referenced in the corresponding column of the Table in section 2.1 of the SAR, and starting from the origination of the waste when feedstock types are not products.

The transport energy shall include all energy used to:

a. transport harvested products, waste or residues to the preparation plant,

b. transport the biomass produced from the preparation plant to the energy plant for final consumption

and shall be expressed as kWh electric equivalent per kilogram of final biomass product, rounded to three decimals.

The transport energy shall be calculated as:

$$E_{trp} = E_{trp,feedstock} + E_{trp,biomass}$$

where:

$E_{trp,feedstock}$ the transport energy used for transport of the feedstock to the preparation plant or directly to the end-user, calculated as specified in 3.4.2.1.

$E_{trp,biomass}$ the transport energy used for transport of the final biomass product from the preparation plant to the energy plant for final consumption, calculated as specified in 3.4.2.2. when the feedstock is transported directly to the End-user it is counted as zero.

3.4.2.1 Transport of feedstock

In section "2.1. Feedstock Groups" of the SAR for each Feedstock Group the values for the following parameters are given in the referenced columns of the Tables in section 2.1 of the SAR:

- "Weighted average distance (km)";
- "Vehicle" possible values: truck, train, barge;
- "Powered by" relevant values: diesel, gasoline.

Distance means a real distance that is defined on the basis of a single journey of a product. The actual distance can be a record of distance recorded on board a vehicle or an estimate based on data sources including Google Maps for inland transport or a relevant website for sea transport[1].

The equivalent amount of electricity used for transporting the feedstock from the location of harvest or origination for waste to the preparation plant ($E_{trp,feedstock}$), expressed in kWh electric equivalent, shall be calculated as:

$$E_{trp,feedstock} = 0{,}55 \cdot CR \cdot \sum_{j}^{F} \left(E_{trp,spec,j} \cdot D_j \right)$$

where:

0,55	is the reference efficiency for electricity production to convert the primary energy units into electric equivalents;
F	the total number of Feedstock Groups, as stated in section "2.1. Feedstock Groups";
$E_{trp,spec,j}$	the specific primary energy consumption for Feedstock Group j, corresponding to the vehicle type mentioned in section "2.1. Feedstock Groups" of the SAR, as specified in section 4.5 of this Instruction Document 6B;
D_j	the "Weighted average distance (km)" for Feedstock Group j, as stated in section "2.1. Feedstock Groups" of the SAR, expressed in km,
CR	the conversion rate expressed in tonne finished product/tonne feedstock as

$$CR = \frac{1 - IM_{wet}}{1 - FM_{wet}}$$

with the following values as stated in "3.3. Moisture content and drying" of the SAR:

FM_{wet}	Final moisture (wet basis)
IM_{wet}	Initial moisture (wet basis)

[1] Like SEA-DISTANCES.ORG – Distances

3.4.2.2 Transport of final product

In section "4. Transport of biomass" of the SAR for each step in the supply chain from the preparation plant to the energy plant for final consumption the values for the following parameters are given in the Table in section 4.1 of the SAR:

- "Distance (km)";
- "Mode of transport" possible values: road, rail, water;
- "Transport powered by" relevant values: fossil diesel oil, electricity;
- "Transport capacity (tonnes)" relevant ranges.

The equivalent amount of electricity used for transporting the biomass product from the preparation plant to the energy plant where final consumption takes place ($E_{trp,biomass}$), expressed in kWh electric equivalent, shall be calculated as:

$$E_{trp,biomass} = 0{,}55 \cdot \sum_{k}^{N} \left(E_{trp,spec,k} \cdot D_k \right)$$

where:

0,55	is the reference efficiency for electricity production to convert the primary energy units into electric equivalents;
N	the total number of segments in the supply chain, as stated in section "4. Transport of biomass" of the SAR;
$E_{trp,spec,k}$	the specific primary energy consumption for transporting the biomass product over segment k of the supply chain, corresponding to the "Mode of transport" mentioned in section "4. Transport of biomass" of the SAR, as specified in section 4.5 of this Instruction Document 6B;
D_k	the "Distance (km)" for segment k of the supply chain, as stated in "section 4. Transport of biomass" of the SAR, expressed in km.

3.5 Block 3 – Advice from OVAM

3.5.1 Characteristic 3. Energetic valorisation

Energetic valorisation: the literal adoption of the advice from OVAM on the energetic valorisation of the wood pellets is not applicable as wood pellets are not considered as a waste, hence "n/a" shall be noted in the Biomass Report in that case. In all other cases, the positive advice from OVAM shall be reported here and in that case 'yes' shall be noted. In those cases, the CB shall verify the presence of the corresponding document of OVAM.

3.5.2 Characteristic 4. Green factor

Green factor: the literal adoption of the advice from OVAM on the green factor of the biomass in question is not applicable for wood pellets are they not considered as waste, hence "n/a" shall be noted in the Biomass Report in that case. In all other cases, the green factor that is recommended by OVAM shall be reported here. In those cases, the CB shall verify if the green factor is consistent with the corresponding document of OVAM.

3.6 Block 4 – Identification of the biomass

The 'Country of Origin' shall be included in the biomass report corresponding with section 2 of the SAR.

A generic description of the biomass shall be noted in the Biomass Report.

1° The usual name for the biomass product: examples "wood pellets", "forest residues"

2° The commercial name used in contracts and on invoices and delivery notes: example "wood pellets", "wood waste and residues"

3° CN code : "44013100" for pellets, "44014900"[2] for wood waste and residues,

4° The morphology or form in which the input stream is added to the plant: "solid"

5° The size of the pellets:

(i) minimum size: "0,6 cm diameter and 4 cm length"

(ii) maximum size "0,8 cm diameter an 4 cm length",

– for forest residues, typically P16-P45-P63[3] or n/a

6° The lower heating value on a wet basis, LHVwet,

– for pellets it typically amounts 4,69 kWh/kg expressed in kilowatt hours per kilogram (kWh/kg) and the moisture content on a wet basis, FM_{wet}, expressed in percent (%): typically 5%,

– for forest residues it typically amounts 2,30 kWh/kg expressed in kilowatt hours per kilogram (kWh/kg) and the moisture content on a wet basis, FM_{wet}, expressed in percent (%): typically 45%.

Yearly biomass production: [#,###] kg biomass/year (wet basis).
The yearly biomass production shall be calculated from the Annual production from section "3.1. Total production" of the SAR in metric tonnes for the reporting period, by extrapolating if necessary to a whole year (12 months) production period, and by conversion to kg biomass/year.

Biomass considered as waste: [yes/no]
The CB shall verify if certain biomass reported in the 'tabel inputstromen', used to report the biomass to VEKA, is considered as waste. If this is the case, "yes" shall be noted on the Biomass Report.

3.6.1 Characteristic 5. Short rotation coppice

Classed as 'short rotation coppice': [yes/no]

If for every Feedstock Group at least one of the following conditions is met, "yes" shall be noted in the Biomass Report, otherwise "no" shall be noted:

– The column Origin equals "Woody energy crops, short rotation coppice" in section "2.1. Feedstock Groups" of the SAR; or

– A claim is made in DTS that the supplied share of biomass does not include that feedstock type. The yearly biomass production under section 7.6 shall be recalculated by subtracting the amount of that specific feedstock.

[2] Customs Tariff Number Chapter 44 – Search results (306).
[3] See ISO17225-4.

3.6.2 Characteristic 6. Wood that is not an industrial raw material.

Classed as 'wood that is not an industrial raw material': [yes/no]

If both conditions a) and b) are met, "yes" shall be noted in the Biomass Report, otherwise "no" shall be noted:

a) The Certificate Holder shall hold a signed copy of the application file XYZ and the associated decision of VEKA concerning "houtstromen die niet gebruikt worden als industriële grondstof" (translated from Dutch: "wood that is not an industrial raw material") in which is clearly stated "Bijgevolg kunnen in het kader van de indiening voor de certificatenverplichting aanvaardbare groenestroomcertificaten toegekend worden voor elektriciteit, opgewekt uit de houtstromen beschreven in uw aanvraagdossier met referentie XYZ, conform artikel 6.1.16. §1., eerste lid, 7°, c) van het Energiebesluit." (translated from Dutch: "As a result, in the context of the submission for the certificate obligation, acceptable green energy certificates can be awarded for electricity generated from the wood described in your application file with reference XYZ, in accordance with article 6.1.16. §1., First paragraph, 7 °, c) of the Energy Decision")

b) The BP shall be covered by the application file XYZ, which shall be shown in one of the two following ways:
   - the BP shall be clearly mentioned[4] as being in scope in the application file with reference XYZ itself; or
   - the Certificate Holder shall hold a copy of the notification to the OVAM and the sector federations of the wood and paper industry of the fact that the BP is to be considered in scope of the application file with reference XYZ.

The CB shall verify the presence of the document of VEKA as mentioned under point a) above.

3.7 Block 5 – Sustainability criteria

3.7.1 Characteristic 7. GHG reduction bioliquids

GHG reduction criterion bioliquids: "n/a" shall be noted in the Biomass Report, since wood cannot be considered to be bioliquids.

3.7.2 Characteristic 8. Biodiversity bioliquids and agricultural biomass[5]

Biodiversity criterion bioliquids: "n/a" shall be noted in the Biomass Report, since wood cannot be considered to be bioliquids and agricultural biomass (including Short rotation coppice) is out of the scope of this Instruction Document 6B.

3.7.3 Characteristic 9. Carbon stocks bioliquids and agricultural biomass

Carbon stocks criterion bioliquids: "n/a" shall be noted in the Biomass Report, since wood cannot be considered to be bioliquids and agricultural biomass (including short rotation coppice) is out of the scope of this Instruction Document 6B.

3.7.4 Characteristic 10. Peatland bioliquids and agricultural biomass

Peatland criterion bioliquids: "n/a" shall be noted in the Biomass Report, since wood cannot be considered to be bioliquids and agricultural biomass (including short rotation coppice) is out of the scope of this Instruction Document 6B.

[4] Often BPs are referred to by their unique code in the format [YYY] – [##L] as explained in section 3.2.

[5] As short rotation coppice is covered by the term arable land and according to RED is to be seen as agriculture (just like palm oil plantations), other sustainability criteria apply here, namely art. 6.1.16 §1/3 to §1/6 and §1/8 of the Energy Decision.

3.7.5 Characteristic 11. Land use

Land use criterion: [Scheme], [Code], compliant [yes/no] or n/a

This criterion corresponds to Article 6.1.16 §1/6 of the Energy Decision. Mind that §1/6 has been revised for biomass contracted from 1 July 2023.

Before 1st of July 2023, the following was applicable in §1/6:

"**Agricultural raw materials** cultivated in the Community and used for the production of biomass fuels shall be obtained in accordance with the requirements and standards under the provisions referred to under the heading 'Environment' in part A and in point 9 of Annex II to Council Regulation (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers and in accordance with the minimum requirements for good agricultural and environmental condition defined pursuant to Article 6(1) of that Regulation."

Whereby Article 6.1.16. §1/1 of the Energy Decision stated the following: 'Solid /.../biomass not originating from agriculture, aquaculture or fishery needs to comply with the sustainability criteria set out in paragraphs 1/7 till 1/10'.

Since bioliquids and agricultural biomass (including short rotation coppice or agricultural residues) are out of the scope of this version of Instruction Document 6B, paragraph 1/6 is not applicable and "n/a" shall be noted in the Biomass Report for woody biomass contracted before 1 July 2023.

From 1st of July 2023, the following is applicable in §1/6:

"Biofuels, bioliquids and biomass fuels produced from **forest biomass** 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

1. is party to the Paris Agreement and
2. has submitted a National Determined Contribution (NDC) to 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, OR
3. 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. if evidence for (a) not available: management systems 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."

This corresponds to Article 29(7) of the Renewable Energy Directive (EU) 2018/2001 (REDII).

Article 6.1.16. §1/1 of the Energy Decision states the following: "Forest biomass fulfils the sustainability criteria set out in paragraph 1/2 and paragraphs 1/6 to 1/7." Paragraph 1/6 and 1/7 are not applicable for any of the other feedstock types.

This characteristic is not applicable to the following woody biomass types:

- Short rotation coppice (which is excluded as stated in section C "Scope");
- Processing residues;
- Recycled wood (waste wood);
- End-of-life trees.

3.7.5 Characteristic 11. Land use (continued)

If for **each** Feedstock Group, represented as a row in Table 2.1 of the SAR, one of the three conditions a), b) or c) below are met:

a. it may be considered as **"Processing residues"**, if both conditions 1) and 2) below are met:

1. corresponding Feedstock Group contains the term **"Processing residues"**, and
2. corresponding Feedstock Group contains the term **"Sawmill and wood industry residues"** or **"Recycled Wood"**;

b. corresponding Feedstock Group", contains the term **"Post consumer"**,

c. it may be considered as waste and residues from Trees outside of forest if both conditions 1) and 2) below are met:

1. corresponding Feedstock Group contains the term **"Landscape"** or **"Urban, domestic and infrastructure"** or **"Woody residues from agricultural land"**
2. corresponding Feedstock Group, contains the term **"Recycled wood"** or **"End-of-Life Trees"**,

then this Characteristic is not applicable to this biomass and **"n/a"** shall be noted in the Biomass Report.

In all other cases this Characteristic is applicable for woody biomass.

When the biomass covered by the Biomass Report is shown either to be "SBP-EU RED compliant biomass" and/or a Level A/Level B assessment for Article 29(7) of RED-II is available for the sourcing region of the biomass, the biomass shall be deemed compliant with this Characteristic and **"yes"** shall be noted next to 'compliant' and the scheme SBP and the corresponding certificate number shall be added to the fields [Scheme] and [Code] respectively.

In all other cases, **"no"** shall be noted next to 'compliant'.

3.7.6 Characteristic 12. Water and forest

Water and forest criterion: Compliant [yes/no] or n/a.

This criterion corresponds to Article 6.1.16 §1/7 of the Energy Decision whereby Article 6.1.16. §1/1 of the Energy Decision states the following.

Before 1st of July 2021

'Solid /.../ biomass produced from waste and residues from /.../ forestry or nature reserves need only to comply with the sustainability criteria set out in paragraphs 1/8 and 1/10.', so **not 1/7**;

Solid /.../ biomass produced from waste and residues other than those from /.../ forestry or nature reserves need not comply with the sustainability criteria set out in this Decision, so also **not 1/7**.

As from the 1st of July 2021 until the 1st of July 2023

'Solid /.../ biomass not originating from agriculture, aquaculture or fishery needs to comply with the sustainability criteria set out in paragraphs 1/7 till 1/10', so 1/7 is applicable.

From 1st of July 2023

- **Biomass that is municipal waste** does not have to fulfil any of the sustainability criteria listed in paragraphs 1/2 to 1/10, so also not 1/7;
- **Forest biomass** fulfils the sustainability criteria set out in paragraph 1/2 and paragraphs 1/6 to 1/7.

3.7.6 Characteristic 12. Water and forest (continued)

This Characteristic is not applicable (n/a) to the following feedstocks[6]:

1. **Short rotation coppice** (which is excluded as stated in section C "Scope");
2. **Processing residues**
3. **Recycled wood** (waste wood);
4. **End-of-life trees**
5. **Forest residues,** before 1 July 2021.

3.7.6.1 Flemish law exclusions criterion

This criterion corresponds to **Article 6.1.16 §1/7** of the Energy Decision, and it states that the biomass shall not come from the following areas or sources:

1° **wetlands**, unless it has been demonstrated that the harvesting of the raw materials is necessary for the preservation or management of the wetlands;

2° land that has been **converted from wetlands** to other (drier) ecosystems **after 1 January 2008**;

3° **timber from production forests** (including timber plantations) that have been established **as of 1 January 2008** by means of conversion of (semi) natural forests;

4° **timber from a forest with a rotation period of more than forty years**, unless there is documented evidence that only a limited part of the value of the felled timber (i.e., on a volume basis less than half of the felled timber on an annual basis) is used for the production of bioenergy (excluding Thinnings);

5° **stumps**, with the exception of those stumps that need to be removed for a reason other than timber or biomass production, such as for the construction of roads;

6° logs suitable as **sawlogs** according to the local sawmills standard.

3.7.6.2 Verification of the need to apply Article 6.1.16 §1/7 by the CB

If For **each** Feedstock Group, represented as a row in Table 2.1 of the SAR, one of the conditions a), b), or c) are met:

a. if both conditions 1) and 2) below are met:

1. corresponding Feedstock Group contains the term **"Urban, domestic and infrastructure"**[7] or **"Landscape"**[7] or **"Woody Residues from Agricultural Land"**[8] or **"Post consumer"**
2. corresponding Feedstock Group contains the term **"End-of-Life Trees"** or **"Recycled wood"** or **"Sawmill and wood industry residues"**,

b. if both conditions 1) and 2) below are met:

1. corresponding Feedstock Group, contains the term **"Processing residues"**, and
2. corresponding Feedstock Group contains the term **"Sawmill and wood industry residues"**;

c. before **1st of July 2021** only, if both conditions 1) and 2) below are met:

1. corresponding Feedstock Group, contains the term **"Forest residues without stumps"** or **"Salvage trees"**, and
2. corresponding Feedstock Group contains the term **"Final harvest from semi-natural forests"** or **"Final harvest from plantations"**;

then this Characteristic is not applicable to this biomass and "n/a" shall be noted in the Biomass Report.

[6] Note that 1 is provisionally excluded from the scope of this Instruction Document 6B.
[7] Note that under SBP v1.0. this is represented in the SAR as 'Other trees from park and landscape'.
[8] Note that under SBP v1.0. this is represented in the SAR as 'Other trees'.

3.7.6.2 Verification of the need to apply Article 6.1.16 §1/7 by the CB (continued)

else if the biomass covered by the Biomass Report has in the DTS the Market Specific Status "Flanders Restricted" with at least one of the three following claims a), b) or c) in the corresponding sub-sections:

a. **"Flanders restricted biomass from processing residues"** marked as "yes";
b. **"Flanders restricted biomass from processing residues restricted to sawdust"** marked as "yes";
c. **"Flanders restricted biomass from processing residues restricted to sawdust and shavings"** marked as "yes".

then this Characteristic is not applicable to this biomass and "n/a" shall be noted in the Biomass Report.

else if the biomass covered by the Biomass Report is deemed compliant with all six sub-criteria as described hereunder:

- 3.7.6.3 Exclusion of sawlogs
- 3.7.6.4 Exclusion of wetland
- 3.7.6.5 Exclusion of converted wetland
- 3.7.6.6 Exclusion of converted (semi) natural forests
- 3.7.6.7 Exclusion of trees with a rotation period of more than 40 years
- 3.7.6.8 Exclusion of stumps

then that biomass shall be deemed compliant with this Characteristic and "**yes**" shall be noted in the Biomass Report. All certification schemes together with the relevant codes of all the certificates that were used to show compliance with any of the six sub-criteria shall be noted in the Biomass Report under [Scheme] and [Code] respectively.

else In all other cases "**no**" shall be noted in the Biomass Report.

3.7.6.3 Exclusion of sawlogs

The biomass covered by the Biomass Report shall be deemed compliant with this criterion if for each Feedstock Group, represented as a row in Table 2.1 of the SAR, the following condition a) is met:

a. For that Feedstock Group all of the two following sub-conditions are met:
   1. The corresponding Feedstock Group does **not** contain "High value stemwood (sawlogs)"; and
   2. When the corresponding Feedstock Group contains "Low grade stemwood", an additional statement shall be made by the CB of the BP for Standard 5 in the SAR under section "2.3 Other relevant information, including justifications for data provided and methodologies used". This additional statement shall contain an explicit description of the decision principles that were used to mark this corresponding Feedstock Group as "Low-grade stemwood". This description shall take the form of:
      - a specification for determining whether wood is a sawlog
        - used by the sawmill closest to where the wood was grown (mentioning the relevant specifications as well as the name and address of the sawmill), or;
        - issued by a body exercising functions of a public nature and issued for use by sawmills in the area in which the wood was grown (mentioning the relevant specifications as well as the name and address of the body), or
      - the specification in the second column of Table 1 of Forestry Commission Field Book 9 (other than the parts of that specification relating to "log category" and "species" set out in the first and second rows of that table).

3.7.6.4 Exclusion of wetland

The biomass covered by the Biomass Report shall be deemed compliant with this criterion if one of the following conditions is met:

a. A risk based analysis based on publicly available data, or a risk based analysis from an existing certified forest management scheme (such as PEFC, FSC, FSI, etc.) indicates this criterium, the probability that forests in wetlands are part of the supply base, as 'negligible' or 'low risk',

b. Or the CB declares in the SAR that his supply base does **not** include forests in wetlands, explicitly stating that the definition of wetland in the Glossary of SBP V2 was applied. The CB states on the basis of which documentation he has verified this. This documentation shall cover the sourcing area for stemwood.

3.7.6.5 Exclusion of converted wetland

The biomass covered by the Biomass Report shall be deemed compliant with this criterion if one of the following conditions is met:

a. A risk based analysis based on publicly available data, or a risk based analysis from an existing certified forest management scheme (such as PEFC, FSC, FSI, etc.) indicates this criterium, the probability that forests on land converted from wetlands to other (drier) ecosystems after 1 January 2008 are part of the supply base, as 'negligible' or 'low risk',

b. Or the CB declares in the SAR that the supply base does **not** include forests on land converted from wetlands to other (drier) ecosystems after 1 January 2008, explicitly mentioning that the definition of 'wetland' in the Glossary of SBP V2 was applied. The CB mentions the documentation on the basis of which it has verified this. This documentation shall be adapted to the sourcing area of the biomass preparation plant.

3.7.6.6 Exclusion of converted (semi) natural forests into a production forest

The Flemish definition of 'production forest' is much broader than the SBP V1.0 definition of 'production plantation forest' since it does not require that the trees are exotic, neither that they have been planted by humans, nor that they are under intensive management, therefore, compliance with SBP Standard 1 and 2 is not sufficient to demonstrate compliance.'

The biomass covered by the Biomass Report shall be deemed compliant with this criterion if one of the following conditions is met:

a. A risk based analysis based on publicly available data, or a risk based analysis from an existing certified forest management scheme (such as PEFC, FSC, FSI, etc.) indicates this criterium, the probability that forests that were converted from a (semi) natural forest into a production forest are part of the supply base, as 'negligible' or 'low risk',

b. Or the CB declares in the SAR that the supply base does **not** include forests on land converted from (semi-)natural forests to production forests after **1 January 2008**, explicitly mentioning that the definition of 'production forests' in section F of this document was applied. The CB mentions the documentation on the basis of which it has verified this. This documentation shall be adapted to the sourcing area of the biomass preparation plant.

3.7.6.7 Exclusion of trees with a rotation period of more than 40 years

The biomass covered by the Biomass Report shall be deemed compliant with this criterion if the following condition a) is met:

a. For each Feedstock Group, represented as a row in Table 2.1 of the SAR, at least one of the four sub-conditions below is met:
   1. corresponding Feedstock Group does **not** contain the term **"Roundwood"** or
   2. corresponding Feedstock Group contains the term **"Wood energy crops, short rotation coppice"**, or
   3. corresponding Feedstock Group contains one of the terms **"Thinning from (semi-)natural forests"** or **"Thinning from plantations"**
      When one or more Feedstock Groups contain one of the terms "Thinning from (semi-)natural forests" or "Thinning from plantations", an additional statement shall be made under section "2.3 Other relevant information, including justifications for data provided and methodologies used". This additional statement shall be the following: "In determining the value for column 'Feedstock type for biomass production', the definitions for 'Thinning' and 'Thinnings' given in the Glossary of SBP V2 were applied; or
   4. corresponding Feedstock Group contains the term **"Low grade stemwood"**, and does not contains one of the terms **"Thinning from (semi-)natural forests"** or **"Thinning from plantations"**,

When one or more Feedstock Groups contains the term **"Low grade stemwood"**, while it does **not** contain one of the terms **"Thinning from (semi-)natural forests"** or **"Thinning from plantations"**, an additional statement shall be made under section "2.3 Other relevant information, including justifications for data provided and methodologies used" of the SAR. This additional statement shall be the following: "In determining the corresponding Feedstock Group we have verified that there is documented evidence that it is wood from a forest with a rotation period ≤ 40 years or that there is documented evidence that less than half of the volume of the harvested roundwood on a yearly basis is used for bio-energy". This additional statement shall contain an explicit description of the decision principles to accept the documented evidence as a proof of compliance.

3.7.6.8 Exclusion of stumps

The biomass covered by the Biomass Report shall be deemed compliant with this criterion if for every single Feedstock Group in section "2.1. Feedstock Groups" of the SAR the following condition a) is met:

corresponding Feedstock Group does **not** contain **"Residues with stumps"**.

3.7.7 Characteristic 13. GHG reduction and solid biomass

GHG reduction solid biomass: [Scheme], [Code], Compliant [yes/no] or n/a

Reduction	[##] %
Actual data	applied for [part of the supply chain] [motivation and explanatory notes]
Bonus land recovery	applied [yes/no] [motivation and explanatory notes]
Soil carbon	applied [yes/no] [motivation and explanatory notes]

Before the 1st of July 2023, this Characteristic is not applicable to Processing residues nor to waste not originating from agriculture, aquaculture, fishery, forestry or nature reserves (in casu post-consumer recycled).

If For **each** Feedstock Group, represented as a row in Table 2.1 of the SAR, one of the conditions a), b) or c) below are met:

a. it may be considered as **"Processing residues"**, since both conditions 1) and 2) below are met:

3.7.7 Characteristic 13. GHG reduction and solid biomass (continued)

1. corresponding Feedstock Group, contains the term **"Processing residues"**, and
2. corresponding Feedstock Group contains the term **"Sawmill and wood industry residues"** or **"Recycled Wood"**;

b. it may be considered as **"Post consumer"**, since:

– the corresponding Feedstock Group, contains the term **"Post consumer"**,

c. or, it may be considered as **"End-of-life trees"**, since:

– the corresponding Feedstock Group, contains the term **"End-of-life trees"**,

then this Characteristic is not applicable to this biomass and **"n/a**" shall be noted in the Biomass Report.

else if the biomass covered by the Biomass Report has in the DTS the Market Specific Status "Flanders Restricted" with at least one of the three following claims a), b) or c) in the corresponding sub-sections:

a. "Flanders restricted biomass from processing residues" marked as **"yes"**;
b. "Flanders restricted biomass from processing residues restricted to sawdust" marked as **"yes"**;
c. "Flanders restricted biomass from processing residues restricted to sawdust and shavings" marked as **"yes"**.

then this Characteristic is not applicable to this biomass and "n/a" shall be noted in the Biomass Report.

As from the 1st of July 2023, this characteristic is applicable for all types of biomass with exception of municipal waste.

The GHG emission saving shall be calculated according to the principles and methodology described in this Instruction Document 6B. The calculated percentage shall be noted next to the label 'Reduction'.

When, before the 1st of July '23, this percentage is 60% or more and the average GHG emission saving for the energy plant is 70% or more, the biomass covered by the Biomass Report is deemed compliant with this Characteristic and **"yes"** shall be noted in the Biomass Report. In all other cases **"no"** shall be noted.

When, as from the 1st of July '23, this percentage is 70% or 80% and more for biomass installations operational respectively before and after the 1st of January 2026, the biomass covered by the Biomass Report is deemed compliant with this Characteristic and "yes" shall be noted in the Biomass Report. In all other cases **"no"** shall be noted.

Next to the label 'Actual data' a clear description of the part of the supply chain for which actual data were used shall be noted under [part of the supply chain] while the motivation and explanatory notes shall be added under [motivation and explanatory notes]. If no actual data were applied at all "no part of the supply chain" shall be noted under [part of the supply chain].

If the bonus for repaired degraded land was used **"yes"** shall be noted next to the label 'Bonus land recovery', otherwise "no" shall be noted. The motivation and explanatory notes shall be added under [motivation and explanatory notes].

If the factor for emission reduction through carbon storage in the soil was used **"yes"** shall be noted next to the label 'Soil carbon', otherwise **"no"** shall be noted. The motivation and explanatory notes shall be added under [motivation and explanatory notes].

The Excel sheet in the "Biomass Report Template for End-users" in Appendix shall give the full detail of the GHG calculations (see 3.9).

3.7.8 Characteristic 14. Sustainable forest management

Sustainable forest management criterion: [Scheme], [Code], compliant [yes/no] or n/a

This Characteristic is not applicable to

- processing residues,
- waste not originating from agriculture, aquaculture, fishery, forestry or nature reserves (in casu post-consumer recycled),
- forest residues before 1 July 2021 only.

If For **each** Feedstock Group, represented as a row in Table 2.1 of the SAR, one of the four conditions a), b), c) or d) below are met:

d. it may be considered as **"Processing residues"**, since both conditions 1) and 2) below are met:
   3. corresponding Feedstock Group the term **"Processing residues"**, and
   4. corresponding Feedstock Group the term **"Sawmill and wood industry residues"** or **"Recycled Wood"**;

e. corresponding Feedstock Group the term **"Post consumer"**,

f. it may be considered as waste and residues from Trees outside of forest since both conditions 1) and 2) below are met:
   3. corresponding Feedstock Group contains the term **"Landscape"** [7] or **"Urban, domestic and infrastructure"** [7] or **"Woody residues from agricultural land"** [8]
   4. corresponding Feedstock Group, contains the term "Recycled wood" or "End-of-Life Trees" ,

g. before 1st of July 2021 only, it may be considered as "Forest residues" as both conditions 1) and 2) below are met:
   1. corresponding Feedstock Group, contains the term **"Forest residues without stumps"** or **"Salvage trees"**, and
   2. corresponding Feedstock Group contains the term **"Final harvest from semi-natural forests"** or **"Final harvest from plantations"**;

then this Characteristic is not applicable to this biomass and "n/a" shall be noted in the Biomass Report.

else if the biomass covered by the Biomass Report has in the DTS the Market Specific Status "Flanders Restricted" with at least one of the three following claims a), b) or c) in the corresponding sub-sections:

a. "Flanders restricted biomass from processing residues" marked as **"yes"**;
b. "Flanders restricted biomass from processing residues restricted to sawdust" marked as **"yes"**;
c. "Flanders restricted biomass from processing residues restricted to sawdust and shavings" marked as **"yes"**.

then this Characteristic is not applicable to this biomass and **"n/a"** shall be noted in the Biomass Report.

In all other cases, this Characteristic is applicable and when the biomass covered by the Biomass Report is shown either to be "SBP-compliant biomass" or "SBP-controlled" in combination with a certification for sustainable forest management (such as FSC, PEFC, FSI, etc.) and/or a Level A/Level B risk assessment for the RED-II (wherein a risk based analysis indicates for a specific sourcing region/country the risk of non-sustainable forest management in the supply base as 'negligible' or 'low risk'), the biomass shall be deemed compliant with this Characteristic and **"yes"** shall be noted next to 'compliant' and the scheme SBP and the corresponding certificate number shall be added to the fields [Scheme] and [Code] respectively. In all other cases, "no" shall be noted next to 'compliant' and "n/a" shall be noted in all other related fields.

3.7.9 Characteristic 15. Soil quality

Soil quality: [Scheme], [Code], compliant [yes/no] or n/a.

Explanation

6.1.16 § 1/10 of [9], version 2016 foresees that the use of solid and gaseous biomass derived from agricultural wastes and residues as well as wastes and residues from natural areas shall be based on best practices for the conservation or improvement of soil and soil quality for the purpose of production or management objectives as set out in a management plan. Note that "natural areas" does not include forestry.

6.1.16 §1/1 1° of [9] foresees that biomass which is a residual waste (recycled wood, processing residues or post-consumer waste) does not have to meet any of the sustainability criteria.

6.1.16 §1/1 4°, version 2023 foresees that, as from 1st of July 2023, forest biomass meets the sustainability criteria listed in section 1/2 and sections 1/6 to 1/7 (not 1/10 on soil quality).

As a consequence, this means that

If, before the 1st of July 2023, the biomass originates from a natural area as listed by the national authorities.[9]

then, **if** the biomass covered by the Biomass Report is shown to be "SBP-compliant", or "SBP-controlled" in combination with a certification for sustainable forest management (such as FSC, PEFC, FSI, etc.) and/or a Level A/Level B risk assessment for the RED-II (wherein a risk based analysis indicates for a specific sourcing region/country the risk of non-sustainable forest management related to soil and soil quality in natural areas, part of the supply base, as 'negligible' or 'low risk'), the biomass shall be deemed compliant with this Characteristic and **"yes"** shall be noted next to 'compliant' and the scheme SBP and the corresponding certificate number shall be added to the fields [Scheme] and [Code] respectively

else the biomass is not deemed compliant with this Characteristic and **"no"** shall be noted next to 'compliant'

In all other cases this Characteristic is not applicable to this biomass and **"n/a"** shall be noted in the Biomass Report.

3.8 Footer of the Biomass Report

Issued by:

- [Company name and legal form]
- [Company number]
- [Street and house number/part]
- [Postcode and Town/City]
- [Country]

Person responsible

- [First name and name]
- [phone number]
- [e-mail]
- [Signature]

3.9 Biomass Report Template for End-users

The template in Excel can be found on SBP's website: www.sbp-cert.org

[9] e.g. for Flanders see Ontdek onze natuurgebieden | Agentschap voor Natuur en Bos

4 Methodology for the calculation of energy use

4.1 Scope

4.1.1 Electric equivalent of energy

Energy use for the production and transport of the biomass is reported in terms of equivalent electric energy.

The electric equivalent of a given amount of energy used shall be calculated as the amount of electricity that could have been produced in a reference power plant with that given amount of energy. The conversion between primary energy and equivalent electric energy is carried out by multiplying the primary energy values with a factor 55%.

When the energy used concerns a fuel, the primary energy content shall be determined by multiplying the lower heating value on a wet basis, abbreviated LHVwet and expressed in kWh/unit, by the amount of fuel used expressed in that same unit.

Heat from biomass/biofuel/biogas is exempt in the energy calculation as per VEKA requirements

When the energy used concerns heat, and the primary energy to generate that heat cannot be measured or determined in a reasonably and accurate way, the amount of primary energy needed to produce the energy shall be calculated by dividing the amount of heat, expressed in kWh by:

a. **0,93** when the heat carrier is air;
b. **0,90** when the heat carrier is water;
c. **0,85** when the heat carrier is steam or another medium.

This primary energy shall be converted to the electric equivalent by multiplying by **0,55**; the reference efficiency for electricity production.

4.1.2 Calculation of energy values

The methodology described in this Instruction Document 6B is proposed to certify those two energy values:

$E_{vb,ex,spec,j}$ The equivalent amount of electricity consumed by the BP to make its produced biomass suitable as a fuel for the energy plant operated by the Certificate Holder, referred to as 'pre-treatment energy', expressed in kWh/kg biomass product and laid down in the Biomass Report as Characteristic 1;

$E_{trp,spec,j}$ The equivalent electricity consumption of the total energy consumed within the supply chain starting with the operations of the BP up to the border of the Flemish Region, expressed in kWh/kg biomass product and laid down in the Biomass Report as Characteristic 2 (3.4.2).

4.2 Data in SAR

The input data required for the methodology is BP specific. They are collected within the framework of SBP Standard #5 within the SBP Audit Report (SAR) as well as the Data Transfer System (DTS) of SBP for the (sea) long distance transport. It consists in the following contributions.

1. The weighted average moisture content of the different raw materials before and after the drying process on site, expressed as a value on wet basis.
2. Energy use for transport of the feedstock, and of the biomass product in accordance with the identified transport route: distances expressed in [km] and, per type of vehicle used, the capacity per vehicle is expressed in metric tonnes.

4.2 Data in SAR (continued)

For pellets and stationary chipping only:

3. Weighted average distance between the different raw material sources and the production facility in [km], per type of vehicle the capacity in metric tonnes per vehicle.
4. The electrical consumption for the preparation of the biomass in kWhe divided by the total production of biomass in metric tonnes during the reference period (supposed to be 12 consecutive months).
5. The specific consumption of fossil fuels for the preparation of the biomass in kWh of primary energy divided by the total production of biomass product in metric tonnes during the reference period (supposed to be 12 consecutive months).
6. Energy use for transport of the feedstock, in accordance with the identified transport route: distances expressed in [km] and, per type of vehicle used, the capacity per vehicle is expressed in metric tonnes.
7. Long distance sea transport between load port and ARAG zone (Antwerp or Ghent harbour):
   a. type of sea vessel used (i.e. Handysize, Supramax or any other specific vessel to be described),
   b. route followed and corresponding distance in nautical miles, 1,852 km/nautical mile

The calculation includes all energy consumption from feedstock to the biomass delivered at the border of the Flemish Region. The complete supply chain is shown in Figure 1.

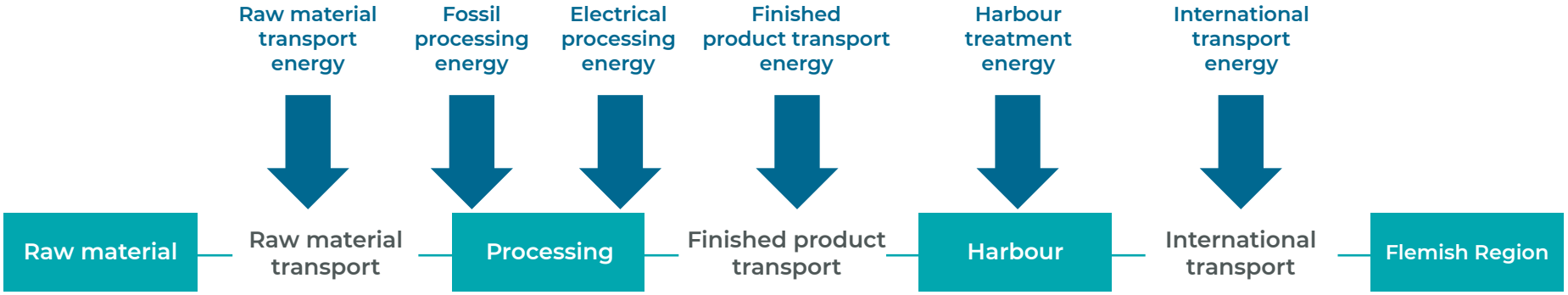

Figure 1 Typical biomass supply chain

4.3 Default values from JRC

Only reference default values published by JRC can be used for energy calculations.

The default values can be found in the latest published documents published by JRC.

The JRC references are mentioned in footnotes to the values that are mentioned in Table 1 and Table 2.

4.3.1 Standard values for the energy calculations

Table 1 gives the reference lower heating values of the main fuels.

Fuel type	Units	Energy
HFO[10]	MJ/kg	L1 = 40,5
Diesel[11]	MJ/kg	L2a = 43,1
Diesel[12]	MJ/litre	L2b = 35,9
Gasoline[13]	MJ/litre	L3 = 32,2
Natural gas[14]	MJ/Nm^3	L4 = 36,1 if not measured
Propane[15]	MJ/kg	L5 = 46,4
LPG[16]	MJ/kg	L6a = 46,0
LPG gas[17]	MJ/Nm3	L6b = 105
Butane[18]	MJ/kg	L7 = 45,8

Table 1. Lower heating values per type of fuel from JRC

[10] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p89, https://op.europa.eu/s/omqH
[11] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, Appendix 1, p254, https://op.europa.eu/s/omqH
[12] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, Appendix 1, p254, https://op.europa.eu/s/omqH
[13] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, Appendix 1, p254, https://op.europa.eu/s/omqH
[14] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 2, p9 https://op.europa.eu/s/olwv
[15] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 2, p12, https://op.europa.eu/s/olwv
[16] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 2, p9, https://op.europa.eu/s/olwv
[17] JRC (2020 v5), Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context Appendix 2, p9, 29,18 kWh/Nm^3 = 105,048 MJ/Nm^3 https://op.europa.eu/s/olwv
[18] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 1, p12, https://op.europa.eu/s/olwv

4.3.1 Standard values for the energy calculations (continued)

Important note on LPG

LPG (Liquefied Petroleum Gas) is the generic acronym for propane=C3 and butane=C4 hydrocarbons that are gaseous under ambient conditions but can be stored and transported in liquid form at relatively mild pressures (up to about 2.5 MPa for propane). LPG is widely used for heating and cooking as well as petrochemicals. It is also a suitable fuel for spark ignition engines with a good octane rating. LPG is available as a road fuel in a number of European countries.

Table 2 gives the energy intensity of the main transport types as published by JRC.

Transport type	Fuel type	Energy MJ/t.km
Sea vessel[19]	HFO	E1 = 0,0656
Bulk carrier[20]	diesel	E2 = 0,324
Diesel train[21]	diesel	E3 = 0,252
Electric train[22]	electricity	E4 = 0,210
Truck[23]	diesel	E5 = 0,811

Table 2. Default energy intensity per type of transport from JRC

4.4 Power consumption for making the biomass product

4.4.1 Power consumption

The specific power consumption P1, expressed as kWh electric energy per tonne of biomass product, is equal to the value for "Total specific electricity use" as stated in section "3.2. Electricity use" in the SAR for pellets or stationary chipping of wood chips and validated by the CB. In case electricity is used by a third-party, as for an external conveyor, it shall be included into P_1.

4.4.2 Use of fossil fuels for pellets and stationary chipping of wood chips

The quantification methods for fossil fuel used on site depend on the available information. It can be based on a monitoring operated by the producer, sometimes supported by supplier invoices, but not always. As far as possible it should be referred to 12 months operation.

In case fossil fuel is used by a third-party, as for an external conveyor or chipping system, it shall be included into P_2, P_3, P_N

Sometimes there is no relevant monitoring, so the CB needs to validate some estimation.

[19] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, p34, https://op.europa.eu/s/omqI
[20] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p101, https://op.europa.eu/s/omqH
[21] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p102, https://op.europa.eu/s/omqH
[22] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p102, https://op.europa.eu/s/omqH
[23] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, p31, https://op.europa.eu/s/omqI

4.4.2 Use of fossil fuels for pellets and stationary chipping of wood chips (continued)

– All the fossil fuel use as stated in section "3.4. Use of fossil fuels" in the SAR, as validated by the CB shall be taken into account to calculate the total specific fossil fuel use expressed as kWh primary energy per tonne of biomass product.

– P_2 kWhp/tonne biomass product from diesel oil

The diesel oil annually used in the biomass preparation plant(to fuel pay loader or other machinery) is generally reported in volume (litres per tonne biomass product) PV_{2b}. It may also be reported in mass (kg per tonne biomass product) PV_{2a}. The specific energy consumption is expressed in[kWhp/tonne biomass] and calculated as:

$$P_2 = \frac{L2a}{3,6}.PV_{2a} + \frac{L2b}{3,6}.PV_{2b}$$

where $L2a$ and $L2b$ are given by Table 1.

– P_3 in kWhp/tonne biomass from gasoline

The gasoline annually used in the biomass preparation plant(to fuel pay loader or other machinery) is generally reported in volume (litres per tonne biomass product) PV_3. The specific energy consumption is expressed in [kWhp/tonne biomass] and calculated as:

$$P_3 = \frac{L3}{3,6}.PV_3$$

where $L3$ is given by Table 1.

– P_4 in kWhp/tonne biomass from natural gas

If any natural gas is used in the process, it can be monitored as volume (V_4.in Nm³) from which the specific consumption (PV_4.in Nm³/tonne biomass product) can be calculated. The specific energy consumption is expressed in [kWhp/tonne biomass] and calculated as:

$$P_4 = \frac{L4}{3,6}.PV_4$$

where $L4$ is the lower heating value of the natural gas, as specified in Table 3.4 in the SAR, otherwise the value specified in Table 1 is used.

If the natural gas consumption is reported in Table 3.4 in the SAR as primary energy per tonne biomass (PV_4, in MJ/tonne biomass), the specific energy consumption, expressed in [kWhp/tonne biomass], is calculated as:

$$P_4 = \frac{PV_{4I}}{3,6}.$$

4.4.2 Use of fossil fuels for pellets and stationary chipping of wood chips (continued)

– P_5 in kWhp/tonne biomass product from propane

The total mass of propane used, expressed in kg, is denoted PV_5. If the use is reported in the volume of gaseous propane (V_{5a} – Nm³), the conversion to kg PV_{5a} is performed based on the following density[24] : 1,91 kg/Nm³ (1.013 bar and 15°C (59°F)). If the use is reported in the volume of liquid propane (V_{5b} – litre), the conversion in kg PV_{5b} is performed based on the following density[25]: 584,8 kg/m³. The specific energy consumption is expressed in [kWhp/tonne biomass] and calculated as:

$$P_5 = \frac{L5}{3{,}6}.PV_5 + \frac{L5a}{3{,}6}.PV_{5a} + \frac{L5b}{3{,}6}.PV_{5b}$$

where $L5$, $L5a$ and $L5b$ are given by Table 1.

The sum corresponding to the usage of **any additional fossil fuels** like butane (7), LPG (6), and other (N) is converted in a similar way to the corresponding quantity $P6, P7, ..., P_N$ according to PV_N and expressed in kWh primary energy per tonne biomass product. In case the fuel N is not described in Table 1, adequate JRC reference should be found for L_N and mentioned in the calculation sheet.

4.5 Energy for transport

4.5.1 Road transport by truck

In case of transport of the feedstock for pellets or stationary chipping of wood chips by diesel trucks, or by a conveyor fed by diesel, the energy consumption is given in [kWhp/tonne feedstock]. by the following formula:

$$RRT = \frac{K1\ x\ E5}{3{,}6}$$

In case of transport of the biomass product by diesel trucks, the energy consumption is given in [kWhp/tonne biomass] by the following formula:

$$PRT = \frac{K2\ x\ E5}{3{,}6}$$

with

RRT	Diesel truck energy consumption in [kWhp/tonne feedstock].
PRT	Diesel truck energy consumption in [kWhp/tonne biomass].
$K1$	Weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by diesel truck,
$K2$	Weighted average distance for the transport by diesel truck of the biomass product in [km],
$E5$	Energy use for the transport by diesel truck in MJ/t.km as specified in Table 2.

[24] http://encyclopedia.airliquide.com/Encyclopedia.asp?GasID=53#GeneralData
[25] https://rapidn.jrc.ec.europa.eu/substance/propane

4.5.2 Transport by bulk carriers

In case of transport of the feedstock for pellets or stationary chipping of wood chips by diesel bulk carriers, the energy consumption is given in [kWhp/tonne feedstock] by the following formula:

$$RRB = \frac{K3\ x\ E2}{3{,}6}$$

In case of transport of the biomass product by diesel bulk carriers, the energy consumption is given in [kWhp/tonne biomass] by the following formula:

$$PRB = \frac{K4\ x\ E2}{3{,}6}$$

with

RRB Bulk carrier energy consumption in [kWhp/tonne feedstock].
PRB Bulk carrier energy consumption in [kWhp/tonne biomass].
$K3$ Weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by diesel bulk carrier,
$K4$ Weighted average distance for the transport by diesel bulk carrier of the biomass product in [km],
$E2$ Energy use for the transport by diesel bulk carrier in MJ/t.km as specified in Table 2.

4.5.3 Transport by diesel train

In case of transport of the feedstock for pellets or stationary chipping of wood chips by diesel trains, the energy consumption is given in [kWh/tonne feedstock] by following formula:

$$RDT = \frac{K5\ x\ E3}{3{,}6}$$

In case of transport of the biomass product by diesel trains, the energy consumption is given in [kWh/tonne biomass product] by the following formula:

$$PDT = \frac{K6\ x\ E3}{3{,}6}$$

with

RDT Diesel train energy consumption in [kWhp/tonne feedstock].
PDT Diesel train energy consumption in [kWhp/tonne biomass].
$K5$ Weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by diesel train,
$K6$ Weighted average distance for the transport by diesel train of the biomass product in [km],
$E3$ Energy use for the transport by diesel train in MJ/t.km as specified in Table 2.

4.5.4 Transport by electric trains

In case the feedstock, for pellets and stationary chipping of wood chips only, is transported by electric train, the energy consumption of the transport is given in [kWhe/tonne feedstock] by the following formula:

$$RET = \frac{K7 \; x \; E4}{3{,}6}$$

In case the biomass product is transported by electric train, the energy consumption of the transport is given [kWhe/tonne biomass product] by the following formula:

$$PET = \frac{K8 \; x \; E4}{3{,}6}$$

with

RET Electric train energy consumption in [kWhp/tonne feedstock].

PET Electric train energy consumption in [kWhp/tonne biomass].

$K7$ Weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by electric train,

$K8$ Weighted average distance for the transport by electric train of the biomass product in [km],

$E4$ Energy use for the transport by electric train in MJ/t.km as specified in Table 2.

4.5.5 Energy consumption for the transport of the feedstock for pellets and stationary chipping of wood chips only

The total primary energy consumption due to the transport of the feedstock, RT, is given by

$$RT = RRT + RRB + RDT$$

When additional transport of feedstock takes place, this is calculated in a similar way, expressed in kWh primary energy per tonne feedstock and added to the term RT. However, because RT is a value given in [kWhp/tonne feedstock] a conversion rate, CR, needs to be applied to have a value expressed in [kWhp/tonne biomass]. The reduction in weight between raw material and finished product is caused by the drying process. Hence, this conversion rate is given by the following formula:

$$CR = \frac{1 - IM_{wet}}{1 - FM_{wet}}$$

with the following values as stated in "3.3. Moisture content and drying" of the SAR:

FM_{wet} Final moisture (wet basis).

IM_{wet} Initial moisture (wet basis)

For the initial moisture, the CB has to specify the origin of the figure (it can be a rough estimation based on the typical moisture contents of the raw material, it can be based on a couple of punctual measurements, and, when available, it can be based on the weighted average of all moisture measurements performed of each entering batch of raw material during the reference period). The final moisture is based on specs, and our audit procedure does not require the CB to justify the figure with analysis reports. Typical range is 5-8%. Finally, the energy consumption for raw material transportation, RT', expressed in [kWh/tonne biomass] is calculated by:

$$RT' = \frac{RT}{CR}$$

Similarly the specific primary energy consumption for the transport of the feedstock by electric train, RET, expressed in kWhe/tonne feedstock has to be converted to the corresponding quantity RET', expressed as kWhe/tonne biomass:

$$RET' = \frac{RET}{CR}$$

4.5.6 Marine transport of the biomass product

For the route that the sea vessel uses and for evaluating the corresponding distance, the CB uses https://sea-distances.org/ specifying Port or origin and Port of destination. Those data are collected by the PB or the trader and stored into the Data Transfer System of SBP.

If Port is not in the list, the closest Port in the list is used. This delivers sometimes several possible routes, like via Suez Canal or via Panama Canal. To select the right route, the Certificate Holder makes sure what will be the real route that the sea transport company will usually take, as mentioned in an SREG of SBP.

4.5.6 Marine transport of the biomass product (continued)

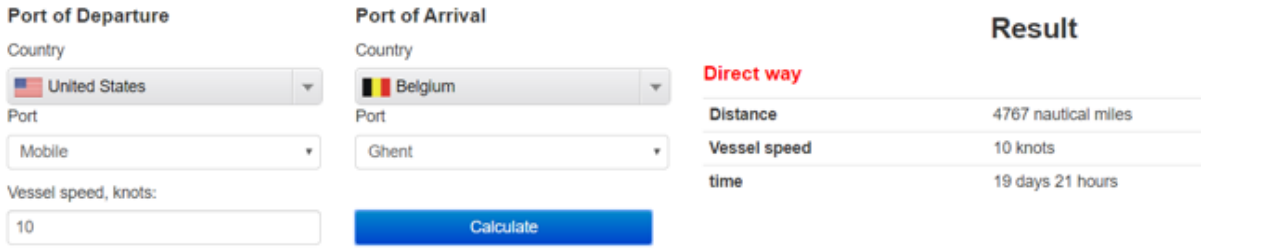

Table 3. Distance for route between the port of Mobile, USA and Ghent, BE is 4767 nautical miles, D=8828,5km

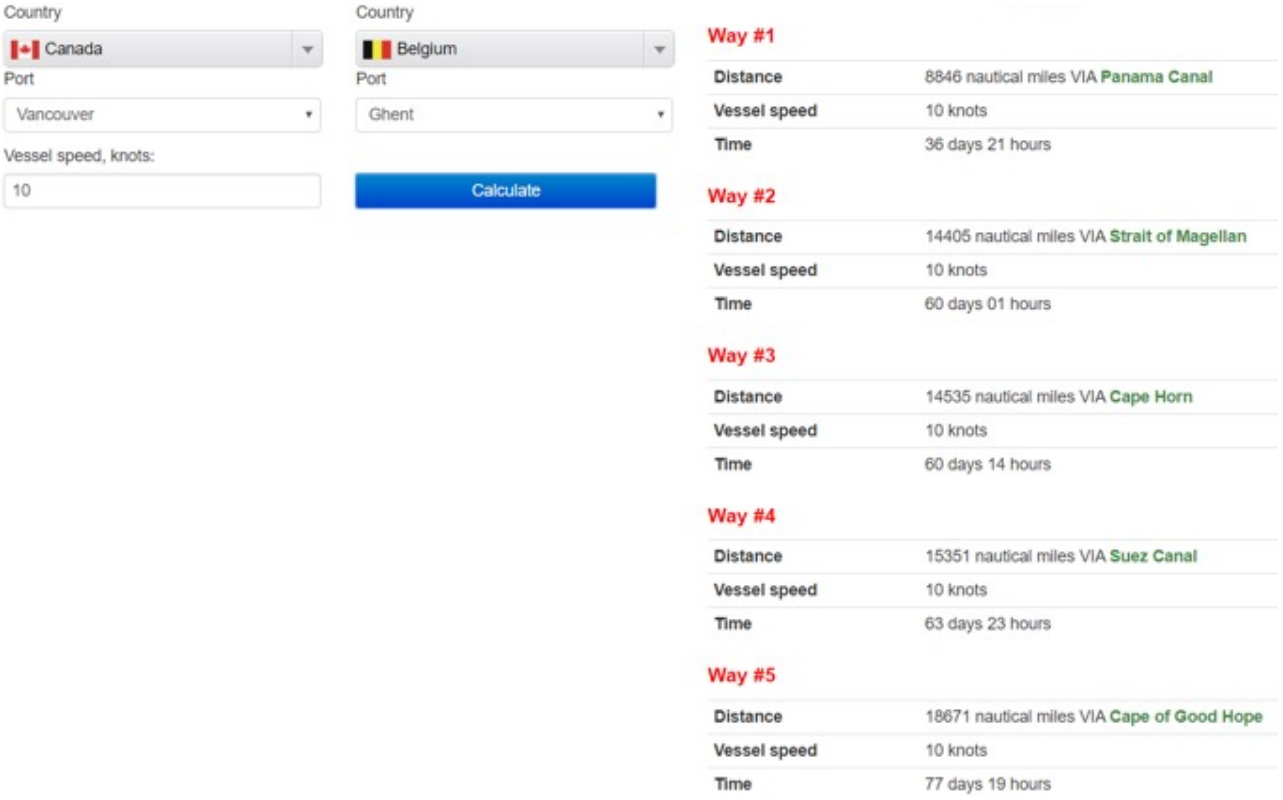

Table 4. Distance for route between the port of Vancouver, BC, Canada and Ghent, BE via Panama Canal is 8846 nautical miles, D = 16382km

4.5.6 Marine transport of the biomass product (continued)

The fuel consumption during marine transport is given by following formula:

$$PI = \frac{D \; x \; E1}{3{,}6}$$

with

$P1$ transport energy consumption of the biomass product [kWhp/tonne biomass product].

D Distance in km = (nautical miles x 1,852).

$E1$ Energy use in MJ/t.km as specified in Table 2.

4.6 Calculation of final energy values

The two final energy values to be reported in the Biomass Report are calculated as:

$$E_{vb,ex,spec,j} = P_1 + (P_2 + P_3 + P_4 + P_5 + \ldots + P_N) \; x \; 55\%$$

$$E_{trp,\,spec,j} = PET + RET' + (RT' + PRT + PRB + PDT + PI + R_N) \; x \; 55\%$$

5 Methodology for the calculation of GHG emissions in the Biomass Report for Flanders

For the calculation of greenhouse gas emissions from solid and gaseous biomass for electricity and heat production in the Biomass Report, the methodology as laid down in the EC report COM(2010)11, complemented by EC SWD(2014)259, is applied in combination with the fossil fuel comparator of the European Joint Research Centre. EC SWD(2014)259 contains recommendations for the application of RED-I to solid (and gaseous) biomass. Methodology for solid biomass is RED II, Annex VI, or COM(2010)11, Annex I – formula has not changed.

In 2018, the EC has published the Renewable Energy Directive 2018-2001 that confirms that methodology and reports a series of default values in its Annex VI.

5.1 Simplified method with the default values of the Renewable Energy Directive

Only reference default values published in the RED Directive 2018-2001 or by JRC can be used for GHG calculations.

The default values of the Annex VI of the RED Directive can be found in Table 5, Table 9 and Table 10 and in the latest documents published by JRC.

The JRC references are mentioned in footnotes to the values that are mentioned in Table 6 and Table 7.

DISAGREGGATED DEFAULT VALUES and GHG savings % REDII ANNEX VI	Greenhouse gas emissions – default value (g CO_2eq/MJ)				TOTAL (gCO_2eq/MJ)	GHG Savings %	
Biomass fuel production System with transport 1-500km	**Cultivation**	**Processing**	**Transport & distribution**	**Non-CO_2 emissions**	**Production & transport**	**Heat**	**Elec9**
Wood chips from forest residues	0,0	1,9	3,6	0,5	6,0	91%	87%
Wood chips from stemwood	1,1	0,4	3,6	0,5	5,6	92%	88%
Wood briquettes or pellets from forest residues (dried with natural gas boiler)	0,0	30,9	3,5	0,3	34,7	49%	24%
Wood briquettes or pellets from forest residues (dried with wood chips boiler)	0,0	15,0	3,6	0,3	18,9	72%	59%
Wood briquettes or pellets from forest residues (drying with wood chips CHP)	0,0	2,8	3,6	0,3	6,7	90%	85%
Wood briquettes or pellets from stemwood (drying with natural gas boiler)	1,1	29,8	3,5	0,3	34,7	49%	24%
Wood briquettes or pellets from stemwood drying with (wood chips boiler)	1,4	13,2	3,6	0,3	18,5	73%	60%
Wood briquettes or pellets from stemwood (drying with wood chips CHP)	1,4	0,9	3,6	0,3	6,2	91%	86%
Wood briquettes or pellets from processing residues (drying with natural gas boiler)	0,0	17,2	3,3	0,3	20,8	69%	55%
Wood briquettes or pellets from wood industry residues (drying with wood chips boiler)	0,0	7,2	3,4	0,3	10,9	84%	76%
Wood briquettes or pellets from wood industry residues (drying with wood chips CHP)	0,0	0,3	3,4	0,3	4,0	94%	91%

Table 5. Default values given by Annex VI of the Renewable Energy Directive with a transport distance under 500 km

Those GHG savings default for heat and electricity can be used for the relevant feedstock and combined according to the percentage of every biomass fuel production system in the blend.

5.2 Standard values for a detailed GHG calculation

Table 6 complements Table 1 and gives the reference GHG intensities of the main fuels.

Fuel type	gCO_2/MJ
HFO [26]	C1 = 94,2
Diesel [27]	C2 = 95,1
Diesel [28]	C2 = 95,1
Gasoline [29]	C3 = 93,3
Natural gas [30, 31]	C4 = 66,0
Propane [32, 33]	C5 = 78,06
LPG [34, 35]	C6 = 78,06
LPG gas [36, 37]	C6 = 78,06
Butane [38]	–
Wood pellets [39]	–
Electricity	CP in Tables 3-7

Table 6. GHG intensity per type of fuel from JRC

[26] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p89 and p7, https://op.europa.eu/s/omqH
[27] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p254 and p7, https://op.europa.eu/s/omqH
[28] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p254 and p7, https://op.europa.eu/s/omqH
[29] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p254 and p36, https://op.europa.eu/s/omqH
[30] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 2, p9 https://op.europa.eu/s/olwv
[31] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, table 47, p36, https://op.europa.eu/s/omqH
[32] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 2, p12, https://op.europa.eu/s/olwv
[33] given that the LHV of propane is higher than that of LPG, the gCO_2/MJ of LPG is a conservative estimate for that of propane
[34] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 2, p9, https://op.europa.eu/s/olwv
[35] JRC (2017) Covenant of Mayors for Climate and Energy: Default emission factors for local emission inventories, p35, 0,281 tCO_2/MWh = 78,06 gCO_2/MJ, https://op.europa.eu/s/omtv
[36] JRC (2020 v5), Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context Appendix 2, p9, 29,18 kWh/Nm^3 = 105,048 MJ/Nm^3 https://op.europa.eu/s/olwv
[37] JRC (2017) Covenant of Mayors for Climate and Energy: Default emission factors for local emission inventories, p35, 0,281 tCO_2/MWh = 78,06 gCO_2/MJ, https://op.europa.eu/s/omtv
[38] JRC (2020 v5) Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context, Appendix 1, p12, https://op.europa.eu/s/olwv
[39] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, p181, https://op.europa.eu/s/omqI

Note on LPG/propane

LPG (Liquefied Petroleum Gas) is the generic acronym for propane = C3 and butane = C4 hydrocarbons that are gaseous under ambient conditions but can be stored and transported in liquid form at relatively mild pressures (up to about 2.5 MPa for propane). LPG is widely used for heating and cooking as well as petrochemicals. It is also a suitable fuel for spark ignition engines with a good octane rating. LPG is available as a road fuel in a number of European countries.

Table 7 gives the energy intensities of the main transport types as published by JRC.

Transport type	Fuel type	Energy MJ/t.km
Sea vessel[40]	HFO	E1 = 0,0656
Bulk carrier[41]	diesel	E2 = 0,324
Diesel train[42]	diesel	E3 = 0,252
Electric train[43]	electricity	E4 = 0,210
Truck[44]	diesel	E5 = 0,811

Table 7. Default energy intensity per type of transport from JRC

The data referenced in the following Table 8 are used to evaluate the GHG intensity for power CP in the country of origin for the conversion of electricity consumption into GHG according to the Fossil Fuel Comparator. Those data originate from ANNEX to the COMMISSION DELEGATED REGULATION (EU) of 10/2/2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels.

[40] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, p34, https://op.europa.eu/s/omqI
[41] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p101, https://op.europa.eu/s/omqH
[42] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p102, https://op.europa.eu/s/omqH
[43] JRC (2019 v1d) Definition of input data to assess GHG default emissions from biofuels in EU legislation, p102, https://op.europa.eu/s/omqH
[44] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, p31, https://op.europa.eu/s/omqI

GHG emission factors electricity		Delegated ACT 2023 RF NBO-RCF
Electric emission coefficients		
EU-27	JRC mix	183,0
	Austria	39,7
	Belgium	56,7
	Bulgaria	119,2
	Croatia	55,4
	Cyprus	200,6
	Czech Republic	132,5
	Denmark	27,1
	Estonia	139,8
	Finland	22,9
	France	19,6
	Germany	99,3
	Greece	125,2
	Hungary	72,9

GHG emission factors electricity		Delegated ACT 2023 RF NBO-RCF
Electric emission coefficients		
EU-27	Ireland	89,4
	Italy	92,3
	Latvia	39,4
	Lithuania	57,7
	Luxemburg	52,0
	Malta	133,9
	The Netherlands	99,9
	Poland	196,5
	Portugal	61,6
	Romania	86,1
	Slovakia	45,6
	Slovenia	70,1
	Spain	54,1
	Sweden	4,1

Table 8. GHG intensity for power CP expressed in gCO_2/MJ and used for the conversion of electricity consumption in the Europe Union into GHG in the calculations of Fossil Fuel Comparator for the calculation of GHG savings.

5.3 Equations for a detailed calculation

5.3.1 Equation 1

Greenhouse gas emissions from the production of solid and gaseous biomass fuels, before conversion into electricity, heating and cooling, shall be calculated as:

$$E = e_{ec} + e_{l} + e_{p} + e_{td} + e_{u} - e_{sca} - e_{ccs} - e_{ccr,}$$

where

E = total emissions from the production of the fuel before energy conversion;
e_{ec} = emissions from the extraction or cultivation of raw materials;
e_{l} = annualised emissions from carbon stock changes caused by land use change;
e_{p} = emissions from processing;
e_{td} = emissions from transport and distribution;
e_{u} = emissions from the fuel in use, that is greenhouse gases emitted during the combustion of solid and gaseous biomass;
e_{sca} = emission savings from soil carbon accumulation via improved agricultural management;
e_{ccs} = emission savings from carbon capture and geological storage and;
e_{ccr} = emission savings from carbon capture and replacement.

Emissions from the manufacture of machinery and equipment shall not be taken into account.

5.3.2 Equation 2

From those GHG emissions, GHG savings can be calculated against the references states by the Joint Research Centre (JRC) of the European Commission.

Greenhouse gas emission savings from biofuels and bioliquids shall be calculated as:

$$SAVING = (E_F - E_B/E_F)$$

where

E_B = total emissions from biofuel or bioliquid; and
E_F = total emissions from the fossil fuel comparator.

For electricity, the current Fossil fuel comparator E_F has been set by JRC to 183 gCO_2/MJ and E_B shall include electric efficiency of the energy plant ($E_B = E/\eta_{el}$).
This electric efficiency of the energy plant is calculated as the net electricity produced during the period of the past 12 months divided by the total fuel consumption during that same period, where all quantities are taken from official production reporting.
JRC publication in 2017[45] delivered default GHG emission factors used to cover some sources of emissions for which no individual calculation is intended. Those values were also published in the Annex VI of the REDII and can also be found in Table 5.

[45] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, tables 92-93 p120-122, https://op.europa.eu/s/omqI

5.3.3 GHG emissions for wood cultivation e_{ec} and non CO_2 emissions for the fuel in use e_u

In Table 9, GHG values in gCO_2eq/MJ biomass product cover extraction and cultivation of wood (i.e. forestry and harvesting): eec, shall include default emissions from the extraction or cultivation process itself; from the collection and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation but capture of CO_2 in the cultivation of feedstock shall be excluded.

– In Table 9, where necessary GHG values in gCO_2eq/MJ biomass product cover non-CO_2 emissions from final combustion at the plant.

Biomass fuel production system	Cultivation gCO_2eq/MJ	Non CO_2 gCO_2eq/MJ
Wood briquettes or pellets from forest residues	0,0	0,3
Wood briquettes or pellets from stemwood	1,4	0,3
Wood briquettes or pellets from wood industry residues	0,0	0,3

Table 9. GHG emissions resulting from the cultivation and non CO_2 emissions for briquettes and pellets made out of forest residues, stemwood and industry residues

5.3.4 GHG emissions for the wood chips used for drying

In Table 10, GHG value in gCO_2eq/MJ wood chips when chips are used as fuel for the dryer/CHP inside the biomass production plant (the default values cover, where appropriate: cultivation of wood fuel, processing of wood fuel, transport and distribution of wood fuel, and non CO_2 emissions generated by the combustion of wood fuel in the biomass production plant).

Biomass fuel production system	Cultivation gCO_2eq/MJ	Processing gCO_2eq/MJ	Transport on less than 500km gCO_2eq/MJ	Non CO_2 gCO_2eq/MJ
Wood chips from forest residues	0,0	1,9	3,6	0,5
Wood chips from stemwood	1,1	0,4	3,6	0,5

Table 10. GHG emissions resulting from the cultivation, processing, transport and non CO_2 emissions for the wood chips used for drying the feedstock for the pellets

The transport values in Table 10 shall only be used when the average weighted transport distance is shown to be less than 500km. Otherwise the corresponding value from Table 91 in the JRC publication in 2017[46] shall be used.

[46] JRC (2017 v2) Solid and gaseous bioenergy pathways: input values and GHG emissions, tables 92-93 p120-122, https://op.europa.eu/s/omqI

5.3.5 GHG emissions for land use change e_l.

The bonus for repaired degraded land shall be calculated as stipulated in REDI and when applicable REDII.

The factor for emission reduction through carbon storage in the soil applicable shall be calculated as stipulated in REDI and when applicable REDII.

5.3.6 GHG emissions for processing e_p

5.3.6.1 Power consumption for making the pellets or for stationary chipping of wood chips

When applicable[47], the GHG emissions for the specific power consumption of the BP ep in gCO_2/ton biomass is given by:

$$e_{p,1} = 3{,}6 \,.\, CP \,.\, P1$$

where

CP is the GHG intensity of power in gCO_2/MJ in the country of origin as given in Table 8.

$P1$ is the specific consumption of the BP in [kWhe/tonne biomass].

$P1$ is estimated in the SAR based on 12 months operation, if documented records are available. When the power consumption and the related biomass production are not available for 12 months operation, other approaches (such as test periods, extrapolations, and design values) can be used. This is particularly relevant for new biomass production plants, when applicable.

If the electricity comes from the grid, invoices from the supplier covering the whole reference period are also cross-checked by the CB, unless there is a specific reason why those documents are not available (newly commissioned plants) or not relevant (several production lines sharing the same meters).

If the electricity comes from an energy plant on site, possibly a combined heat and power plant, a detailed calculation is made according to net electricity and the net heat produced by the plant, used respectively. as a source of power and as a source of heat for drying.

5.3.6.2 Use of fossil fuels for the preparation of the biomass product, when applicable

When applicable[48], the quantification methods for fossil fuel used on site of the biomass production plant depend on the available information. It can be based on a monitoring operated by the producer, sometimes supported by supplier invoices, but not always. As far as possible it should be referred to 12 months operation.

Sometimes there is no relevant monitoring, so the CB needs to validate some estimation.

The **diesel oil** annually used in the biomass production plant (to fuel pay loader or other machinery) is generally reported in volume (litres per ton biomass) PV_2.

$$e_{p,2} = PV_2 . C2 . L2b$$

$e_{p,2}$ in gCO_2/tonne biomass from diesel,

$C2$ is the GHG intensity of diesel in gCO_2/MJ as given in Table 6,

$L2b$ is the heating value per litre of diesel in MJ/litre as given in 1

[47] Essentially for wood pellets plants and for stationary chipping of wood chips.
[48] Essentially for wood pellets plants and for stationary chipping of wood chips.

5.3.6.2 Use of fossil fuels for the preparation of the biomass product, when applicable (continued)

In the cases that **gasoline** is used and not diesel, then $C2$ and $L2b$ shall be respectively substituted with $C3$ and $L3$.

If any natural gas is used in the process, it can be monitored either as primary energy (in kWhp or MJp) or as volume (in Nm³ per tonne biomass). If the natural gas consumption is reported in primary energy in MJ per tonne biomass PV_4', the specific GHG emission is calculated as

$$e_{p,4} = PV_4'.C4$$

$e_{p,4}$ in gCO_2/ton biomass from Natural Gas,

$C4$ is the GHG intensity of diesel in gCO_2/MJ as given in Table 6,

The total mass of **propane** used, expressed in kg, is denoted PV_5. If propane annually used in the biomass production plant (to fuel pay loader or other machinery) is reported in volume of gaseous propane PV_{5a} (Nm³), the conversion to kg PV_5 is performed based on the following density[49]: 1,91 kg/Nm³ (1.013 bar and 15°C (59°F)). If the use is reported in the volume of liquid propane PV_{5b} (m³), the conversion in kg PV_5 is performed based on the following density[50]: 584,8 kg/m³. Then the total mass of propane used, expressed in kg, is denoted PV_5, the specific GHG emission in [gCO_2/tonne biomass] is

$$e_{p,5} = PV_5.C5.L5$$

$e_{p,7}$ in gCO_2/ton biomass from propane,

$C5$ is the GHG intensity of propane in gCO_2/MJ as given in Table 6,

$L5$ is the heating value per kg of propane in MJ/kg as given in Table 1.

Propane can be monitored either as primary energy (in kWhp or MJp) or as volume (in Nm³ per ton biomass).

The sum corresponding to the usage of **any additional fossil fuels** like LPG (6), butane (7), and other (N). is converted in a similar way to the corresponding quantity $e_{p,6}, e_{p,7}, \ldots, e_{p,N}$ according to PV_N and expressed in gCO_2 per ton biomass. In case the fuel N is not described in Table 1 or in Table 2, adequate JRC references for CN and LN parameters should be found and mentioned in the calculation sheet.

5.3.6.3 GHG emissions for the processing of the biomass product

$$e_p = \frac{e_{p,1} + e_{p,2} + e_{p,3} + e_{p,4} + e_{p,5} + \cdots + e_{p,N}}{L8}$$

- e_p is the GHG emissions for processing in gCO_2/MJ biomass,
- $e_{p1}, e_{p2}, e_{p3}, e_{p4}, e_{p5}, \ldots e_{p,N}$, are the GHG emissions for the use of electricity, diesel, gasoline, propane, natural gas, and all other fossil fuels, when applicable, as calculated in [gCO_2/tonne biomass],
- $L8$ is the low heating value of the biomass product in MJ/tonne biomass and is measured together with the moisture content of the final product and reported in the SAR.

[49] http://encyclopedia.airliquide.com/Encyclopedia.asp?GasID=53#GeneralData
[50] https://rapidn.jrc.ec.europa.eu/substance/propane

5.3.7 Emissions for transport e_{td}

5.3.7.1 Road transport by truck

In the cases of transport of the feedstock for pellets or dried biomass by diesel trucks:

$$e_{f,5} = K1 \,.\, C2 \,.\, E5$$

In the cases of transport of the feedstock for pellets or dried biomass by diesel trucks:

$$e_{t,5} = K2 \,.\, C2 \,.\, E5$$

with

$K1$ weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by diesel trucks,

$K2$ weighted average distance for the transport by diesel trucks of the pellets in [km],

$E5$ energy intensity for the transport by diesel trucks as defined in Table 2 in MJ/t.km,

$C2$ GHG intensity for the fuel use by diesel trucks in gCO_2/MJ as specified by JRC in Table 6.

5.3.7.2 Transport by bulk carriers

In the cases of transport of the feedstock for pellets or dried biomass by diesel bulk carriers:

$$e_{f,2} = K3 \,.\, C2 \,.\, E2$$

In the cases of transport of the biomass product (wood pellets or wood chips) by diesel bulk carriers:

$$e_{t,2} = K4 \,.\, C2 \,.\, E2$$

with

$K3$ weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by diesel bulk carriers,

$K4$ weighted average distance for the transport by diesel bulk carriers of the pellets in [km],

$E2$ energy intensity for the transport by diesel bulk carriers as defined in Table 2 in MJ/t.km,

$C2$ GHG intensity for the fuel use by diesel bulk carriers in gCO_2/MJ as specified by JRC in Table 6.

5.3.7.3 Transport by diesel trains

In the cases of transport of the feedstock for pellets or dried biomass by diesel trains:

$$e_{f,3} = K5 \,.\, C2 \,.\, E3$$

In the cases of transport of the biomass product (wood pellets or wood chips) by diesel-fuelled trains, the energy consumption is given in [kWh/tonne pellets] by the following formula:

$$e_{t,3} = K6 \,.\, C2 \,.\, E3$$

with

$K5$ weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by diesel trains,

$K6$ weighted average distance for the transport by diesel trains of the pellets in [km],

$E3$ energy intensity for the transport by diesel trains as defined in Table 2 in MJ/t.km,

$C2$ GHG intensity for the fuel use by diesel trains in gCO_2/MJ as specified by JRC in Table 6.

5.3.7.4 Transport by electric trains

In the cases of transport of the feedstock for pellets or dried biomass by electric train:

$$e_{f,4} = K7 \,.\, E4 \,.\, CP$$

In case the biomass product (wood pellets or wood chips) is transported by electric train, the energy consumption of the transport is given by the following formula:

$$e_{t,4} = K8 \,.\, E4 \,.\, CP$$

with

$K7$ weighted average distance between the origins per Feedstock Groups in the SAR and the BP in [km] for the transport by electric trains,

$K8$ weighted average distance for the transport by electric trains of the pellets in [km],

$E4$ energy intensity for the transport by electric trains as defined in Table 2 in MJ/t.km,

CP the GHG intensity in gCO_2/MJ of electricity given in Table 8 per country.

5.3.7.5 Marine transport of the biomass product

For the route that the sea vessel uses and for evaluating the corresponding distance, the CB uses https://sea-distances.org/ specifying Port or origin and Port of destination. Those data are collected by the BP or the trader and stored into the Data Transfer System of SBP.

If Port is not in the list, the closest Port in the list is used. This delivers sometimes several possible routes, like via Suez Canal or via Panama Canal. To select the right route, the Certificate Holder makes sure what will be the real route that the sea transport company will usually take, as mentioned in an SREG of SBP.

5.3.7.5 Marine transport of the biomass product (continued)

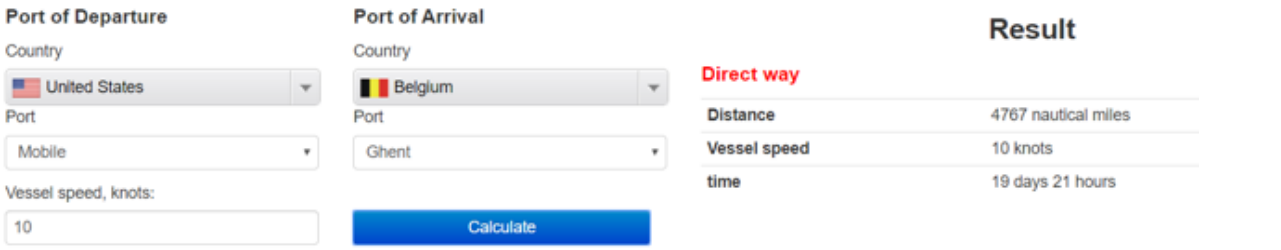

Table 11. Distance for route between the port of Mobile, USA and Ghent, BE is 4767 nautical miles, D=8828,5km

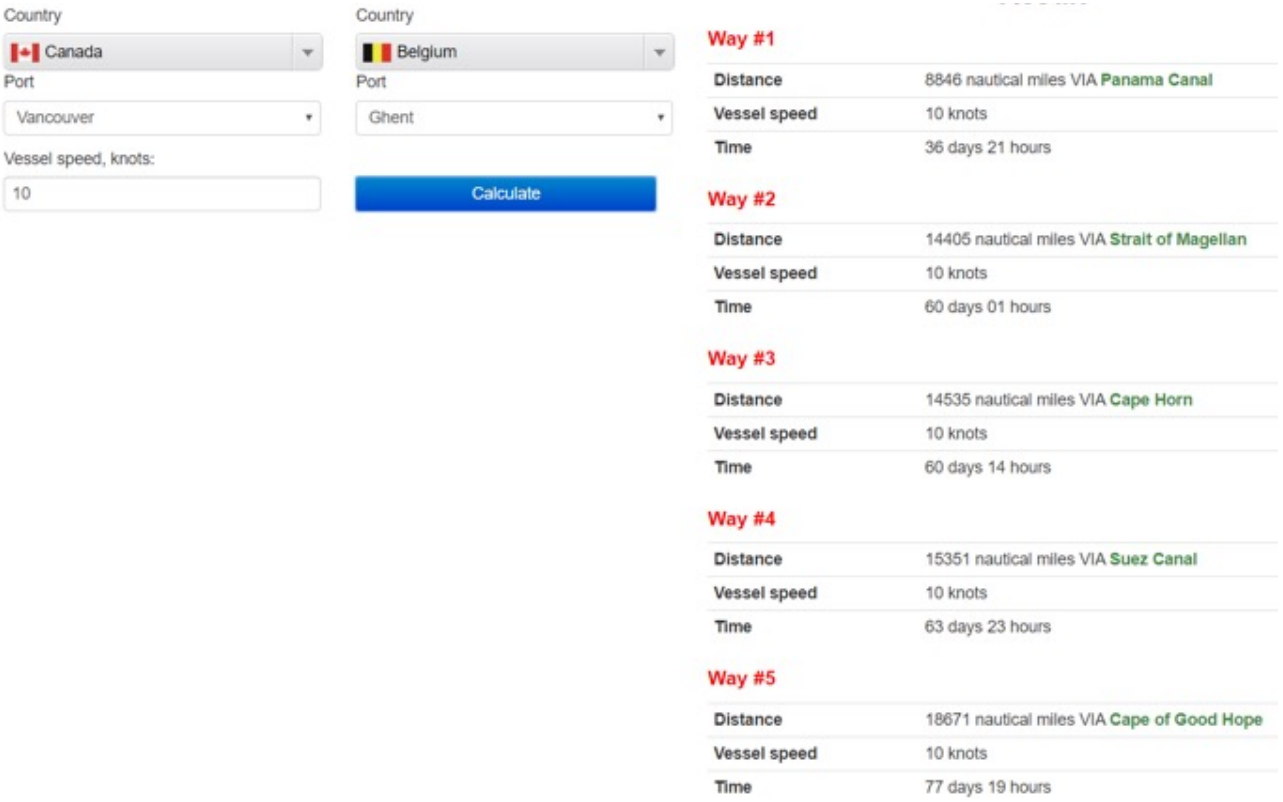

Table 12. Distance for the route between the port of Vancouver, BC, Canada and Ghent, BE via Panama Canal is 8846 nautical miles, D = 16383km

5.3.7.5 Marine transport of the biomass product (continued)

The fuel consumption during marine transport per ton of pellets is given by the following formula:

$$e_{t,1} = D \,.\, E1 . C1$$

with

D Distance in km = (nautical miles x 1,852),

$E1$ energy intensity for the transport by sea vessel in MJ/t.km as defined in Table 2,

$C1$ GHG intensity of fuel use by sea vessels in gCO_2/MJ as specified in Table 6.

5.3.7.6 Conversion factor for the transport of the feedstock before drying

Because transport of the feedstock for pellets or dried biomass product is evaluated in [kWh/tonne feedstock] a conversion rate, CR, needs to be applied to have a value expressed in [kWh/tonne biomass product]. The reduction in weight between raw material and pellets is caused by the drying process. Hence, this conversion rate is given by following formula:

$$CR = \frac{1 - IM_{wet}}{1 - FM_{wet}}$$

with the following values as stated in "3.3. Moisture content and drying" of the SAR for pellets and stationary chipping:

FM_{wet} Final moisture (wet basis)

IM_{wet} Initial moisture (wet basis)

For the initial moisture, the CB has to specify the origin of the figure (it can be a rough estimation based on the typical moisture contents of the raw material, it can be based on a couple of punctual measurements, and, when available, it can be based on the weighted average of all moisture measurements performed of each entering batch of raw material during the reference period). The final moisture is based on specs, and the values are as stated in "3.3. Moisture content and drying" of the SAR. Typical range is 5-8%.

Finally, the GHG emissions due to the transport of the feedstock of the feedstock for pellets is given by

$$e_f = \frac{e_{f,5} + e_{f,4} + e_{f,3} + e_{f,2} + e_{f,1}}{CR}$$

and the GHG emissions due to the transport of biomass product (wood pellets or wood chips) is given by

$$e_t = e_{t,5} + e_{t,4} + e_{t,3} + e_{t,2} + e_{t,1}$$

5.3.7.6 **Conversion factor for the transport of the feedstock before drying (continued)**

And the total contribution for transport expressed in gCO_2/MJ is then:

$$e_{td} = \frac{e_f + e_t}{L8}$$

with

e_{td} is the GHG emissions for processing in gCO_2/MJ,

e_f, e_t, are the GHG emissions for the transport of the feedstock and the pellets calculated in [gCO_2/tonne pellets].

$L8$ is the lower heating value of wood pellets, expressed as MJ/tonne pellets, as measured together with moisture of final product and reported in the SAR, when this actual measurement is not available the value from Table 1 shall be used.

6 Accreditation, role and responsibilities of the Certification Body

6.1 Certification of the Biomass Report by an accredited Certification Body

SBP elaborated this Instruction Document 6B in order to allow biomass End-users the production of energy in line with the Flemish regulations for support of renewable energy. Relevant legal aspects in Flanders are included in the Ministerial Decree and related documents (see Section E). They define eligible biomass categories as well as the calculation methodology for the amounts of energy produced from the biomass vs. the amounts of energy used for the production and transport of the biomass. Also, legal documents outline responsible institutions and processes to be followed for accreditation, certification and approval.

All necessary information is to be collected by the Certificate Holder in a so called 'Biomass Report', which shall then be certified for the sake of the Flemish Energy & Climate Agency (VEKA) as the regulator. The agency accepts such reports if they are certified by a Certification Body (CB), which is accredited by BELAC, the Belgian accreditation body, or an equivalent accreditation body that is a signatory of the international IAF MLA[51], for EN ISO/IEC 17065:2012 and with a scope that includes the certification of biomass according to the Flemish Energy Decision. All CBs of SBP are accredited by ANAB[52] which is a signatory of the international IAF MLA.

This Section 6 describes the role and responsibilities of the CB. It outlines requirements for the CBs, which issue certificates to Certificate Holders and approve their Biomass Reports. Certificate Holders are evaluated against Instruction Document 6B. The requirements to the CB are grouped in general surveillance requirements and specific requirements for the verification of Biomass Reports as well as requirements for non-conformances.

6.2 Basic principles

6.2.1 For the certification of the Certificate Holders, their management systems and their Biomass Reports in Flanders, the CB shall implement all relevant requirements of Instruction Document 6B and shall be accredited for SBP by ANAB, whereby the relevant Instruction Documents will be integrated into the scope of this accreditation.

6.2.2 An SBP certificate issued by a recognised CB provides a credible assurance that there is no major failure in conformance with the requirements of the applicable SBP Standard and other normative requirements across the entire scope of the certificate.

6.3 Competence of the Certification Body

6.3.1 The CB shall employ, or have access to, a sufficient number of personnel to cover its operations related to the certification schemes and to the applicable standards and other normative documents.

6.3.2 The personnel shall be competent for the functions they perform, including making required technical judgments, defining policies and implementing them. This requirement also applies to the personnel of (sub)contractors, in which case the CB shall satisfy itself that all requirements specified by this Instruction Document 6B and ISO/IEC 17065:2012 are fulfilled.

6.3.3 Lead auditors and personnel in the review and certification decision-making process shall successfully pass SBP official training course and may then be approved by SBP for their tasks. Confirmation of approval is available to CBs from SBP.

[51] International Accreditation Forum – Multilateral Recognition Arrangement, https://www.iaf.nu//articles/IAF_MLA/14

[52] ANSI National Accreditation Board (ANAB) Launches Assurance Program for SBP – Sustainable Biomass Program (sbp-cert.org)

6.3.4 For the certification of Certificate Holders, the CB shall ensure that the audit team undertaking an audit has the combined necessary knowledge and experience to:
- understand, analyse and check the inventory of energy consumptions involved in a biomass supply chain,
- understand, analyse and check the inventory of greenhouse gas emissions involved in the biomass supply chain,
- understand, analyse and check the legal sustainability requirements applicable to the Certificate Holder in the relevant region.

6.4 Report of the Certification Body

6.4.1 The CB shall prepare an evaluation report, which covers all relevant SBP requirements.

6.4.2 Main evaluation reports, surveillance reports and updates shall be finalised in Audit Portal no later than ninety (90) days after the on-site closing meeting at the end of a CB audit.

6.4.3 The basic quantitative information for each certificate shall be entered and updated in the SBP database of registered certificates at each evaluation as required by SBP.

6.4.4 The CB performing certification of the Certificate Holder shall yearly provide an Activity Report to the competent authority, the content of which is presented in this Section 6.

6.5 SBP certificates

6.5.1 SBP shall issue certificates following the instructions in ISO/IEC 17065:2012 and SBP Standard3. The SBP certificate is available for consultation on the SBP website[53].

6.5.2 Certificates shall be numbered using the form:

SBP- XX-YY

Where:
SBP does not change
XX- is a 2 digit number allocated to the CB by SBP
YY- is a unique 2 digit integer specific to the Certificate Holder.

Note: The CB may add additional '0' (zero) values in front of the 'XX' and 'YY' values where this facilitates integration with existing data systems.

6.5.3 On the Verification Statement the CB shall insert a pdf printout of the first sheet of the Biomass Report and add the following mention:
- the verification claim: "To date [dd mm yyyy] the certification body [CB] verifies that the biomass report with reference code BE-VL-BM-[XXX]-[YYY]-[##L] and number [0YYYYMMDDHHMM]-[##] has been completed by the [Certificate Holder] in full accordance with SBP-certification schema as specified in Instruction Document 6B version [ZZZ] and related documents mentioned in the assessment report by VEKA of [dd mm yyyy]."
- the date of assignment [dd mm yyyy], as specified in section 3.2 "Header of the Biomass Report";
- the name and address of the certification body [CB];
- the reference code of the biomass report BE-VL-BM-[XXX]-[YYY]-[##L], as specified in section 3.2 "Header of the Biomass Report";
- the certificate number [0YYYYMMDDHHMM]-[##], as specified in section 3.2 "Header of the Biomass Report";
- the name and address of the Certificate Holder [Certificate Holder]

The Verification Statement shall be the result from the verification of a new Biomass Report during the surveillance process.

[53] https://sbp-cert.org/accreditations-and-certifications/certificate-holders/

6.6 Client contracts

This paragraph is adapted from reference text: General requirements for FSC®-accredited Certification Bodies. FSC-STD-20001 V3-0 EN.

Contracts between Certificate Holder applicants (the "Clients") and CBs shall include the following elements.

6.6.1 The relevant provisions ensuring the right of the CB, the accreditation body, VEKA and SBP and their respective authorised agents on reasonable prior written notice, and at their own risk and costs, to have access to the Client's premises (or to arrange for such authorised representatives to have access to other relevant premises owned or controlled by the Client or its group companies) during the Client's business hours for the purpose of inspecting and taking copies of any information, documentation, goods, books and records deemed necessary by the CB or SBP ("Information"); provided that the CB, the accreditation body, VEKA or SBP, as relevant, shall handle such Information with the same level of care as it handles its own proprietary information and in accordance with Directive 95/46/EC of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and any other applicable data protection legislation.

6.6.2 The relevant provisions ensuring the Client is required to promptly provide to the CB and SBP and their respective authorised agents all such Information.

6.6.3 The relevant provisions ensuring the right of the CB and/or SBP to use and process any Information relating to the Client or otherwise provided by or through the Client including but not limited to any Evaluation Report; Biomass Report; data required by SBP for GHG calculations and regulatory reporting within the scope of the certification process.

6.6.4 The conditions and terms necessary for a Client (as a holder of a certificate issued by the CB) to comply with on an on-going basis in order to maintain a certificate issued by the CB (the "Certificate") shall include that the Client:

- complies with the requirements specified by ISO/IEC 17065:2012;
- complies and continues to comply with all the CB's conditions and terms for maintaining, renewing and re-issuing of the Certificate, including but not limited to the full implementation of any actions required to correct minor non-conformances that were identified prior to the issue of the Certificate;
- complies and continues to comply with all the CB's and SBP requirements, arrangement and licences regarding claims, logos, certification marks, trademarks or any other intellectual property rights of the CB and SBP;
- corrects any major non-conformances with the applicable standard(s) within the period specified by the CB;
- accepts monitoring of its conformance with the Certificate as reasonably determined by the CB; and
- complies and continues to comply with all agreements and arrangements between the Client and SBP and all SBP requirements of which the Client is or should be aware.

6.6.5 In the event that the CB suspends, terminates or withdraws a Certificate[54] the Client shall

- immediately at its own expense suspend using SBP's name (in any form), initials, logo, certification mark, trademarks and intellectual property from its products, information, website, documents, advertising or marketing or any other materials;
- provide such co-operation and information as may reasonably be required by CB or SBP to enable CB or SBP to verify and confirm that the Client is in compliance with all its obligations to CB and SBP.

[54] "suspends, terminates or withdraws" shall be interpreted in the sense intended in ISO/IEC 17065:2012, §7.11

6.6.6 That on withdrawal or termination of the Certificate, the Client shall promptly return the original and all copies of the Certificate to the issuing CB or destroy the original, and commit to destroy any electronic copies and hardcopies in its possession or control.

6.6.7 In the event that the CB suspends, terminates or withdraws a Certificate, it shall promptly (and in any event within three (3) business days of the suspension or withdrawal or termination) notify SBP and VEKA in writing of the same and such notification shall state the action taken and the effective date and reason of suspension or withdrawal or termination.

6.6.8 That each of the CB, the accreditation body, VEKA and SBP shall be entitled and authorised to process the Client's personal data and business data (so far as is necessary only for the purpose of performance obligations to CB and/or SBP). Each of CB, the accreditation body, VEKA and SBP undertakes that such data and any other data as may be collected (subject to the Client's prior authorisation) from time to time under, pursuant to or in connection with the Instruction Document 6B shall be processed only in accordance with Directive 95/46/EC of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and any other applicable data protection legislation ("Applicable Data Protection Laws"). Each of CB, the accreditation body, VEKA and SBP undertakes to implement the appropriate technical and security measures to comply with the Applicable Data Protection Laws.

6.7 Certification process

6.7.1 The Certificate Holder seeking certification of its process against SBP Standard 6 shall contact a CB accredited for that standard of SBP. The CB shall provide a list of the details needed to prepare a service proposal. As a minimum, the following details are required:

- Type of biomass used by the foreseen End-user,
- Geographic location of the foreseen End-user's facilities,
- Location of the records,
- Any outsourced process.

6.7.2 Upon receipt of the application, the CB shall assess if he is able to provide the certification, including:

- The necessary accreditation scope,
- The absence of conflict of interest (both on corporate and individual level),
- The technical knowledge of the staff involved,
- The planning available to deal with the volume of work.

6.7.3 Once the certification contract has been arranged, the CB shall put together the certification team, including:

- Lead assessor (LA),
- Additional assessor(s) if needed,
- Technical reviewer,
- Certification decision maker.

6.7.4 The Technical reviewer and the certification decision maker can be the same person. The role of lead assessor/assessor is not compatible with the role of technical reviewer and certification decision maker.

6.7.5 The LA shall perform the initial evaluation. It shall include, at the minimum, the reviewing of the following items :

- the Certificate Holder's written procedures and management system,
- the distribution of responsibilities,
- the staff training and competences,
- the presence of independent quality control inside the Certificate Holder 's organisation,
- the full documentary trail involved in the preparation of a biomass report,
- the recordkeeping and archives inside the Certificate Holder's organisation,
- the Certificate Holder's documented calculation methodologies for energy and carbon accounting for the biomass supply chain.

6.7.6 After completing the evaluation, the LA shall inform the Certificate Holder of any non-conformance and shall indicate the required timeframe to develop and implement the necessary corrective action.

The evaluation by the LA shall be repeated until closure of all identified non-conformances.

After successful closure of the non-conformances (if any) the LA shall provide a verification package to the technical reviewer. After technical reviewing the certification decision maker shall decide if the certificate can be issued. If certification is granted, the CB shall provide the Certificate Holder with comprehensive certification documentation as per ISO/IEC 17065:2012 section 7.7.

6.8 Surveillance requirements

6.8.1 The CB shall carry out a surveillance evaluation to monitor the Certificate Holder's continued conformance with applicable certification requirements, at least annually (i.e. every 12 months). The surveillance programme shall include:

- a surveillance audit of the Certificate Holder's management system, at least annually (i.e. every 12 months),
- the verification of each Biomass Report issued by the Certificate Holder, each time one is issued, resulting in the decision to whether or not the Verification Statement can be delivered,
- in particular, the average 70% threshold for GHG savings of all BPs used by the Certificate Holder shall be checked as specified in this Instruction Document 6B.

6.8.2 Surveillance evaluations shall follow clear, documented procedures and shall cover all Characteristics specified in Instruction Document 6B.

6.8.3 The CB shall have documented procedures for surveillance which include:

- Evaluation of the Certificate Holder's conformance with all conditions and subsequent corrective actions, on which certification is based.
- Review of any complaints or allegations of non-conformance with any aspect of Instruction Document 6B.
- Evaluation of an adequate and appropriate sample of BP's, in order to verify that management systems (documented or undocumented) are working effectively and consistently, under the full range of conditions present in the area under evaluation.

6.8.4 During annual surveillance evaluations, the CB may focus on specific Characteristics of Instruction Document 6B, or aspects of management, thereby reducing the duration and cost of surveillance. However, all aspects of Instruction Document 6B shall be monitored during the period of validity of the Biomass Report.

6.8.5 At each annual surveillance audit the CB shall specifically assess the capacity of the Certificate Holder's management system to manage any change in scope of the certificate, including any increase in the number of BPs, and in the size, number or complexity of the biomass supply to the operated energy plant within the scope of the certificate.

6.8.6 At any time, the CB has the authority to carry out an additional surveillance evaluation if this is considered necessary to ensure confidence in the Biomass Reports, to correct non-conformances or treat complaints.

6.8.7 Additional surveillance evaluation shall include:

- Evaluation of the Certificate Holder's implementation of all corrective action requests on which certification is based,
- Review of any complaints, disputes or allegations of non-conformance regarding any applicable aspect of the Instruction Document 6B.

6.8.8 The CB shall assign one or more persons who were independent of the audit to decide whether or not to continue, suspend or withdraw certification based on their review of surveillance activities.

6.8.9 The CB in charge of certifying the Biomass Report against Instruction Document 6B shall check at least once every calendar year that relevant certification of each relevant BP supplying to the relevant End-user is available over the entire production chain during the validity period of the corresponding Biomass Report. The CB shall check at the same periodic time that each Biomass Report refers to a valid SAR during the validity period of the Biomass Report.

6.9 Review of Biomass Report, documentation and records

6.9.1 The CB shall verify every Biomass Report at the time they are established by the Certificate Holder according to the requirements set by Instruction Document 6B before the Biomass Report is submitted to the Flemish Energy & Climate Agency.

6.9.2 The CB shall verify that all Characteristics have been determined by the Certificate Holder in accordance with the requirements of Instruction Document 6B.

6.9.3 The CB shall periodically review with surveillance audits:

- Any changes to the scope of the Certificate Holder, including additions, exclusions, or changes of relevant BP's,
- Changes to the Certificate Holder's management system,
- Complaints received,
- Biomass supply records,
- Records of purchase of SBP-certified products (contracts, invoices, bills of lading, shipping documents).

6.9.4 Documentation and records covering the period since the previous evaluation should be submitted to the CB for review, prior to a site visit.

6.9.5 The CB shall check during its surveillance audit that the 70% threshold is and remains enforced on a yearly basis with all valid Biomass Reports.

6.9.6 On yearly basis, the CB shall prepare an activity report for VEKA, which shall include the following details:

- List of the biomass reports verified, the corresponding Verification Statements and the corresponding SBP certificates issued during the last 12 months under Instruction Document 6B,
- List of unsolved major non-conformances per Certificate Holder identified during the last 12 months,
- A clear identification of the Biomass Reports relevant to the listed non-conformances.

6.10 General requirements for non-conformances

6.10.1 CBs shall make certification decisions based on his evaluation of the Certificate Holder's conformance with each applicable requirement, as specified in Instruction Document 6B.

6.10.2 All non-conformances with the applicable requirements of Instruction Document 6B that are identified by the CB during main or surveillance audits shall be recorded in the evaluation report or associated checklists.

6.10.3 The CB shall identify and evaluate each non-conformance to determine whether it constitutes a minor or major non-conformance. Non-conformances shall result in corrective action requests, withdrawal of the non-conform Biomass Reports and, in most critical cases, suspension or withdrawal of the certificate of the Certificate Holder for Instruction Document 6B.

6.10.4 The auditor may also identify emerging issues, which, if not addressed by the client, may lead to future non-conformances. Such issues shall be recorded in the main evaluation or surveillance audit report as 'observations' for the benefit of the client.

6.10.5 A non-conformance shall be considered major if, either alone or in combination with other non-conformances, it results in, or is likely to result in, a fundamental failure to meet the relevant requirement(s) within the scope of the evaluation of one specific Biomass Report or Certificate Holder as a whole. Such failure shall be indicated by non-conformance(s) which:

a. Continue over a long period of time, OR
b. Are repeated or systematic, OR
c. Affect a wide range of Biomass Reports, OR
d. Are not corrected or adequately addressed by the responsible managers, once they have been identified,
e. A non-conformance is considered major as soon as the information collected from the market parties means that the value stated on the Biomass Report is not conservative[55].

6.10.6 A non-conformance may be considered minor if:

a. It is a temporary lapse OR
b. It is unusual/non-systemic OR
c. The impacts of the non-conformance are limited in their scale and duration,
d. A non-conformance that is not described in 6.10.5 is considered minor. Minor non- conformances are reported annually by the CB to the Flemish Energy & Climate Agency, along with any corrective measures.

6.11 Management of the non-conformances

6.11.1 The CB shall consider the impact of a non-conformance on the integrity of the affected Biomass Report and the credibility of the SBP trademarks, when evaluating whether a non-conformance results in, or is likely to result in, a fundamental failure to meet the relevant requirement for the considered Biomass Report.

[55] In Article 26 of the Ministerial Decree more information on conservative values for the different Characteristics is given.

6.11.2 The CB shall determine whether the impact of multiple non-conformances for several Biomass Reports is sufficient to demonstrate 'systemic' failure (i.e. failure of management systems). In such situations, these non-conformances shall constitute a major non-conformance for the Certificate Holder, what shall result in the need for the CB to review all currently established Biomass Reports.

6.11.3 Corrective action requests shall adhere to the following timeframes.

- Minor non-conformances in a Biomass Report shall be corrected within **three months** (under exceptional circumstances, within six months) and do not necessitate to suspend or withdraw the considered Biomass Report.
- Major non-conformance shall be corrected within **one month** (under exceptional circumstances, within three months) and in the meanwhile the relevant Biomass Reports with respect to that major non-conformance are suspended[56].
- Non-conformances resulting in incorrect or non-conservative energy balance or carbon savings calculations are always considered as major non-conformances.
- Recurrent non-conformances for the same Biomass Report within the scope of the certification shall result into the Biomass Report being invalidated.
- Corrective action request timelines commence from the moment when they are formally presented to the auditee, but not later than two weeks after the audit.
- The CB informs the Flemish Energy & Climate Agency of all non-conformances the latest two weeks after the closure of the audit.

6.11.4 The CB shall determine whether the corrective action has been appropriately implemented within its required timeframe. If the action taken is not considered adequate, then:

- Minor non-conformances remaining open shall be upgraded to major non-conformances, which shall be corrected within a maximum period of one month (or in exceptional circumstances, three months).
- Major non-conformances shall lead to immediate suspension of Biomass Report.
- Major non-conformances shall not be downgraded to minor non-conformances.

6.11.5 The CB shall suspend[57] a Biomass Report as long as there is a major non-conformance with the requirements of one or more Characteristics according to Instruction Document 6B.

6.11.6 Corrective action shall be taken by the Certificate Holder and approved by the CB before a Biomass Report validity is reinstated.

[56] "suspend" shall be interpreted in the sense intended in ISO/IEC 17065:2012, §7.11
[57] "suspended" shall be interpreted in the sense intended in ISO/IEC 17065:2012, §7.11

6.11.7 The CB shall promptly (and in any event within three (3) business days of the expiry, termination, suspension or withdrawal) issue a letter of notification to the Flemish Energy & Climate Agency and the Certificate Holder whose Biomass Reports have expired, or have been terminated, suspended or withdrawn. The notification letter shall include:

- A clear statement about the invalid status of the Biomass Report (expired, suspended, withdrawn or terminated),
- The official date from which the Biomass Report becomes invalid,
- The rationale for invalidating the Biomass Report, which shall include, but is not limited to, an explanation for any breach of Instruction Document 6B requirements and the nature of the relevant non-conformance with Instruction Document 6B (including name, version number and date),
- In case of expired Biomass Report, or Biomass Report having been terminated voluntarily, a reference to the voluntary decision of the Certificate Holder or the agreement between the Certificate Holder and the CB,
- The CB shall provide VEKA with all necessary information that allows to identify batches of non-compliant biomass.

6.11.8 The CB shall keep records of all letters of notification sent to the Certificate Holder and the respective letters acknowledging receipt and understanding of the conditions.