Better Biomass interpretation document N° ~~6~~7

Date 2021-07-~~01~~15

Supersedes Interpretation document N° ~~5~~6

Explanation Amendments in view of complying with Directive (EU) 2018/2001 ~~[Note: The technical assessment in the framework of "RED-II recognition" is close to finalisation; the last outstanding issues will be covered in Interpretation document N° 7]~~

This document provides interpretations of requirements related to the following documents of the Better Biomass certification system:

— NTA 8080-1:2015, *Sustainably produced biomass for bioenergy and bio-based products – Part 1: Sustainability requirements*

— NTA 8080-2:2015, *Sustainably produced biomass for bioenergy and bio-based products – Part 2: Chain-of-custody requirements*

— NCS 8080:2018-08, *Better Biomass certification scheme*

The interpretations given in this document are normative and shall be followed by organizations that wish to become or remain Better Biomass certified (or NTA RED certified).

To distinguish interpretations that are applicable to all organizations and interpretations that are applicable to organizations that need to demonstrate compliance with specific legal requirements, the following marking is used:

Interpretation applicable to all organizations, taking into account their scope of certification (see NTA 8080-1:2015, Annex A and NCS 8080:2018-08, Tables 1 and 2

Interpretation applicable to organizations that need to demonstrate compliance with Directive (EU) 2018/2001

Interpretation applicable to organizations that need to demonstrate compliance with “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen”

NTA 8080-1:2015, Sustainably produced biomass for bioenergy and bio-based products – Part 1: Sustainability requirements

1 Scope

Figure 1 shows the schematic representation of the scope. As mentioned in the examples related to 'end user', the organization that feeds biomethane into the gas network is the last link in the supply that is covered by this NTA (i.e. the organization that withdraws an equivalent amount of gas from the grid is not within the scope of this NTA).

NOTE Depending on regulations that are in place, the sustainability characteristics can be transferred from the organization that injects the biomethane into the gas network to the organization that withdraws an equivalent amount of gas from this gas network.

2 Normative references

NTA 8003:2017, *Classification of biomass for energy application*

NOTE This normative reference replaces NTA 8003:2008.

3 Terms and definitions

Definitions that have been adopted from Directive 2009/28/EC and Directive (EU) 2015/1513 are superseded by the definitions as laid down in Directive (EU) 2018/2001. This interpretation document only includes additional interpretations to terms and definitions used in NTA 8080-1:2015 that require a change to comply with the definitions used in Directive (EU) 2018/2001.

The definition of **'protected species**' (3.1) refers to national legislation. Within the framework of "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen"[1] the term 'endangered plant and animal species' is used, which is defined as plant and animal species that are classified at least as "threatened" in the global red list of the International Union for the Conservation of Nature (IUCN) and the guidelines of the IUCN for the regional application of the red list of the IUCN. If the organization produces biomass for energy applications that will be processed and traded to be supplied to an organization that use this processed biomass to produce energy within the framework of this regulation, the organization shall comply with this definition of 'protected species'.

NOTE 1 By using 'threatened' instead of 'endangered', it is clear that the classification include 'vulnerable', 'endangered' and 'critically endangered' species as applied in the red list of the IUCN.

NOTE 2 The transaction certificate includes information whether an organization is assessed within the framework of "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen" (see NTA 8080-1:2015, 5.2), which implies that also the definition of 'endangered plant and animal species' in this regulation is used in the case the organization is assessed within the framework of this regulation.

The definition of '**biofuel**' (3.5) shall be read as follows:

liquid fuel for transport produced from biomass

Note 1 to entry: Standards often use a broader definition for biofuel, which includes solid fuels and other purposes

[1] "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen" concerns the Dutch regulation dealing with conformity assessment of sustainable biomass for energy applications, which is linked to demonstrate compliance with the sustainable requirements for biomass for co-firing as agreed within the framework of the Dutch Energy Agreement.

than for transport as well.

[SOURCE: Directive (EU) 2018/2001, modified – Note 1 to entry has been added.]

Within the framework of Directive (EU) 2018/2001, the term '**gaseous biomass**' (3.15) has been replaced with '**biogas**', which definition shall be read as follows:

gaseous fuels produced from biomass

[SOURCE: Directive (EU) 2018/2001]

The definition of '**organization**' (3.23) involves that it refers to a single legal entity.

In the case of forestry, the '**production location**' (3.24) can also be read as 'forest management unit'.

In note 2 to the definition of **'residual flow**' (3.25) it is stated that Directive 2009/28/EC (now: Directive (EU) 2018/2001 refers to 'residual flows' as 'waste and residues'. Within the framework of Directive (EU) 2018/2001 the following terms and definitions related to 'waste and residues' apply:

— "agricultural, aquaculture, fisheries and forestry residues": residues that are directly generated by agriculture, aquaculture, fisheries and forestry, and that do not include residues from related industries or processing

  [SOURCE: Directive (EU) 2018/2001]

— "bio-waste": biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants

  Note 1 to entry: Definition adopted from Directive 2008/98/EC, Article 3(4).

  Note 2 to entry: Substances that have been intentionally modified or contaminated to meet the definition of Directive 2008/98/EC are not covered by this definition.

  [SOURCE: Directive (EU) 2018/2001]

— "residue": 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

  [SOURCE: Directive (EU) 2018/2001]

— "waste": any substance or object which the holder discards or intends or is required to discard

  Note 1 to entry: Definition adopted from Directive 2008/98/EC, Article 3(1).

  Note 2 to entry: Substances that have been intentionally modified or contaminated to meet the definition of Directive 2008/98/EC are not covered by this definition.

  [SOURCE: Directive (EU) 2018/2001]

An organization that operates within the framework of Directive (EU) 2018/2001 shall ensure that biomass flows intended to be considered residual flows comply with these terms and definitions. In this context, 'primary residual flows' refer to 'agricultural, aquaculture, fisheries and forestry residues and wastes' and 'non-primary residual flows' refer to 'processing residues and wastes'.

In note 2 to the definition of '**smallholder**' (3.26) it is stated that the cultivation area can be enlarged.

Within the framework of “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen”, a maximum of 500 hectares is applied for smallholders (referred to as forest management units [FMU]). In order to find out if the FMU fits within the 500 hectares boundary, FMU is defined as: ‘One or more forest stands containing natural forest, planted forest or other types of forest that are managed as a single unit’[2]. This English translation of the Dutch definition needs clarification to avoid ambiguity:

— ‘The Dutch term ‘bospercelen’ has been translated as ‘forest stands’. The meaning of ‘bospercelen’ should be read as: ‘plots of forested land, forested land parcels or forested properties’.

— The Dutch term ‘als één geheel’ has been translated as ‘as a single unit’. The meaning ‘als een geheel’ should be read as: ‘as a whole, in unity, in coherence with each other.

Following above interpretations, the English translation for FMU, and with that the definition of FMU, shall be read as: ‘One or more plots of forested land containing natural forest, planted forest or other types of forest that are managed as a whole’.

Concerning the concept of ‘management’ in the context of the definition of FMU, management cannot be seen separately from a management plan. According to “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen”, all woody biomass from forests (i.e. biomass categories 1 and 2), shall be from forests that are managed through a documented forest management plan. The requirements of this forest management plan are listed in “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen”. Essential elements of the forest management plan include long term goals, planning and monitoring, and a clear description of the state of the FMU. The geographical borders in the documented management plan is therefore an important indicator when determining the size of the FMU.

NOTE 3 The exact size of the FMU is not always easy to determine. It is up to the certification body to determine the boundaries of an FMU based on guidance from the scheme owner, for which the verification protocol and any interpretation document linked to this verification protocol as part of the “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen” are leading.

NOTE 4 Historically, the intention for the Dutch sustainability framework for solid biomass for energy applications (linked to the SDE subsidy) is that forests are certified at FMU level. For many private small forest owners, who are predominantly not yet certified, a growth path has been developed to stimulate the certification of this group. A transition period until 2023 has been agreed to give these small forest owners the possibility to demonstrate compliance with the legal requirements, firstly through the RBA at the pellet mill. This will give small forest owners time to eventually certify at the FMU level. From this historical background. it is clear that this transition period is not intended for owners of larger forests and/or owners of forests that have already been certified for FMU’s of a size larger than 500 hectares. The definition of FMU has led to ambiguity when applied in practice, which appears to be caused partly due to the English translation, and partly due to a need for more clarity about the concept of ‘management’.

In addition to the terms and definitions included in NTA 8080-1:2015, the following definitions as adopted from Directive (EU) 2018/2001 apply following the use of in this interpretation document:

biomass fuel
gaseous and solid fuel produced from biomass

cogeneration
simultaneous generation in one process of thermal energy and electrical and/or mechanical energy

economically justifiable demand
demand that does not exceed the needs for heat or cooling and which would otherwise be satisfied at market conditions

[2] This is the translation of the Dutch definition: ‘Een of meer bospercelen − natuurlijk bos, aangeplant bos of een ander soort bos − die als één geheel worden beheerd’

ligno-cellulosic material
material composed of lignin, cellulose and hemicellulose

Note 1 to entry: Ligno-cellulosic materials include but are not limited to biomass sourced from forests, woody energy crops and forest-based industries' residues and wastes.

non-food cellulosic material
raw material mainly composed of cellulose and hemicellulose, and having a lower lignin content than ligno-cellulosic material

Note 1 to entry: Non-food cellulosic materials include but are not limited to:

— food and feed crop residues, such as straw, stover, husks and shells;

— grassy energy crops with a low starch content, such as ryegrass, switchgrass, miscanthus, giant cane;

— cover crops before and after main crops;

— ley crops;

— industrial residues, including from food and feed crops after vegetal oils, sugars, starches and protein have been extracted;

— material from biowaste.

Ley and cover crops are understood to be temporary, short-term sown pastures comprising grass-legume mixture with a low starch content to obtain fodder for livestock and improve soil fertility for obtaining higher yields of arable main crops.

recycled carbon fuel
liquid or gaseous fuel that is produced from liquid or solid waste streams of non-renewable origin, which are not suitable for material recovery in accordance with Article 4 of Directive 2008/98/EC; or from waste processing gas and exhaust gas of non-renewable origin, which are produced as an unavoidable and unintentional consequence of the production process in industrial installations

renewable liquid and gaseous transport fuel of non-biological origin
liquid or gaseous fuel, which is used in the transport sector other than biofuels or biogas, the energy content of which is derived from renewable sources other than biomass

severely degraded land
land that, for a significant period of time, has either been significantly salinated or presented significantly low organic matter content and has been severely eroded

useful heat
heat generated to satisfy an economical justifiable demand for heat, for heating or cooling purposes

Whereas this NTA uses the term 'raw materials' (not defined), Directive (EU) 2018/2001 uses the term 'feedstock'. These terms are interchangeable (i.e. where 'raw materials' is used, also 'feedstock' can be read without changing the intent).

4 Abbreviations

[No interpretation]

5 General requirements and guidelines

5.1 General

As stated, this clause contains overarching elements that apply to sustainability aspects described in this NTA. The requirements and guidelines imply that the organization shall establish and maintain a

management system that corresponds with the size and activities of the organization and ensures that at least the sustainability requirements in this NTA are met. Considering the requirements and guidelines in 5.2 to 5.8, the organization shall ensure that:

a) it has an auditable system for the evidence related to the claims it makes or relies on;

b) it keeps any evidence to demonstrate conformance to this NTA for at least five years (see also 5.4.5 and 5.7.2);

c) it accepts responsibility for preparing any information related to the auditing of such evidence.

The Better Biomass certification scheme describes the verification method to be applied by the certification body when assessing conformity to the applicable requirements of this NTA. This verification method includes the check of documented information. The organization shall at the minimum maintain and retain documented information that is required as part of these conformity assessment activities.

NOTE 1 Documented information is defined as information required to be controlled and maintained by an organization and the medium on which it is contained. Documented information can be in any format and media and from any source. Documented information can refer to the management system, including related processes; information created in order for the organization to operate (documentation); evidence of results achieved (records).

NOTE 2 The organization can establish and maintain a quality management system in accordance with ISO 9001. In addition, ISO 19011 provides guidance on auditing management systems, including the principles of auditing, managing an audit programme and conducting management system audits, which can support an organization in maintaining their management system.

5.2 Description of processes

In the event of forestry, the processes shall be described in a forest management plan that also contains the long-term goal for the ecological functions of the production location to which the processes relate and which should be supportive to achieve this long-term goal. In addition, the forest management plan includes the budget for achieving this long-term goal, taking into account the costs related to the implementation and maintenance of the applicable sustainability requirements as defined in **5.2.1**.

5.3 Time periods

In the event of forestry, the selected time period(s) should take into account the crop rotation for each forest type in view of the annual average allowable cut or harvest to achieve the long-term goal for the ecological functions of the production location. The justification of the selected time periods shall be part of the forest management plan (see also 5.4).

5.4 Data and information

In **5.4.5** it is stated that the organization is required to document data, sources of information and assumptions used. If an organization is also certified in accordance with another certification scheme, it shall also provide the documented information related to this certification including the audit report(s) when being assessed to the applicable requirements of NTA 8080-1:2015 and NTA 8080-2:2015.

NOTE Other certification schemes can include voluntary schemes as recognized by the European Commission in the framework of Directive (EU) 2018/2001.

5.5 Stakeholder consultation

[No interpretation]

5.6 Laws and regulations

In **5.6.1** it is stated that the organization shall demonstrably be acquainted with applicable laws and regulations, and in **5.6.2** it stated that organization shall have implemented a process of management of changes. These requirements imply that the organization shall not violate the applicable laws and regulations and can demonstrate compliance. This includes, but is not limited to, ensuring that the production location is protected against all forms of illegal exploitation of products that can be obtained from the production location (including hunting and fishing), illegal establishment of settlements, illegal land use, illegally initiated fires, and any other illegal activities.

In **5.6.3**, it is stated that the organization shall keep record of occasions where the applicable laws and regulations prescribe requirements that conflict the requirements contained in NTA 8080-1:2015 and NTA 8080-2:2015. In the framework of sustainability criteria for biomass, applicable laws and regulations include Directive (EU) 2018/2001 as implemented in national legislation by the European member states, and “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen” that always prevail.

NOTE This Interpretation document contains interpretations of requirements of NTA 8080-1:2015 and NTA 8080-2:2015 in view of these laws and interpretations to avoid conflicts.

5.7 Monitoring, measurement, analysis, evaluation and continual improvement

In **5.7.1** reference is made to measures related to the sustainability aspects in accordance with Annex A. The measures to be taken by the organization shall include appropriate measures to prevent any illegal activity, whether or not covered by laws and regulations.

EXAMPLE Illegal hunting or fishing can be laid down by legislation, but is also a sustainability aspect related to the preservation of biodiversity. Appropriate measures to prevent illegal hunting or fishing can include fences, sensors, cameras or patrols, depending on country, surface area, topography, and so on.

In the case of forestry, the monitoring, measurement, analysis and evaluation is normally part of the forest management plan in order to achieve the long-term goal for the ecological functions of the production location. The documented information, as required in 5.7.2, shall include a forest management plan that at least contains:

— a description of the current condition of the production location;

— long-term goals for the ecological functions of the production location;

— the average annual allowable cut per forest type and, if applicable, the annual allowable harvest of non-timber forest products based on reliable and current data;

— budget planning for the implementation of the forest management plan.

The monitoring, measurement, analysis and evaluation shall also consider the long-term goals for the ecological functions, the average annual allowable cuts and, if applicable, the annual allowable harvest of non-timber forest products as described in the forest management plan in order to assess whether additional measures will be needed.

5.8 Complaints regulation

[No interpretation]

6 Sustainability requirements

6.1 General

[No interpretation]

6.2 Greenhouse gas emissions

6.2.1 Greenhouse gas emission saving

Table 1 states the minimum net greenhouse gas emission saving relative to fossil reference system for application in bioenergy. The values in this table are based on Directive 2009/28/EC and 'Commission staff working document' *State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU* (SWD(2014) 259). This directive and staff working document have been superseded by Directive (EU) 2018/2001. Table 1 as included in this interpretation document states the minimum net greenhouse gas emission saving relative to fossil reference system for application in bioenergy that shall be applied.

Table 1 — Minimum net greenhouse gas emission saving relative to fossil reference system for application in bioenergy

Product	Application	Minimum greenhouse gas emission saving relative to reference fossil fuel
Biofuel	Transport	50 % for installations in which production started on or before 5 October 2015 [a]
Biogas	Transport	60 % for installations in which production started from 6 October 2015 until 31 December 2020 [a]
Bioliquid	Electricity	65 % for installations in which production started from 1 January 2021 [a]
	Heating	
Biomass fuels	Electricity	70 % for installations in which production started from 1 January 2021 [a]
	Heating	80 % for installations in which production will start from 1 January 2026 [a]
	Cooling	
[a] An installation is considered to be in operation once the physical production of fuel, heat or cooling, or electricity has started (i.e. once the production of fuels including biofuels, biogas or bioliquids, or production of heat, cooling or electricity from biomass fuels has started).		

The net emission saving of greenhouse gases is a chain performance. Table 1 includes different minimum greenhouse gas emission savings for installations depending on when production has started. This implies that the end-user shall obtain information that demonstrates when the installation in the chain has started the production to make an assessment based on the applicable minimum greenhouse gas emission saving requirement.

NOTE This can be additional information on the transaction certificate or other accompanied document.

Table 1 contains the minimum net greenhouse gas emission savings relative to fossil reference system for application in bioenergy. These savings relate to normal operations, recognizing that the production efficiency can be lower in case of technical failure, planned or unplanned maintenance or other events. The actual efficiency of the production installation during normal operations shall conform to the minimum net greenhouse gas emission savings in Table 1, supported by the technical specification of the production installation that this production efficiency can be achieved. Referring to 5.7, the organization shall demonstrate that the performance of the production installation is part of continual improvement.

6.2.2 High carbon stock

In **6.2.2.1** reference is made to biomass production from certain land types. In the framework of Directive (EU) 2018/2001 the wording of biofuels, bioliquids and biomass fuels made from raw materials obtained from certain land types is used. Both have the same intent.

In 6.2.2.1 a) it is defined that wetlands are land that is covered with or saturated by water permanently or for a significant part of the year. The organization shall provide evidence about seasonal changes within a year to demonstrate whether the land meets the definition of wetlands.

In **6.2.2.1 c)** reference is made to 6.2.1.1.2. This reference should have read 6.2.1.1.1 that includes the greenhouse gas emission savings to be fulfilled.

In **6.2.2.1 d)** reference is made to drainage of peatland. The organization shall not produce biomass from peatland that was partially drained in January 2008 and where a subsequent deeper drainage affects soil that was not fully drained.

In **6.2.2.3** reference is made to round timber. In the context of this NTA, round timber is defined as unprocessed wood from the trunk of a tree. In addition, reference is made to processing round timber into wood pellets for bioenergy. Round timber shall neither be processed into other woody materials for bioenergy.

NOTE During the transposition process of the sustainability requirements for solid biomass for energy applications into “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen”, ‘wood pellets for bioenergy’ has changed to ‘biomass for energy generation’.

In **6.2.2.4** reference is made to management of the production location in view of maintaining the carbon cycle of forest in the long-term. This implies that the organization shall maintain the production capacity of all forest types represented in the production location.

6.2.2.5 (new) In the framework of Directive (EU) 2018/2001, the country in which forest biomass for biofuels, bioliquids and biomass fuels production was harvested shall have national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring:

a) the legality of harvesting operations;

b) forest regeneration of harvested areas;

c) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected;

d) that harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimizing negative impacts;

e) that harvesting maintains or improves the long-term production capacity of the forest;

When the evidence as required in aforementioned items a) to e) is not available, the organization operating at forest sourcing area level shall have a management system in place that ensures:

a) the legality of harvesting operations;

b) forest regeneration of harvested areas;

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

d) that harvesting is carried out considering the maintenance of soil quality and biodiversity with the aim of minimizing negative impacts;

e) that harvesting maintains or improves the long-term production capacity of the forest.

NOTE 1 The purpose of this interpretation is to minimize the risk of using forest biomass derived from unsustainable production.

NOTE 2 Biodiversity aspects are addressed in 6.4.

6.2.2.6 (new) In the framework of Directive (EU) 2018/2001, the country or regional economic integration organization of origin of the forest biomass for biofuels, bioliquids and biomass fuels production shall be a party to the Paris Agreement and shall either

— have submitted a nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC), covering emissions and removals from agriculture, forestry and land use which ensures that changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC; or

— have 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 land-use, land-use change and forestry (LULUCF)-sector emissions do not exceed removals.

When conformance to aforementioned requirements cannot be demonstrated, the organization operating at forest sourcing area level shall have a management system in place that ensures that carbon stocks and sinks levels in the forest are maintained, or strengthened over the long term.

6.3 Competition with food and local applications of biomass

6.3.1 Local prices

[No interpretation]

6.3.2 Raw materials-efficient use of biomass (cascading)

[No interpretation]

6.3.3 'ILUC low risk'

It is stated that the organization can opt or may be required to market its biomass as 'ILUC low risk'. In the framework of "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen" demonstrating 'ILUC low risk' is required. If the organization produces biomass for energy applications that will be processed and traded to be supplied to an organization that use this processed biomass to produce energy within the framework of this regulation, the organization that produces this biomass shall comply with the requirements of 6.3.3.

In **NOTE 2 to 6.3.3.1**, as reference date 1 January 2015 is mentioned in the example about the Dutch Energy Agreement. This reference date is changed to 1 January 2008 in the "Regeling conformiteits-beoordeling vaste biomassa voor energietoepassingen" (i.e. '1 January 2015' shall read '1 January 2008').

6.4 Biodiversity

6.4.1 Land with high biodiversity value

In **6.4.1.1** reference is made to biomass production from certain land types. In the framework of Directive (EU) 2018/2001 the wording of biofuels, bioliquids and biomass fuels made from raw materials obtained from certain land types is used. Both have the same intent.

In **6.4.1.1** reference is made to status of land in January 2008. This also means that that land may not have the status as listed in this subclause after January 2008 (i.e. 'in January 2008' shall read 'in or after January 2008').

In **6.4.1.1 b) ii)**, reference is made to the procedure laid down in Directive2009/28/EC. This directive is superseded by Directive (EU) 2018/2001, in which the procedure concerned is described in article 30(4).

In **6.4.1.1 b) iii)**, reference is made to areas with high conservation value as defined in 3.18. As part of the documented information, the organization is required to show a map. This map shall clearly indicate the areas with high conservation value, if present.

NOTE 1 While this requirement is listed at the sustainability aspect addressing biodiversity, high conservation values contain also other elements as defined in 3.18.

In **6.4.1.1 c)**, reference is made to non-natural highly biodiverse grassland. Such grassland shall be identified as being highly biodiverse by the relevant competent authority. The requirement applies if the highly biodiverse grassland spanning is more than one hectare.

In **6.4.1.1**, land types with high biodiversity value are defined. In addition to the land types defined under a) to c), the following land type shall be considered as land with high biodiversity value:

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

NOTE 1 'Species-rich' means that the ~~grassland~~ forest and other wooded land is:

i) a habitat of significant importance to critically endangered, endangered or vulnerable species as classified by IUCN's Red List of Threatened Species or other lists with a similar purpose for species or habitats laid down in national legislation or recognized by a competent national authority in the country of origin of the

raw material; or

ii) a habitat of significant importance to endemic or restricted-range species; or

iii) a habitat of significant importance to intra-species genetic diversity; or

iv) a habitat of significant importance to globally significant concentrations of migratory species or congregatory species; or

v) a regionally or nationally significant or highly threatened or unique ecosystem.

NOTE 2 'Not degraded' means that it is not characterized by long-term loss of biodiversity due to for instance overgrazing, mechanical damage to the vegetation, soil erosion or loss of soil quality.

In **6.4.1.3**, reference is made to cultivation area. This relates to the area that is used for the production of all types of biomass for bioenergy and bio-based products. Moreover, reference is made to conversion to agriculture. As far as not already covered with 6.4.1.4, agriculture includes (agro)forestry in this context.

In **6.4.1.3** it is stated that the organization shall set aside at least 10 % of the cultivation area to be covered with native vegetation. In addition, in **6.4.1.4** it stated that in case of forest plantations preference should be given to native species. When referring to native vegetation and species, these include representative areas within the production location whether classified as high conservation value area or not. Areas with a high conservation and representative areas within the production location can include one or more of the following values: diversity of species, ecosystems and habitats, ecosystem services, ecosystems at landscape level and cultural values.

In **6.4.1.4** reference is made to natural forests and to forest plantations. In the context of this NTA, natural forests include semi-natural forests and forest plantations shall be read as production forests that include forest plantations.

NOTE 2 With adopting this terminology, the requirement is aligned with "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen". In this regulation, 'natural forest' is defined as forest that was created by nature and has evolved naturally and contains many of the original characteristics and key elements of native ecosystems, and 'forest plantation' is defined as forest consisting of even-aged trees of one or a few species, exotic or native species, laid out in a uniform level by planting or seeding for the purpose of timber production.

6.4.2 Restoration, preservation and strengthening of biodiversity

In **6.4.2.2** it is stated that the organization shall take measures for the restoration, preservation and strengthening of biodiversity. To demonstrate this, the organization shall conform to the requirements of 5.7. Measures related to **6.4.2.2 items c) and d)** shall take into account the prevention and control of diseases and pests, which can have a negative impact on biodiversity. In the case of forestry, the organization shall take into account that the exploitation of non-timber forest products, including products from hunting and fishing, is part of the monitoring, measurement, analysis and evaluation process to safeguard the preservation and strengthening of biodiversity (see also 6.4.2.4). In addition, the organization shall prevent unnecessary damage to ecosystems by applying reduced impact logging and the most suitable road construction methods and techniques for local conditions as part of best available and good practices for forestry.

NOTE Reduced impact logging involves harvesting techniques and methods that have been developed to prevent unnecessary damage to the forest, environment and harvested wood while promoting safe working conditions at the same time.

6.5 The environment

6.5.1 Soil

6.5.1.1 Preservation and improvement of soil quality

It is stated that the organization shall take measures for preservation and improvement of soil quality. To demonstrate this, the organization shall conform to the requirements of 5.7.

NOTE 3 Directive (EU) 2018/2001 also refers to national authorities that have monitoring or management plans in place to address the impacts on soil quality and soil carbon. For the purposes of this document, the organization needs to demonstrate conformance to this requirement, for which it can make use of monitoring or management plans of national authorities where appropriate.

6.5.1.2 Use of residual flows

It is stated that the use of residual flows needs not to conflict with other established, local essential functions for preserving the soil and the soil quality. Similar to 6.5.1.1, the organization shall demonstrate this by conforming to the requirements of 5.7.

NOTE 3 Directive (EU) 2018/2001 also refers to national authorities that have monitoring or management plans in place to address the impacts on soil quality and soil carbon. For the purposes of this document, the organization needs to demonstrate conformance to this requirement, for which it can make use of monitoring or management plans of national authorities where appropriate.

6.5.2 Ground and surface water

6.5.2.1 Preservation and improvement of water quality

It is stated that the organization shall take measures for preservation and improvement of water quality. To demonstrate this, the organization shall conform to the requirements of 5.7.

6.5.2.2 Renewable sources and the availability of water

[No interpretation]

6.5.3 Air

[No interpretation]

6.5.4 Waste

[No interpretation]

6.6 Prosperity

The organization is required to have selection criteria for all functions in the organization (**6.6.2**) and for suppliers (**6.6.4**). The intent of these requirements is that the organization also applies its selection criteria when recruiting new staff and purchasing products and outsourcing services, also to demonstrate that local population and local suppliers have been involved in these processes, respectively. The organization shall also be able to demonstrate that the selection criteria have been

applied.

6.7 Wellbeing

6.7.1 Labour conditions

[No interpretation]

6.7.2 Responsible contact with (local) stakeholders

[No interpretation]

6.7.3 Responsible contact with employees

[No interpretation]

6.7.4 Property and usage rights

[No interpretation]

6.7.5 Contribution to the wellbeing of the local population

[No interpretation]

6.7.6 The integrity of the company

In **6.7.6.3** it is stated that the organization shall take any measures that are necessary to effectively fight corruption within the organization. To demonstrate this, the organization shall conform to the requirements of 5.7.

Annex A (normative) **Applicability of requirements in this NTA to organizations**

Table A.1 lists the applicability of general requirements and sustainability requirements to organizations. The general requirement about the complaints regulations (5.8) is missing in this table. This general requirement applies to all organizations (i.e. 'producer', 'processor', 'trader' and 'end-user'). The reporting requirement on raw materials-efficient use of biomass (6.3.2) is not applicable to ‘biomass producer’.

Annex B (informative) **Principles, criteria and indicators from *Testing framework sustainable biomass***

[No interpretation]

Annex C (normative) Greenhouse gas calculations

C.1 General

[No interpretation]

C.2 Greenhouse gas calculations for biofuels and bioliquids

In **C.2.1** Formula (C.1) includes the emission factor e_{ee}. In view of the updated greenhouse gas calculation methodology as applied in Directive (EU) 2018/2001, this emission factor shall be omitted, i.e. Formula (C.1) shall read as follows:

$$E = e_{ec} + e_i + e_p + e_{td} + e_u - e_{sca} - e_{ccs} - e_{ccr} \quad \text{(C.1)}$$

Concerning e_{ec}, emissions shall include emissions from the extraction or cultivation process itself; from the collection, drying and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation. Capture of CO_2 in the cultivation of raw materials shall be excluded. Estimates of emissions from agriculture biomass cultivation may be derived from the use of regional averages for cultivation emissions included in the reports referred to in Article 31(4) of Directive (EU) 2018/2001 or the information on the disaggregated default values for cultivation emissions included in this annex, as an alternative to using actual values. In the absence of relevant information in those reports, it is allowed to calculate averages based on local farming practises based for instance on data of a group of farms, as an alternative to using actual values.

Concerning e_{sca}, greenhouse gas emission savings from improved agriculture management shall be taken into account only if solid and verifiable evidence is provided that the soil carbon has increased or that it is reasonable to expect to have increased over the period in which the raw materials concerned were cultivated while taking into account the emissions where such practices lead to increased fertiliser and herbicide use. Formula (C.1-1) shall be applied to calculate e_{sca}.

$$E_{sca} = (CS_R - CS_A) \times 3{,}664 \times 1/20 \times 1/P - e_B \quad \text{(C.1-1)}$$

where

CS_R is the carbon stock per unit area associated with the reference land-use (measured as mass (tonnes) of carbon per unit area, including both soil and vegetation), in which the reference land-use is the land-use in January 2008 or 20 years before the raw material was obtained, whichever was the later;

CS_A is the carbon stock per unit area associated with the actual land-use (measured as mass (tonnes) of carbon per unit area, including both soil and vegetation), in which in cases where the carbon stock accumulates over more than one year, the value attributed to CS_A is the estimated stock per unit area after 20 years or when the crop reaches maturity, whichever the earlier;

P is the productivity of the crop (measured as biofuel or bioliquid energy per unit area per year)

e_B is the bonus of 29 g CO_{2eq}/MJ biofuel or bioliquid if biomass is obtained from restored degraded land if evidence is provided that the land: (a) was not in use for agriculture or any other activity in January 2008; and (b) is severely degraded land, including such land that was formerly in agricultural use; this bonus applies for a period of up to 20 years from the date of conversion of the land to agricultural use, provided that a steady increase in carbon stocks as well as a sizable reduction in erosion phenomena for land falling under (b) are ensured.

NOTE 2 Examples of improved agriculture management are shifting to reduced or zero-tillage, improved

crop/rotation, the use of cover crops, including crop residue management, and the use of organic soil improver (e.g. compost, manure fermentation digestate).

NOTE 3 Measurements of soil carbon can constitute such evidence, e.g. by a first measurement in advance of the cultivation and subsequent ones at regular intervals several years apart. In such a case, before the second measurement is available, increase in soil carbon would be estimated on the basis of representative experiments or soil models. From the second measurement onwards, the measurements would constitute the basis for determining the existence of an increase in soil carbon and its magnitude.

Concerning e_l, annual emissions from carbon stock changes caused by land-use change shall be calculated by dividing total emissions equally over 20 years in accordance with Formula (C.1-2):

$$e_l = (CS_R - CS_A) \times 3{,}664 \times 1/20 \times 1/P - e_B \quad \text{(C.1-2)}$$

NOTE 4 See Formula (C.1-1) for explanation of symbols.

Concerning e_p, emissions from processing shall include emissions from the processing itself; from waste and leakages; and from the production of chemicals or products used in processing including the CO_2 emissions corresponding to the carbon contents of fossil inputs, whether or not actually combusted in the process. In accounting for the consumption of electricity not produced within the fuel production plant, the greenhouse gas emissions intensity of the production and distribution of that electricity shall be assumed to be equal to the average emission intensity of the production and distribution of electricity in a defined region. By way of derogation from this requirement, an organization may use an average value for an individual electricity production plant for electricity produced by that plant, if that plant is not connected to the electricity grid. Emissions from processing shall include emissions from drying of interim products and materials where relevant.

Concerning e_{td}, emissions from transport and distribution shall include emissions from the transport of raw and semi-finished materials and from the storage and distribution of finished materials. Emissions from transport and distribution to be taken into account for in e_{ec} shall not be included in e_{td}.

Concerning e_u, emissions of the fuel in use shall be taken to be zero for biofuels and bioliquids. Emissions of non-CO_2 greenhouse gases (N_2O and CH_4) of the fuel in use shall be included in the e_u factor for bioliquids.

Concerning e_{ccs}, emission savings from CO_2 capture and geological storage that have not already been accounted for in e_p, shall be limited to emissions avoided through the capture and storage of emitted CO_2 directly related to the extraction, transport, processing and distribution of fuel if stored in compliance with Directive 2009/31/EC.

Concerning e_{ccr}, emission savings from CO_2 capture and replacement shall be related directly to the production of biofuel or bioliquid they are attributed to, and shall be limited to emissions avoided through the capture of CO_2 of which the carbon originates from biomass and which is used to replace fossil-derived CO_2 in production of commercial products and services.

Where a cogeneration unit – providing heat and/or electricity to a fuel production process for which emissions are being calculated – produces excess electricity and/or excess useful heat, the greenhouse gas emissions shall be divided between the electricity and the useful heat according to the temperature of the heat (which reflects the usefulness (utility) of the heat). The useful part of the heat is found by multiplying its energy content with the Carnot efficiency, C_h, in accordance with Formula (C.9)~~:~~

$$C_h = \frac{T_h - T_0}{T_h} \quad \text{(C.9)}$$

where

T_h is the temperature, measured in absolute temperature (kelvin) of the useful heat at point of

delivery;

T_0 is the temperature of surroundings, set at 273,15 kelvin (equal to 0 °C).

If the excess heat is exported for heating of buildings at a temperature below 150 °C (423,15 kelvin), C_h can alternatively defined as Carnot efficiency, C_h, in heat at 150 °C (423,15 kelvin), which is 0,354 6.

For the purposes of this calculation, the actual efficiencies shall be used, defined as the annual mechanical energy, electricity and heat produced respectively divided by the annual energy input.

NOTE 5 Definitions for 'cogeneration', 'useful heat' and 'economically justifiable demand' that apply for this calculation are provided in NTA 8080-1:2015, Clause 3.

Where a fuel production process produces, in combination, the fuel for which emissions are being calculated and one or more other products (co-products), greenhouse gas emissions shall be divided between the fuel or its intermediate product and the co-products in proportion to their energy content (determined by lower heating value in the case of co-products other than electricity and heat). The greenhouse gas intensity of excess useful heat or excess electricity is the same as the greenhouse gas intensity of heat or electricity delivered to the fuel production process and is determined from calculating the greenhouse intensity of all inputs and emissions, including the raw material and CH_4 and N_2O emissions, to and from the cogeneration unit, boiler or other apparatus delivering heat or electricity to the fuel production process. In the case of cogeneration of electricity and heat, Formula (C.9) shall be applied.

For the purposes of the aforementioned calculation, the emissions to be divided shall be $e_{ec} + e_l + e_{sca}$ plus those fractions of e_p, e_{td}, e_{ccs}, and e_{ccr} that take place up to and including the process step at which a co-product is produced. If any allocation to co-products has taken place at an earlier process step in the lifecycle, the fraction of those emissions assigned in the last such process step to the intermediate fuel product shall be used for those purposes instead of the total of those emissions.

In the case of biofuels and bioliquids, all co-products shall be taken into account for the purposes of that calculation. No emissions shall be allocated to wastes and residues. Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation.

Wastes and residues, including tree tops and branches, straw, husks, cobs and nut shells, and residues from processing, including crude glycerine (glycerine that is not refined) and bagasse, shall be considered to have zero lifecycle greenhouse gas emissions up to the process of collection of those materials irrespectively of whether they are processed to interim products before being transformed into the final product.

In the case of fuels produced in refineries, other than the combination of processing plants with boilers or cogeneration units providing heat and/or electricity to the processing plant, the unit of analysis for the purposes of the aforementioned calculation shall be the refinery.

In **C.2.3** Formula (C.2) provides the greenhouse gas emissions saving from biofuels and bioliquid. In Directive (EU) 2018/2001 a distinction is made between biofuels and bioliquids. Greenhouse gas emissions savings shall be calculated as follows:

a) Greenhouse gas emissions savings from biofuels shall be calculated in accordance with Formula (C.2-1):

$$SAVING = (E_{F(t)} - E_B) / E_{F(t)} \quad \text{(C.2-1)}$$

where:

E_B is total emissions from the biofuel;

$E_{F(t)}$ is total emissions from the fossil fuel comparator for transport.

b) Greenhouse gas emissions savings from heat and cooling, and electricity being generated from bioliquids shall be calculated in accordance with Formula (C.2-2):

$$SAVING = (EC_{F(h\&c,\ el)} - EC_{B(h\&c,\ el)}) / E_{F(h\&c,\ el)} \quad \text{(C.2-2)}$$

where:

$EC_{B(h\&c,\ el)}$ is total emissions from the heat or electricity;

$EC_{F(h\&c,\ el)}$ is total emissions from the fossil fuel comparator for useful heat or electricity.

In **C.2.4** it stated the organization shall calculate the emission factors, as included in Formula (C.1), in accordance with to Directive (EU) 2018/2001. In the note to this requirement, reference is made to Communication 2010/C 160/02 as guidance. This Communication is superseded with other documentation published by the European Commission including but not limited to Directive(EU) 2018/2001 (that has superseded Directive 2009/28/EC, Annex V, including the amendment of Directive 2009/28/EC as included in Directive (EU) 2015/1513).

C.3 Greenhouse gas calculations for biomass fuels

In **C.3.1** the greenhouse gas calculation methodology is described. In addition to that, the following applies:

In the case of co-digestion of different substrates in a biogas plant for the production of biogas or biomethane, the typical and default values of greenhouse gas emissions shall be calculated as:

$$E = \sum_{1}^{n} S_n \cdot E_n$$

where

E is the greenhouse gas emissions per MJ biogas or biomethane produced from co-digestion of the defined mixture of substrates;

S_n is the share of feedstock *n* in energy content;

E_n is the emission in g CO_2/MJ for pathway n as provided in Part D of Directive (EU) 2018/2001, Annex VI.

NOTE 1 For animal manure used as substrate, a bonus of 45 g CO_{2eq}/MJ manure (– 54 kg CO_{2eq}/t fresh matter) is added for improved agricultural and manure management.

$$S_n = \frac{P_n \cdot W_n}{\sum_1^n P_n \cdot W_n}$$

where

P_n is the energy yield [MJ] per kilogram of wet input of feedstock *n*;

NOTE 2 The following values of P_n apply for calculating typical and default values:

P(maize): 4,16 [MJ_{biogas}/kg wet maize @ 65 % moisture];

P(manure): 0,50 [MJ_{biogas}/kg wet manure @ 90 % moisture];

P(biowaste) 3,41 [MJ_{biogas}/kg $_{\text{wet biowaste @ 76 \% moisture}}$].

W_n is the weighting factor of substrate *n* defined as:

$$W_n = \frac{I_n}{\sum_i^n I_n} \cdot \left(\frac{1 - AM_n}{1 - SM_n}\right)$$

where:

I_n is the annual input to digester of substrate *n* [tonne of fresh matter];

AM_n is the average annual moisture of substrate *n* [kg water/kg fresh matter];

SM_n is the standard moisture for substrate *n*.

NOTE 3 The following values of the standard moisture for substrate SM_n apply:

SM(maize): 0,65 [kg water/kg fresh matter];

SM(manure): 0,90 [kg water/kg fresh matter];

SM(biowaste): 0,76 [kg water/kg fresh matter].

In the case of co-digestion of *n* substrates in a biogas plant for the production of electricity or biomethane, actual greenhouse gas emissions of biogas and biomethane shall be calculated as follows:

$$E = \sum_i^n S_n \cdot \left(e_{ec,n} + e_{td,feedstock,n} + e_{l,n} - e_{sca,n}\right) + e_p + e_{td,product} + e_u - e_{ccs} - e_{ccr}$$

where

E is the total emissions from the production of the biogas or biomethane before energy conversion;

S_n is the share of feedstock *n*, in fraction of input to the digester;

$e_{ec,n}$ is the emissions from the extraction or cultivation of feedstock *n*;

$e_{td,feedstock,n}$ are the emissions from transport of feedstock *n* to the digester;

$e_{l,n}$ are the annualised emissions from carbon stock changes caused by land-use change, for feedstock *n*;

e_{sca} are the emission savings from improved agricultural management of feedstock n;

NOTE 4 For e_{sca} a bonus of 45 g CO_{2eq}/MJ manure is attributed for improved agricultural and manure management in the case animal manure is used as a substrate for the production of biogas and biomethane.

e_p are the emissions from processing;

$e_{td,product}$ are the emissions from transport and distribution of biogas and/or biomethane;

e_u are the emissions from the fuel in use, that is greenhouse gases emitted during combustion;

e_{ccs} are the emission savings from CO_2 capture and geological storage;

e_{ccr} are the emission savings from CO_2 capture and replacement.

Concerning e_{ec}, emissions shall include emissions from the extraction, harvesting or cultivation process itself; from the collection, drying and storage of raw materials; from waste and leakages; and from the production of chemicals or products used in extraction or cultivation. Capture of CO_2 in the cultivation of raw materials shall be excluded. Estimates of emissions from agriculture biomass cultivation may be derived from the use of regional averages for cultivation emissions included in the reports referred to in Article 31(4) of Directive (EU) 2018/2001 or the information on the disaggregated default values for cultivation emissions included in this annex, as an alternative to using actual values. In the absence of relevant information in those reports, it is allowed to calculate averages based on local farming practises based for instance on data of a group of farms, as an alternative to using actual values. Estimates of emissions from cultivation and harvesting of forestry biomass may be derived from the use of averages for cultivation and harvesting emissions calculated for geographical areas at national level, as an alternative to using actual values.

Concerning e_{sca}, greenhouse gas emission savings from improved agriculture management shall be taken into account only if solid and verifiable evidence is provided that the soil carbon has increased or that it is reasonable to expect to have increased over the period in which the raw materials concerned were cultivated while taking into account the emissions where such practices lead to increased fertiliser and herbicide use. Formula (C.3-1) shall be applied to calculate e_{sca}.

$$E_{sca} = (CS_R - CS_A) \times 3{,}664 \times 1/20 \times 1/P - e_B \quad \text{(C.3-1)}$$

where

CS_R is the carbon stock per unit area associated with the reference land-use (measured as mass (tonnes) of carbon per unit area, including both soil and vegetation), in which the reference land-use is the land-use in January 2008 or 20 years before the raw material was obtained, whichever was the later;

CS_A is the carbon stock per unit area associated with the actual land-use (measured as mass (tonnes) of carbon per unit area, including both soil and vegetation), in which in cases where the carbon stock accumulates over more than one year, the value attributed to CS_A is the estimated stock per unit area after 20 years or when the crop reaches maturity, whichever the earlier;

P is the productivity of the crop (measured as biomass fuel energy per unit area per year)

e_B is the bonus of 29 g CO_{2eq}/MJ biomass fuel if biomass is obtained from restored degraded land if evidence is provided that the land: (a) was not in use for agriculture or any other activity in January 2008; and (b) is severely degraded land, including such land that was formerly in agricultural use; this bonus applies for a period of up to 20 years from the date of conversion of the land to agricultural use, provided that a steady increase in carbon stocks as well as a sizable reduction in erosion phenomena for land falling under (b) are ensured.

NOTE 2 Examples of improved agriculture management are shifting to reduced or zero-tillage, improved crop/rotation, the use of cover crops, including crop residue management, and the use of organic soil improver (e.g. compost, manure fermentation digestate).

NOTE 3 Measurements of soil carbon can constitute such evidence, e.g. by a first measurement in advance of the cultivation and subsequent ones at regular intervals several years apart. In such a case, before the second measurement is available, increase in soil carbon would be estimated on the basis of representative experiments or soil models. From the second measurement onwards, the measurements would constitute the basis for determining the existence of an increase in soil carbon and its magnitude.

Concerning e_l, annual emissions from carbon stock changes caused by land-use change shall be calculated by dividing total emissions equally over 20 years in accordance with Formula (C.3-1):

$$e_l = (CS_R - CS_A) \times 3{,}664 \times 1/20 \times 1/P - e_B \quad \text{(C.3-1)}$$

NOTE 4 See Formula (C.3-1) for explanation of symbols.

Concerning e_p, emissions from processing shall include emissions from the processing itself; from waste and leakages; and from the production of chemicals or products used in processing including the CO_2 emissions corresponding to the carbon contents of fossil inputs, whether or not actually combusted in the process. In accounting for the consumption of electricity not produced within the solid or gaseous biomass fuel production plant, the greenhouse gas emissions intensity of the production and distribution of that electricity shall be assumed to be equal to the average emission intensity of the production and distribution of electricity in a defined region. By way of derogation from this requirement, an organization may use an average value for an individual electricity production plant for electricity produced by that plant, if that plant is not connected to the electricity grid. Emissions from processing shall include emissions from drying of interim products and materials where relevant.

Concerning e_{td}, emissions from transport and distribution shall include emissions from the transport of raw and semi-finished materials and from the storage and distribution of finished materials. Emissions from transport and distribution to be taken into account for in e_{ec} shall not be included in e_{td}.

Concerning e_u, emissions of the fuel in use shall be taken to be zero for biomass fuels. Emissions of non-CO_2 greenhouse gases (N_2O and CH_4) of the fuel in use shall be included in the e_u factor.

Concerning e_{ccs}, emission savings from CO_2 capture and geological storage that have not already been accounted for in e_p, shall be limited to emissions avoided through the capture and storage of emitted CO_2 directly related to the extraction, transport, processing and distribution of biomass fuel if stored in compliance with Directive 2009/31/EC.

Concerning e_{ccr}, emission savings from CO_2 capture and replacement shall be related directly to the production of biomass fuel they are attributed to, and shall be limited to emissions avoided through the capture of CO_2 of which the carbon originates from biomass and which is used to replace fossil-derived CO_2 in production of commercial products and services.

In **C.3.3**, Formula (C.9) describes the calculation of the Carnot efficiency for useful heat at different temperatures. Where a cogeneration unit – providing heat and/or electricity to a biomass fuel production process for which emissions are being calculated – produces excess electricity and/or excess useful heat, the greenhouse gas emissions shall be divided between the electricity and the useful heat according to the temperature of the heat (which reflects the usefulness (utility) of the heat). The useful part of the heat shall be calculated in accordance with Formula (C.9):

$$C_h = \frac{T_h - T_0}{T_h} \quad \text{(C.9)}$$

where

T_h is the temperature, measured in absolute temperature (kelvin) of the useful heat at point of delivery;

T_0 is the temperature of surroundings, set at 273,15 kelvin (equal to 0 °C).

If the excess heat is exported for heating of buildings at a temperature below 150 °C (423,15 kelvin), C_h can alternatively defined as Carnot efficiency, C_h, in heat at 150 °C (423,15 kelvin), which is 0,354 6.

For the purposes of this calculation, the actual efficiencies shall be used, defined as the annual mechanical energy, electricity and heat produced respectively divided by the annual energy input.

NOTE Definitions for 'cogeneration', 'useful heat' and 'economically justifiable demand' that apply for this

calculation are provided in NTA 8080-1:2015, Clause 3.

Where a biomass fuel production process produces, in combination, the fuel for which emissions are being calculated and one or more other products (co-products), greenhouse gas emissions shall be divided between the fuel or its intermediate product and the co-products in proportion to their energy content (determined by lower heating value in the case of co-products other than electricity and heat). The greenhouse gas intensity of excess useful heat or excess electricity is the same as the greenhouse gas intensity of heat or electricity delivered to the fuel production process and is determined from calculating the greenhouse intensity of all inputs and emissions, including the raw material and CH_4 and N_2O emissions, to and from the cogeneration unit, boiler or other apparatus delivering heat or electricity to the fuel production process. In the case of cogeneration of electricity and heat, Formula (C.9) shall be applied.

For the purposes of the aforementioned calculation, the emissions to be divided shall be $e_{ec} + e_l + e_{sca}$ plus those fractions of e_p, e_{td}, e_{ccs}, and e_{ccr} that take place up to and including the process step at which a co-product is produced. If any allocation to co-products has taken place at an earlier process step in the lifecycle, the fraction of those emissions assigned in the last such process step to the intermediate fuel product shall be used for those purposes instead of the total of those emissions.

In the case of biogas and biomethane, all co-products that are not covered in the calculation of e_l shall be taken into account for the purposes of that calculation. No emissions shall be allocated to wastes and residues. Co-products that have a negative energy content shall be considered to have an energy content of zero for the purposes of the calculation.

Wastes and residues, including tree tops and branches, straw, husks, cobs and nut shells, and residues from processing, including crude glycerine (glycerine that is not refined) and bagasse, shall be considered to have zero lifecycle greenhouse gas emissions up to the process of collection of those materials irrespectively of whether they are processed to interim products before being transformed into the final product.

In the case of biomass fuels produced in refineries, other than the combination of processing plants with boilers or cogeneration units providing heat and/or electricity to the processing plant, the unit of analysis for the purposes of the aforementioned calculation shall be the refinery.

In **C.3.4**, Formula (C.10) provides the greenhouse gas emissions saving from biomass fuels. In Directive (EU) 2018/2001 a distinction is made between biomass fuels used as transport fuels and heat and cooling, and electricity being generated from biomass fuels. Greenhouse gas emissions savings shall be calculated as follows:

a) Greenhouse gas emissions savings from biomass fuels used as transport fuel shall be calculated in accordance with Formula (C.10-1):

$$\text{SAVING} = (E_{F(t)} - E_B) / E_{F(t)} \qquad \text{(C.10-1)}$$

where:

E_B is total emissions from the biomass fuels used as transport fuels;

$E_{F(t)}$ is total emissions from the fossil fuel comparator for transport.

b) Greenhouse gas emissions savings from heat and cooling, and electricity being generated from biomass fuels shall be calculated in accordance with Formula (C.10-2):

$$\text{SAVING} = (EC_{F(h\&c,\ el)} - EC_{B(h\&c,\ el)}) / E_{F(h\&c,\ el)} \qquad \text{(C.10-2)}$$

where:

$EC_{B(h\&c,\ el)}$ is total emissions from the heat or electricity;

$EC_{F(h\&c,\ el)}$ is total emissions from the fossil fuel comparator for useful heat or electricity.

In **C.3.5**. it is stated that the organization shall calculate the emission factors according to COM(2010)11, Annex I, and SWD(2014)259. In view of the greenhouse gas calculation methodology as applied in Directive (EU) 2018/2001, the emission factor shall be calculated from Directive (EU) 2018/2001, Annex VI.

C.4 Use of default values, actual values and aggregated values

The title of this clause uses the term 'aggregated values' whereas Directive (EU) 2018/2001 uses the term 'disaggregated default values'. Where 'aggregated values' is used, 'disaggregated default values' shall be read.

Reference is made about the use of default values, actual values and disaggregated default values. The default values as included in Annex V, parts A and B of Directive (EU) 2018/2001 may only be used if the process technology and raw material used for the production of the biofuel or bioliquid match their description and scope. The default values as included in Annex VI, part A of Directive (EU) 2018/2001 may only be used if the process technology and raw material used for the production of the biomass fuel match their description, scope and transportation distance. In case specific technologies are set out, the default values may only be used if those technologies were actually applied. The organization shall demonstrate the effectiveness of each technology applied to justify the use of default values (e.g. data, technical specifications, efficiency measurements).

With respect to calculating e_l in accordance with C.2 or C.3, it applies that default values may only be used if the value is equal to or less than zero. The disaggregated default values for biofuels and bioliquids as included in Annex V, parts D and E of Directive (EU) 2018/2001 may be used for the emission factors e_{ec}, e_p and e_{td} in Formula (C.1) in accordance with C.2.4. The disaggregated default values for biomass fuels as included in Annex VI, part C of Directive (EU) 2018/2001 may be used for the emission factors e_{ec}, e_p, e_{td} and e_u in Formula (C.3) in accordance with C.3.5. Any change in the default values as included in Annexes V and VI of Directive (EU) 2018/2001 will become effective on the date as communicated by the European Commission and shall be applied from that moment.

NOTE 1 Annex V of Directive (EU) 2018/2001 contains the rules for calculating the greenhouse gas impact of biofuels, bioliquids and their fossil fuel comparators. Annex VI of Directive (EU) 2018/2001 contains the rules for calculating the greenhouse gas impact of biomass fuels and their fossil fuel comparators. The European Commission published on 25 September 2020 a Corrigendum to Directive (EU) 2018/2001 including changes in the default values and disaggregated values as included in Annexes V and VI of Directive (EU) 2018/2001.

In **C.4.2** it stated that the organization can be required or can decide to use actual values. When actual values are used, the organization shall be able to demonstrate that it is capable to conduct the greenhouse calculation according to the methodology described in C.2 or C.3, depending on its activities. The organization may only make claims about greenhouse gas emissions based on actual values after the capability to conduct actual value calculations has been verified by the certification body as part of the audit, normally the initial audit. In the case the organization decides to use actual values after obtaining certification, the certification body shall also first verify the capability to conduct actual value calculations during the surveillance audit or additional audit.

Actual values can only be calculated when all relevant information is available and transmitted through the chain of custody, meaning that:

a) actual values of emissions from cultivation can only be determined at the origin of the chain of custody;

b) actual values of emissions from transport can only be determined if emissions of all transport steps are recorded and transmitted through the chain of custody;

c) actual values of emissions from processing can only be determined if emissions of all processing

steps are recorded and transmitted through the chain of custody.

NOTE 2 See also NTA 8080-2:2015, 5.2 item e) and NTA 8080-2:2015, Annex B including interpretations related to information about greenhouse gas emission intensity and use of actual values through the chain of custody.

The relevant information for the calculation based on actual values can consist of:

— data gathered at the production location;

— data obtained from databases and literature.

Data gathered at the production location relate to measurable values based on actual operations (e.g. consumption of fuel, electricity, heat, fertilizers, chemicals; production volumes of primary product(s) and residual flows; transport distances and mode of transportation). Data shall cover a 12-month period reflecting the annual cycle of operations. The organization shall document the data used including the source (e.g. metering, transaction notes, purchasing orders), and the reference area and the time period to which the data relate. In the case an organization is a start-up with no access to actual data, the organization may use data which are part of the business case ('design data'). Once the organization has access to actual data, it shall make a comparison with the design data and amend the calculation if deviations are identified, subject to verification by the certification body.

NOTE 2 See NCS 8080:2018-08, 6.2 for assessment frequency in case of use of design data.

Data from databases and literature should be obtained from recognized sources like national or European governmental bodies (e.g. regulatory documents, list of standard emission factors and lower heating values statistical data) and peer-reviewed scientific journals. The organization shall document the data used including the source, and the reference area and the time period to which the data relate. The data used shall be representative for the operations of the organization taking into account the geographical location. The data obtained from databases and literature shall be based on the most recent publications. The organization shall periodically update the data following new publications.

Within the framework of Directive (EU) 2018/2001 an organization should use the standard calculation values, which are published on the European Commission's website dedicated to the greenhouse gas emission savings methodology. This list is not exhaustive. Whenever an item is covered by the list, the use of alternative values shall be duly justified. In case alternative values are chosen, this shall be flagged up in the documentation of the calculations in order to facilitate the verification.

NOTE 3 The list of standard calculation values might be subject to changes resulting from technological progress, new scientific evidence or changes to the legal framework.

In **C.4.3** reference is made to NUTS-2 levels. Member States or competent authorities of third countries may submit to the European Commission reports including data on typical emissions from cultivation of feedstock. As laid down in Communication 2010/C 160/02, the values from the "NUTS 2" reports can be used by certification schemes. An organization may apply these values as an alternative to actual values, provided these are available in the unit g CO_{2eq}/dry-ton of raw material on the web site of the European Commission. The values included in the NUTS 2 reports do not represent disaggregated default values. Therefore, they can only be used as an input for the calculation of actual values, but cannot be used to report emissions from cultivation in the unit g CO_{2eq}/MJ of bioenergy.

NOTE 4 The calculation of alternative averages for areas and crops which are covered by the NUTS 2 reports are not appropriate, as the appropriate averages have already been calculated by the national authorities.

In addition to the provision already given in C.4, the following provisions shall be taken into account related to adjusting greenhouse gas emissions estimates throughout the chain of custody. Whenever actual values are calculated at each step of the chain of custody, the additional emissions from transport and/or processing shall be added to e_p and/or e_{td}, respectively. Whenever a processing step

yields co-products, emissions shall be allocated as set out in C.2 or C.3.

Formula (C.11) shall be applied to emissions from cultivation when processing intermediate products:

$$e_{ec}intermediate\ product_a = e_{ec}raw\ material_a \times raw\ material\ factor_a \times allocation\ factor\ intermediate\ product_a \quad \text{(C.11)}$$

where

$e_{ec}raw\ material_a = \frac{e_{ec}raw\ material_a}{(1 - moisture\ content)}$ expressed in gCO_{2eq} per dry-ton raw material

$raw\ material\ factor_a$ is the ratio of kg dry raw material required to make 1 kg dry intermediate product

$allocation\ factor\ intermediate\ product_a = \frac{energy\ in\ intermediate\ product_a}{(energy\ in\ intermediate\ products + energy\ in\ coproducts)}$

At the last processing step, the emission estimate shall be converted into the unit g CO_{2eq}/MJ of final fuel. For this transformation, Formula (C.12) shall be applied to emissions from cultivation:

$$e_{ec}fuel_a = \frac{e_{ec}raw\ material_a}{LHV_a} \times fuel\ raw\ material\ factor_a \times allocation\ factor\ fuel_a \quad \text{(C.12)}$$

where

$e_{ec}raw\ material_a = \frac{e_{ec}raw\ material_a}{(1 - moisture\ content)}$ expressed in gCO_{2eq} per dry-ton raw material;

$fuel\ raw\ material\ factor_a$ is the ratio of MJ raw material required to make 1 MJ fuel;

$allocation\ factor\ fuel_a = \frac{energy\ in\ fuel}{(energy\ in\ fuel + energy\ in\ coproducts)}$.

NOTE 5 As stated in Clause 3, Directive (EU) 2018/2001 uses the term 'feedstock' instead of 'raw materials'. These terms are interchangeable (i.e. where 'raw materials' is used in Formulas C.11 and C.12, also 'feedstock' can be read).

Similarly, also the values for e_p, e_{td}, and e_l ~~and e_{ee}~~ shall be adjusted. As mentioned above in case of e_p and e_{td}, the emissions from the relevant processing step shall be added. For e_{ccr} and e_{ccs}, dedicated rules apply as described below. For the purpose of this calculation, raw material factors based on plant data shall be applied. LHV values per dry ton shall be applied for the calculation of the raw material factor, while LHV values for wet biomass shall be applied for the calculation of the allocation factor.

NOTE 6 Concerning wet biomass, the 'wet definition LHV' is used for the purpose of allocation. This subtracts the energy needed to evaporate the water in the wet material from the LHV of the dry matter. Products with a negative energy content are treated at this point as having zero energy, and no allocation is made (see also Directive (EU) 2018/2001, Annex V, part C, point 18 and Annex VI, part B, point 18).

The assumptions applied in the framework of the calculation of the default values in the case of biofuels are provided in Table C.1.

Table C.1 – Assumptions applied for calculations of default values in the case of biofuels

Pathway	Crop	LHV: MJ/kg dry raw material	MJ raw material / MJ biofuel	Kg dry raw material / MJ biofuel
Sugar beet ethanol	Sugar beet	16,3	1 840	0,112 9
Wheat ethanol	Wheat	17,0	1 882	0,110 7
Corn ethanol	Corn	18,5	1 958	0,105 9
Sugar cane ethanol	Sugar cane	19,6	2 772	0,141 4
FAME biodiesel from rapeseed[a]	Rapeseed	26,4	1 729	0,065 5
FAME biodiesel from sunflower[a]	Sunflower seed	26,4	1 610	0,061 0
FAME biodiesel from soybeans[a]	Soybeans	23,5	3 078	0,130 8
FAME from palm oil[a]	FFB	24,0	2 018	0,084 1
HVO from rapeseed	Rapeseed	26,4	1 705	0,064 6
HVO from sunflower	Sunflower seed	26,4	1 588	0,060 1
HVO from palm oil	FFB	24,0	1 992	0,083 0
Pure vegetable oil from rapeseed	Rapeseed	26,4	1 718	0,065 1

[a] Biodiesel derived by transesterification of fats with methanol (FAME) are regarded as being 100 % of renewable origin in Directive(EU) 2018/2001. Similar to other inputs, the carbon footprint of the methanol used in the in esterification process should be taken into account in the calculation of the greenhouse gas emission intensity of the biofuel. This approach has been used in the calculation of the default values. In the case of conventional methanol in the original calculations of Directive(EU) 2018/2001, 0,058 5 MJ of methanol was used per MJ of FAME produced, with an emissions factor of 99,57 g CO_{2eq} per MJ of methanol. This factor is included along with those for other inputs in the list of standard values. published on the European Commission's website.

In the case biomethane is used as compressed biomethane as a transport fuel, a value of 4,6 g CO_{2eq}/MJ biomethane shall be added to the default values included in Annex VI of Directive (EU) 2018/2001.

If actual values are used, Formula C.13 shall be applied to calculate e_{ec}:

$$e_{ec} = \frac{EM_{fertilizer} + EM_{pesticides} + EM_{fuel} + EM_{electriciy} + EM_{N20}}{Y_{main\ raw\ material}} \quad \text{(C.13)}$$

where

EM is the emission (from fertilizer, pesticides, fuel, electricity and N_2O, respectively) expressed in kgCO_{2eq}/(ha×yr);

Y is the yield of dry matter content (of main raw material) expressed in kg/(ha×yr).

The emissions from fertilizer, pesticides, fuel and electricity shall be calculated according to Formulae (C.14) to (C.17).

$$EM_{fertilizr} = V_{fertilizer} \times (Ef_{production\ fertilizer} + Ef_{field}) \quad \text{(C.14)}$$

$$EM_{pesticide} = V_{pesticide} \times Ef_{production\ pesticide} \quad \text{(C.15)}$$

$$EM_{fuel} = V_{fuel} \times Ef_{fuel} \quad \text{(C.16)}$$

$$EM_{electricity} = V_{electricity} \times Ef_{EU\ mix} \quad \text{(C.17)}$$

where

$V_{fertilizer}$ is the use of fertilizer expressed in kg/(ha×yr);

$Ef_{production\ fertilizer}$ is the emission factor of fertilizer production expressed in $kgCO_{2eq}$/kg fertilizer;

Ef_{field} is the emission factor of N_2O expressed in $kgCO_{2eq}$/kg N fertilizer;

$V_{pesticide}$ is the use of pesticide expressed in kg/(ha×yr);

$Ef_{production\ pesticide}$ is the emission factor of pesticide production expressed in $kgCO_{2eq}$/kg pesticide;

V_{fuel} is the use of fuel expressed in l/(ha×yr);

Ef_{fuel} is the emission factor of fuel expressed in $kgCO_{2eq}$/l;

$V_{electricity}$ is the use of electricity expressed in kWh/(ha×yr);

Ef_{EUmix} is the emission factor based on electricity mix in the European Union expressed in $kgCO_{2eq}$/kWh.

In Formulae (C.19) and (C.20) reference is made to the electricity mix of the European Union. In the case the processing facility is located outside the European Union, an emission factor shall be used that is representative for the region in which the processing facility is located (see also C.2 and C.3).

Concerning $EM_{fertilizer}$, N_2O field emissions shall be calculated for synthetic and organic nitrogen fertilizer and for crop residues left on the production location. The organization can make use of IPCC Guidelines for National Greenhouse Gas Inventories in which volume 4 addresses agriculture, forestry and other land use, or the Global Nitrous Oxide Calculator (GNOC) developed by the Joint Research Centre.

If actual values are used, Formula (C.18) shall be applied to calculate e_{td}.

$$e_{td} = \frac{d_{loaded} \times K_{loaded} + d_{unloaded} \times K_{unloaded} \times Ef_{fuel}}{m} \quad \text{(C.18)}$$

where

d_{loaded} is the distance across the biofuel, bioliquid or biomass fuel is transported expressed in km;

K_{loaded} is the fuel efficiency of the loaded transport expressed in l/km;

$d_{unloaded}$ is the distance across the vehicle used for transporting the biofuel, bioliquid or biomass fuel was unloaded the expressed in km;

$K_{unloaded}$ is the fuel efficiency of the unloaded transport expressed in l/km;

Ef_{fuel} is the emission factor of fuel expressed in $kgCO_{2eq}$/l;

m is the measured mass of the transported biofuel, bioliquid or biomass fuel expressed in kg.

Formula (C.18) applies to a single transportation step. For each transportation step the corresponding emissions shall be calculated according to Formula (C.18).

If upstream transport is calculated, the actual greenhouse gas emissions shall be divided by the mass of dry matter content of the transported biofuel, bioliquid or biomass expressed in gCO_{2eq}/kg. The upstream transport emission shall be adapted by applying a raw material factor and an allocation factor.

The greenhouse gas emissions related to storage of biofuel, bioliquids and biomass fuels and, where applicable, the greenhouse gas emissions produced at fuelling stations shall be included as well.

If actual values are used, Formula (C.19) shall be applied to calculate e_p.

$$e_p = \frac{EM_{electricity} + EM_{heat} + EM_{input\ production} + EM_{waste\ water}}{Y_{main\ product}} \quad \text{(C.19)}$$

where

EM is the emission (from electricity, heat, input production and waste water, respectively) expressed in $kgCO_{2eq}$/yr;

Y is the yield of main product expressed in kg/yr.

The emissions from electricity, heat, input production and waste water shall be calculated according to Formulae (C.20) to (C.23).

$$EM_{electricity} = V_{electricity} \times Ef_{EU\ mix} \quad \text{(C.20)}$$

$$EM_{heat} = V_{fuel} \times Ef_{fuel} \quad \text{(C.21)}$$

$$EM_{input\ production} = V_{input\ production} \times Ef_{input\ production} \quad \text{(C.22)}$$

$$EM_{waste\ water} = V_{waste\ water} \times Ef_{waste\ water} \quad \text{(C.23)}$$

where

$V_{electricity}$ is the use of electricity from externally providers expressed in kWh/yr;

Ef_{EUmix} is the emission factor based on electricity mix in the European Union expressed in $kgCO_{2eq}$/kWh;

V_{fuel} is the use of fuel for heat generation expressed in kg/yr;

Ef_{fuel} is the emission factor of fuel for heat generation expressed in $kgCO_{2eq}$/kg;

$V_{input\ production}$ is the quantity of chemicals or additional products used in processing expressed in kg/yr;

$Ef_{input\ production}$ is the emission factor of of chemicals or additional products used in processing expressed in $kgCO_{2eq}$/kg;

$V_{waste\ water}$ is the quantity of waste water expressed in l/yr;

$Ef_{waste\ water}$ is the emission factor of waste water expressed in $kgCO_{2eq}$/l.

Formula (C.19) applies to a single processing step. For each processing step the corresponding emissions shall be calculated according to Formula (C.19). The data used for calculating the emissions from a single processing step shall be measured or based on technical specifications of the processing facility. If the range of emissions for a group of processing facilities is known, the most conservative value for this group shall be used.

In Formulae (C.19) and (C.20) reference is made to the electricity mix of the European Union. In the case the processing facility is located outside the European Union, an emission factor shall be used that is representative for the region in which the processing facility is located (see also C.2 and C.3).

Directive (EU) 2018/2001 sets out that greenhouse gas emission savings from carbon capture and replacement, e_{ccr}, shall be limited to emissions avoided through the capture of CO_2 of which the carbon originates from biomass and which is used to replace fossil-derived CO_2 used in commercial products and services. Emission savings from carbon capture and geological storage, e_{ccs}, that have not already been accounted for in e_p, shall be limited to emissions avoided through the capture and sequestration of emitted CO_2 directly related to the extraction, transport, processing and distribution of fuel.

If actual values are used, Formula (C.24) shall be applied to calculate e_{ccr} and Formula (C.25) shall be applied to calculate e_{ccs}.

$$e_{ccr} = \frac{V_{produced\ CO2} - V_{energy} \times Ef_{energy} - V_{auxiliary\ materials} \times Ef_{auxiliary\ materials}}{V_{main\ product} \times LHV} \times 1000 \quad \text{(C.24)}$$

$$e_{ccs} = \frac{V_{produced\ CO2} - V_{energy} \times Ef_{energy} - V_{auxiliary\ materials} \times Ef_{auxiliary\ materials}}{V_{main\ product} \times LHV} \times 1000 \quad \text{(C.25)}$$

where

$V_{produced\ CO2}$ is the amount of CO_2 produced (for replacement or geological storage) expressed in t;

V_{energy} is the amount of energy consumed in MWh;

Ef_{energy} is the emission factor of energy for CO_2 production expressed in tCO_{2eq}/MWh;

$V_{auxiliary\ materials}$ is the amount of auxiliary materials consumed in t;

$Ef_{auxiliary\ materials}$ is the emission factor of auxiliary materials expressed in tCO_{2eq}/t;

$V_{main\ product}$ is the amount of biofuel, bioliquid or biomass fuel produced expressed in t;

LHV is the lower heating value expressed in GJ/t.

For both e_{ccr} and e_{ccs}, the emission saved shall relate directly to the production of the bioenergy to which they are attributed. It would, for instance, not be justified to allocate arbitrarily different amounts of savings to bioenergy obtained from the same process, i.e. all bioenergy originating from the same process would need to be treated equally in this regard. If the CO_2 is not captured continuously, it might be appropriate to deviate from this approach and to attribute different amounts of savings to bioenergy obtained from the same process. However, in no case a higher amount of savings shall be allocated to a given batch of bioenergy than the average amount of CO_2 captured per MJ of bioenergy in a hypothetical process where the entire CO_2 stemming from the production process is captured. Capturing and processing of CO_2 has its own greenhouse gas emission footprint. Those emissions shall be taken into account in the calculation applying the appropriate emission factors for the energy consumed and the inputs used for capturing and processing of CO_2.

To verify that the capturing of CO_2 is used in commercial products and services to replace fossil-derived CO_2, it would suffice to check that the CO_2 was sold to an organization that can be expected to have an economical meaningful use for the CO_2. In order to ensure that e_{ccr} is limited to emissions avoided through the capture of CO_2 and to verify that fossil-derived CO_2 is replaced, it is necessary to gather this type of information. Therefore, the buyer should provide information how the CO_2 that is replaced was generated previously and declare, in writing, that due to the replacement emissions are

avoided.

NOTE 7 It would be for an auditor to decide case by case whether the requirements of the Directive (EU) 2018/2001 are met including that emissions are actually avoided. Good examples for a replacement which can be expected to avoid CO_2 emissions are cases where the CO_2 that is replaced was previously produced in a dedicated process aiming at the production of CO_2 such as a CO_2 generator burning natural gas to produce CO_2 to stimulate the growth of vegetables in a greenhouse. It is not required to conduct audits on the premises of the buyer, as the buyer of the CO_2 is not part of the chain of custody related to the bioenergy production, unless there is reasonable suspicion that the written declaration contains false information.

C.5 Tools for greenhouse gas calculations

In **C.5.1** it is stated that the BioGrace I and II tools can be used as possible tools for executing the calculations for greenhouse gas emissions. The BioGrace I and II tools are not recognized by the European Commission as voluntary schemes in the framework of Directive (EU) 2018/2001. In the case the BioGrace I and II tools will be recognized for this purpose, an organization can apply the BioGrace I or II tool to demonstrate that it has calculated its greenhouse gas emissions in accordance with Directive (EU) 2018/2001. Meanwhile, BioGrace I or II tool can be used for greenhouse gas calculations, but the results shall be assessed independently to verify that the calculation including the data used is carried out in compliance with Directive (EU) 2018/2001.

Annex D (normative) **List of residual flows**

This annex includes tables that list biomass flows that are considered primary residual flows (Table D.1) and non-primary residual flows (Table D.2). The tables are classified according to NTA 8003:2008. This edition of NTA 8003 has been superseded by NTA 8003:2017. The changes that have been made in the new edition of NTA 8003, are also valid to the classification as applied in tables D.1 and D.2, as included in this interpretation document.

Table D.1 — List of primary residual flows

Category [a]	**Description**	**Demarcation** [b]
127	branches and tops hardwood	as far as it concerns branches and tops originating from (hardwood) forests and nature reserves managed with an eye to preserving their function for the long term
128	stumps hardwood	as far as it concerns stumps that are not originating from conversions on behalf of changes to functions for which permits have been granted
129	thinnings hardwood	as far as it concerns low-value spindle wood originating from (hardwood) forests and nature reserves managed with an eye to preserving their function for the long term NOTE Examples of low-value spindle wood are wood with a limited value due to its limited diameter, wood with significant curvatures, wood with many and heavy knots, wood with rot/mould/discolouration, wood broken due to a storm, etc.

136	branches and tops softwood	as far as it concerns branches and tops originating from (softwood) forests and nature reserves managed with an eye to preserving their function for the long term
137	stumps softwood	as far as it concerns stumps that are not originating from conversions on behalf of changes to functions for which permits have been granted
138	thinnings softwood	as far as it concerns low-value spindle wood originating from (softwood) forests and nature reserves managed with an eye to preserving their function for the long term NOTE Examples of low-value spindle wood are wood with a limited value due to its limited diameter, wood with significant curvatures, wood with many and heavy knots, wood with rot/mould/discolouration, wood broken due to a storm, etc.
220	straw NOTE This concerns a mixture of straw [221], barley straw [222], wheat straw [223], rice stalk [224], hemp [225] and other straw [229].	
230	residual products (shells) NOTE This concerns a mixture of shells [231], cocoa shells [232], peanut shells [233], nuts, including walnuts [234], almond shells [235], rice husks [236], palm kernel shells [237] and other shells [239].	
252	horticultural waste	
253	fruit farming	
254	peeling waste from flower bulbs	
255	arable farming waste	
258	mixture of other residual products	as far as it concerns other residual products from primary sector
259	other residual products	as far as it concerns other residual products from primary sector
[a] Category according to NTA 8003:2017. [b] This concerns a demarcation within the category mentioned.		

Table D.2 — List of non-primary residual flows

Category [a]	**Description**	**Demarcation** [b]
112	bark	

114	round timber (from nature and landscape management)	as far as it concerns: — low-value spindle wood originating from gardens, parks and public gardens — low-value spindle wood originating from conversions on behalf of changes to functions for which permits have been granted NOTE Examples of low-value spindle wood are wood with a limited value due to its limited diameter, wood with significant curvatures, wood with many and heavy knots, wood with rot/mould/discolouration, wood broken due to a storm, etc.
115	sawdust	
117	stumps (from nature and landscape management)	as far as it concerns stumps originating from conversions on behalf of changes to functions for which permits have been granted
118	branches and tops (from nature and landscape management)	as far as it concerns: — branches and tops originating from gardens, parks and public gardens — branches and tops originating from conversions on behalf of changes to functions for which permits have been granted
119	other fresh wood (left overs)	as far as it concerns residues that are produced when round timber is sawn and processed
160	processed wood; untreated (A-wood) NOTE This concerns a mixture of untreated wood [161], cork [162] and other untreated wood [169].	
170	processed wood; painted/glued wood (B-wood) NOTE This concerns a mixture of painted/glued wood [171], panel materials/glued wood [172] and other painted/glued wood [179].	
180	processed wood; impregnated wood (C-wood) NOTE This concerns a mixture of impregnated wood [181], impregnated wood: heavy metals [182], impregnated wood: halogenated organic compounds [183], impregnated wood: non-halogenated organic compounds [184] and other impregnated wood [189].	
191	mixture of wood from processing	
192	wood released from processing of kitchen and garden waste	

193	wood (compost overflow)	
199	other wood from processing	
213	roadside grass	
219	other grass	to the extent that grass and cuttings (including from waterways and reeds) are concerned that originate from maintenance activities; this does not include agricultural grass
251	auction waste	
256	champost	
258	mixture of other residual products	as far as it concerns other residual products from non-primary sector
259	other residual products	as far as it concerns other residual products from non-primary sector
300	manure NOTE This concerns a mixture of manure [311], poultry manure [312], cow manure [313], pig manure [314], horse manure [315], other types of manure [319], processed manure from manure fermentation (digestate) [321], processed manure from co-fermentation with manure (digestate) [322] and processed manure from other processing [329].	
400	sludge NOTE This concerns mixture of sludge [401], other sludge [409], sludge from sewage/ waste water treatment plants [410], sludge from sewers, cesspits and pumping stations [420], sludge from preparation of drinking water [430], mixture of industrial sludge [441], paper sludge from paper and cardboard industry [442], water treatment sludge (food and non-food processing industry) [443], production sludge [444], omega screens [445], fat drainage and flotation sludge [446] and other industrial sludge [449].	
512	glycerine – glycol	as far as it concerns crude glycerine (glycerine that is not refined)
514	black liquor	
515	bleaching clay from biodiesel / ethanol industry	
517	biodiesel pitch	
522	potato peels	as far it does **not** concern concentrated potato juice and/or potato protein
523	rice husks	as far as it concerns rice chaff
525	palm kernel shells	

529	other shells / husks / kernels	As far as it concerns cocoa shells, peanut shells, nuts, including walnuts, and other shells NOTE A similar approach has been adopted as with other residual products from agriculture and horticulture [230].
535	spent grain	as far as it concerns brewers' grains
536	coffee pulp	
542	bleaching clay from oleochemical industry	
543	distillation residues [from oleochemical industry]	
572	used cooking fats and oils	
581	mixture of residual products from food processing industry	NOTE This includes 'supermarket mix'.
582	soft drinks and light alcoholic spirits unsuitable for human consumption	
583	dairy products and food stuffs unsuitable for human consumption	
586	offal	
588	bleaching clay from food processing industry	
592	bleaching clay from other industries	
600	organic waste from households and companies NOTE This concerns organic waste from households [610], swill [621], biodegradable mono products [622], other organic waste from companies [629] and organic wet fraction [630].	
[a] Category according to NTA 8003:2017. [b] This concerns a demarcation within the category mentioned.		

Tables D.1 and D.2 also include residual flows that are not listed as "residues and wastes" in the framework of Directive (EU) 2018/2001 as the tables have a broader scope than this directive. In addition, these tables are not fully aligned with the descriptions as applied in "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen".

An organization that operates within the framework of Directive (EU) 2018/2001 and intends to classify its biomass flow as residual flow shall ensure that its biomass flow is considered agricultural, aquaculture, fisheries and forestry residues, a processing residue or waste in accordance with Directive(EU) 2018/2001. Table D.3 provides a list of residual flows within the framework of Directive(EU) 2018/2001. Table D.3 also includes cross-references to the classification used in NTA 8080-1:2015, Tables D.1 and D.2. These cross-references are for information only; the description supplemented with the remark given in the first column of Table D.3 is leading in determining if a residual flow for operations falls within the framework of Directive(EU) 2018/2001. A biomass flow that is not listed in Table D.3 shall not be considered a residual flow for operations within the framework of Directive(EU) 2018/2001. This means that other residual flows are excluded, even if it can be demonstrated that they conform to the definition of residual flow as given in NTA 8080-1:2015.

Table D.3 – List of residual flows within the framework of Directive (EU) 2018/2001 including

cross-references to classification according to NTA 8080-1:2015			
Description	**Remark**	**Classification in NTA 8080-1:2015, Table D.1** [a]	**Classification in NTA 8080-1:2015, Table D.2** [a]
Animal fats classified as categories 1 and 2 in accordance with Regulation (EC) No 1069/2009	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part B, sub (b) [c]		[586] Offal
Animal manure and sewage sludge	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (f) [c]		[300] Manure [400] Slugde
Bagasse	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (j) [b]		
Biomass fraction of mixed municipal waste, but not separated household waste subject to recycling targets under point (a) of Article 11(2) of Directive 2008/98/EC	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (b) [c]		[600] Organic waste from households and companies
Biomass fraction of industrial waste not fit for use in the food or feed chain, including material from retail and wholesale and the agro-food and fish and aquaculture industry, and excluding feedstocks listed in Annex IX, Part B.	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (d) [c]		[522] Potato peels (excluding concentrated potato juice and/ or potato protein) [523] Rice husks [527] Palm kernel shells [529] Other shells / husks / kernels (as far as it concerns cocoa shells, peanut shells, nuts, including walnuts, and other shells) [535] Spent grain [536] Coffee pulp [581] Mixture of residual products from food processing industry [582] Soft drink and light alcoholic spirits unsuitable for human consumption [583] Dairy products and foodstuffs unsuitable for human consumption

			[588] Bleaching clay from food processing industry
Biomass fraction of wastes and residues from forestry and forest-based industries, i.e. bark, branches, pre- commercial thinnings, leaves, needles, tree tops, saw dust, cutter shavings.	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (o) except black liquor, brown liquor, fibre sludge, lignin and tall oil	[112] Bark [127] / [136] Branches and tops hardwood / softwood limited to branches and tops originating from forests and nature reserves managed with an eye to preserving their function for the long term [128] / [137] Stumps hardwood / softwood, limited to stumps that are not originating from conversions on behalf of changes to functions for which permits have been granted [129] / [138] Thinnings hardwood / softwood limited to low-value spindle wood originating from forests and nature reserves managed with an eye to preserving their function for the long term	[114] Round timber (from nature and landscape management) limited to low-value spindle wood originating from gardens, parks and public gardens or from conversions on behalf of changes to functions for which permits have been granted [115] Saw dust [117] Stumps (from nature and landscape management), limited to stumps originating from conversions on behalf of changes to functions for which permits have been granted [118] Branches and tops (from nature and landscape management) limited to branches and tops originating from gardens, parks and public gardens or from conversions on behalf of changes to functions for which permits have been granted; [119] Other fresh wood (left overs), limited to residues that are produced when round timber is sawn and processed.
Bio-waste as defined in Article 3(4) of Directive 2008/98/EC from private households subject to separate collection as defined in Article 3(11) of that Directive	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (c) [c]		[610] Organic waste from households
Cobs cleaned of kernels of corn	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (n) [b]		
Crude glycerine, i.e. glycerine that is not	Feedstocks according to Directive ((EU) 2018/2001,		[512] Glycerine – glycol, limited to crude glycerine

refined	Annex IX, Part A, sub (i) [c]		
Husks	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (m) [b]	[231] Mixture of shells [236] Rice husks [239] Other shells	
Grape marcs and wine lees	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (k) [b]		
Nut shells	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (l) [b]	[231] Mixture of shells [232] Cocoa shells [233] Peanut shells [234] Nuts including walnuts [235] Almond shells [237] Palm kernel shells [239] Other shells	
Palm oil mill effluent and empty palm fruit bunches	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (g)		
Straw	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (e) [b]	[220] Straw	
Tall oil pitch	Feedstocks according to Directive (EU) 2018/2001, Annex IX, Part A, sub (h) [c]		
Used cooking oil	Feedstocks according to Directive ((EU) 2018/2001, Annex IX, Part B, sub (a) [c]		[572] Used cooking fats and oils

NOTE Annex IX, Part A of Directive (EU) 2018/2001 also contains the following subcategories:

— other ligno-cellulosic material [d] except saw logs and veneer logs;

— other non-food cellulosic materials [d].

These subcategories cover a broad range of raw materials, which can be classified as products, (agricultural, forestry or processing) residues or waste [to use the terminology of Directive (EU) 2018/2001], so raw materials in this subcategory shall be further assessed whether they qualify as residue or waste.

[a] Cross-references included for information; the description supplemented with the remark given in the first column of this table is leading in determining if a residual flow for operations falls within the framework of Directive(EU) 2018/2001.

[b] In NTA 8080-1:2015 classified as primary residual flow.

[c] In NTA 8080-1:2015 classified as non-primary residual flow.

[d] “ligno-cellulosic material” and "non-food cellulosic materials" are defined in Clause 3.

An organization that operates within the framework of “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen” and intends to classify its biomass flow as residual flow shall ensure that its biomass flow fits the definition for residues from nature and landscape management, agricultural residues, or biogenic residues and waste flows (i.e. can be categorized under biomass category 3, 4 or 5, respectively in this regulation). The organization should use the document “Guidelines classification of biomass: categories and NTA 8003 codes in framework of SDE+ – Guidance for energy producers and conformity assessment bodies” to determine in which biomass category the biomass flow belongs in accordance with the “Regeling conformiteitsbeoordeling vaste

biomassa voor energietoepassingen". Table D.4 provides an indicative relationship between the biomass categories used in the "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen" and the scope of biomass producer according to NTA 8080-1:2015, Annex A.

NOTE 1 The "Guidance on the classification of biomass: categories and NTA 8003 codes under the SDE+ scheme - Guidelines for energy producers and conformity assessment bodies" contains decision trees and provides links to the classification applied in NTA 8003:2017.

NOTE 2 Woody biomass from Forest Management Units (FMUs) will no longer be classified as 'residual flow' that will have consequences for the requirements that have to be met to demonstrate to be in conformance with the requirements of NTA 8080-1:2015 (i.e. scope will change from collector of primary residual flows [A3] to biomass producer [A1] or smallholder [A2]). In this context, 'biomass producer' and 'smallholder' as applied in NTA 8080-1:2015 and NTA 8080-1:2015 are similar to 'forest owner' / 'forest manager' as applied "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen".

NOTE 3 See also interpretation to NTA 8080-2:2015, 5.2 item g) concerning product description on the transaction certificate.

Table D.4 – Indicative relationship between biomass classification according to "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen" and scope of biomass producer according to NTA 8080-1:2015, Annex A

Biomass category in 'Regeling'	Scope of biomass producer in NTA 8080
1 woody biomass from Forest Management Units (FMUs)	A1 biomass producer
2 woody biomass from Forest Management Units (FMUs) smaller than 500 ha	A2 smallholder
3 residues from nature and landscape management	A3 collector of primary residual flows [a] A4 collector of non-primary residual flows [a]
4 agricultural residues	A3 collector of primary residual flows
5 biogenic residues and waste flows	A4 collector of non-primary residual flows
[a] Scope depends on origin of biomass as illustrated in Tables D.1 and D.2.	

Annex E (informative) **Explanation on smallholders**

[No interpretation]

Bibliography

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Note on the conducting and verifying actual calculations of GHG emission savings – Version 2.0, European Commission DG Energy, reference: BK/abd/ener.c.1(2017)2122195

Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen

NTA 8080-2:2015, Sustainably produced biomass for bioenergy and bio-based products – Part 2: Chain-of-custody requirements

1 Scope

Figure 1 shows the schematic representation of the scope. As mentioned in the examples related to 'end user', the organization that feeds biomethane into the gas network is the last link in the supply that is covered by this NTA (i.e. the organization that withdraws an equivalent amount of gas from the grid is not within the scope of this NTA).

NOTE Depending on regulations that are in place, the sustainability characteristics can be transferred from the organization that injects the biomethane into the gas network to the organization that withdraws an equivalent amount of gas from this gas network.

2 Normative references

[No interpretation]

3 Terms and definitions

The definition of consignment (3.4) refers to same characteristics. These characteristics shall at least include the sustainability characteristics.

4 Chain-of-custody models for traceability

4.1 Description of chain-of-custody models

[No interpretation]

4.2 Applicability of chain-of-custody models

In **4.2.1** it is stated that in the application for bioenergy, the organization may use the chain-of-custody models of segregation and mass balance according to approaches a) and c) under 4.1.2. In the framework of Directive (EU) 2018/2001 the sustainability characteristics may only be assigned for 100 % (or 0 %) to consignments. An organization that operates within the framework of Directive (EU) 2018/2001 shall therefore apply either segregation or mass balance according to approach a) under 4.1.2.

In **4.2.1** the mass balance systems are described. More specifically, the organization applying a mass balance system shall demonstrate that this system:

a) allows consignments of raw material or fuels with differing sustainability and greenhouse gas emissions saving characteristics to be mixed for instance in a container, processing or logistical facility, transmission and distribution infrastructure or site;

b) allows consignments of raw material with differing energy content to be mixed for the purposes of further processing, provided that the size of consignments is adjusted according to their energy content;

c) requires information about the sustainability and greenhouse gas emissions saving characteristics and sizes of the consignments referred to in item a) to remain assigned to the mixture;

d) provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture and requires that this balance be achieved over an appropriate period of time.

For the purposes of calculating the gross final consumption of energy from renewable sources, the mass balance system shall ensure that each consignment is counted only once in:

— gross final consumption of electricity from renewable sources;

— gross final consumption of energy from renewable sources in the heating and cooling sector; or

— final consumption of energy from renewable sources in the transport sector.

If the mass balance system is applied to different types of raw materials and fuels, the organization shall ensure that the information is maintained and provided in such way that the contribution of biofuels, bioliquids and biomass fuels towards the targets for renewable energy can be correctly and unambiguously determined.

NOTE Articles 26 and 27 of Directive (EU) 2018/2001 contain provisions for determining the contribution of biofuels, bioliquids and biomass fuels towards the targets for renewable energy at the level of Member States, for which reliable information is required to avoid double accounting.

The mass balance shall include information on whether support has been provided for the production of that consignment, and if so, on the type of support scheme.

In **4.2.1** it is stated that the combination of sustainability requirements of the input material shall equal those of the output material. This means that sum of all consignments withdrawn (output material) shall have the same sustainability characteristics, in the same quantities, as the sum of all consignments added (input material).

Where a consignment is processed, information on the sustainability and greenhouse gas emissions saving characteristics of the consignment shall be adjusted and assigned to the output in accordance with the following requirements:

a) when the processing of a consignment of raw material yields only one output that is intended for the production of biofuels, bioliquids or biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin, or recycled carbon fuels, the size of the consignment and the related quantities of sustainability and greenhouse gas emissions saving characteristics shall be adjusted applying a conversion factor representing the ratio between the mass of the output that is intended for such production and the mass of the raw material entering the process;

b) when the processing of a consignment of raw material yields more than one output that is intended for the production of biofuels, bioliquids or biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin, or recycled carbon fuels, for each output a separate conversion factor shall be applied and a separate mass balance shall be used.

In the case of biomethane, the organization that injects the biomethane into the gas grid is considered the ‘end user’. The injected biomethane will be withdrawn from the grid by another economic operator to be applied as transportation fuel, input for electricity or heat production, or as raw material for producing bio-based products. The organization that injects a certain volume of biomethane into the gas grid has usually a trade agreement with the economic operator that withdraws a similar volume of gas from the gas grid, corrected for minor losses due to transportation. This trade agreement is administered by an independent registry and can include sustainability characteristics including information about the scheme that is applied to verify these sustainability characteristics. The ‘end user’ may only transfer these sustainability characteristics to the economic operator that withdraws the gas from the gas grid, if the gas infrastructure is interconnected. The economic operator shall determine the greenhouse gas emissions savings in accordance with Directive (EU) 2018/2001, Annex V for biofuels or Annex VI for biomass fuels (see also NTA 8080-1:2015, Annex C) based on

the information received from the organization that has injected the biomethane in the gas grid (i.e. 'end user') per trade agreement and taking into account any losses as defined in Directive (EU) 2018/2001. The economic operator that withdraws the gas from the gas grid shall demonstrate that it complies with the applicable requirements of Directive (EU) 2018/2001 through an independent conformity assessment.

NOTE 1 The interconnected gas infrastructure is considered a physical facility, allowing for applying the mass balance approach.

NOTE 2 The interconnected gas infrastructure can cross country borders. The European Renewable Gas Registry (ERGaR) aims at enabling cross-border transfer of renewable gas certificates among the member registries. ERGaR seeks recognition as a voluntary scheme under Directive (EU) 2018/2001.

NOTE 3 The activities of national or regional registries involved in renewable gas certificates and the independent conformity assessment activities at the economic operator that withdraws gas from the gas grid, and possibly other conformity assessment activities after the injection of the biomethane into the gas grid complements the activities of Better Biomass.

5 Chain-of-custody requirements

5.1 General

In **5.1.2** reference is made to voluntary schemes that are recognized by the European Commission. In the framework of Directive (EU) 2018/2001, national schemes can also be recognized to demonstrate compliance with the sustainability criteria set out in Articles 29(2) to (7) and (10) and the greenhouse gas emissions savings thresholds set in Article 25(2) in Directive (EU) 2018/2001 (see also Better Biomass certification scheme, Annex C). Biomass delivered under a valid conformity assessment declaration (e.g. certificate) issued by a recognized voluntary scheme or national scheme may not be refused, i.e. shall be considered compliant to Better Biomass with respect to demonstrating compliance with the sustainability criteria set out in Articles 29(2) to (7) and (10) and the greenhouse gas emissions savings thresholds set in Article 25(2) in Directive (EU) 2018/2001.

NOTE This means that for demonstrating conformance with NTA 8080, an independent assessment is still required for the sustainability criteria that are not covered in Directive (EU) 2018/2001.

5.2 Transaction certificate

It is stated that for every individual consignment a transaction certificate shall be provided with the details as described in this subclause, which include the sustainability characteristics of the consignment concerned. This transaction certificate shall be accompanied by the physical transfer of the consignment to which the transaction certificate relates.

In **c)** and **d)** reference is made to certificates that are equivalent for demonstrating conformance with NTA 8080. The information about the use of such certifications in the supply chain shall be provided in the transaction certificate, also if the organization that issued the transaction certificates is certified to NTA 8080.

NOTE 1 With providing this information, the transparency will be further increased, also in view of tracing the nature and origin of the raw materials if more than one certifications is being used in the supply chain.

In **e)** it is stated that the organization shall provide information about the amount of carbon equivalents [as g CO_{2eq}/MJ] (either applicable default values or actual values) for every individual consignment. As the unit of g CO_{2eq}/MJ only relates to the final product, the amount of carbon equivalents should read the greenhouse gas emission intensity. Information on greenhouse gas emissions can actually only be provided in the case actual values are used. In those cases, the organization shall provide information about each greenhouse gas emission factor as included in the formula to calculate the greenhouse

gas emissions (see NTA 8080-1:2015, Annex C). In order to ensure that the 'end user' can properly calculate the greenhouse gas emission savings, the organization shall further verify if the greenhouse gas emission intensity needs to be adjusted by taking into account that:

— additional emissions from transport and/or processing shall be added to e_p and or e_{td} respectively;

— energy losses occurred during processing or if relevant transportation or storage shall be taken into account using a 'feedstock factor';

— whenever a processing step yields co-products, emissions shall be allocated using an 'allocation factor' following NTA 8080-1:2015, C.2 or C.3;

— at the last processing step the emission estimate shall be converted into the unit g CO_{2eq}/MJ of final product.

In the case greenhouse gas emissions have occurred in the chain of custody that are not recorded, the organization shall clearly indicate this on the transaction certificate associated to this consignment to communicate to the subsequent ('downstream') organizations in the chain of custody that the calculation of actual values is no longer possible.

Additional provisions concerning transmission of information relevant for greenhouse gas emissions through the chain of custody is included in (new) Annex B.

In **g)** it is stated that the organization shall provide a product description. This description shall also include the production process(es), the produced products, and if applicable, that 'ILUC low risk' has been applied. In the case of residual flows, the organization shall also declare that the production process(es) has or have not been deliberately modified. The origin of the raw material relates to the country of origin.

NOTE 2 The description of the nature of the raw material, production process(es) and produced product(s) are also available in the publicly available summary of the audit report. This information is also needed in case default values are used for calculating the greenhouse gas emission savings.

The organization shall also provide the date when production in installation started.

NOTE 3 This date is of importance because the minimum greenhouse gas emission saving depends on the date when installations in which production started (see NTA 8080-1:2015, Table 1).

Within the framework of the "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen", the product description shall also include the biomass category used within this regulation.

NOTE 4 The "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen" distinguishes five categories, namely:

1) woody biomass from Forest Management Units (FMUs);
2) woody biomass from Forest Management Units (FMUs) smaller than 500 ha;
3) residues from nature and landscape management;
4) agricultural residues;
5) biogenic residues and waste flows.

Reference is made to this regulation for the definitions of these five categories, for which in some cases another definition applies than the one used in NTA 8080-1:2015.

In **h)** it is stated that the organization is required to state its physical biogenic content and the assigned share of biogenic content in its products on the transactions certificates. Possible determination

methods are given in the notes. Biogenic content refers to bio-based content, in which 'bio-based content' is defined as fraction of a product that is derived from biomass and that is normally expressed as a percentage of the total mass of the product [source: EN 16575:2014, 2.4]. When stating the biogenic content, the organization shall apply the definition for bio-based content and shall document according to which method the bio-based content has been determined.

In **k)** it is stated that the organization shall declare whether the production processes have been assessed for the purpose of, and comply with, Directive 2009/28/EC. This directive is superseded by Directive (EU) 2018/2001. In case the production processes have been assessed in the framework of Directive(EU) 2018/2001, it shall be stated which legal sustainability requirements have been assessed to clearly indicate the sourcing of primary biomass and primary residual flows or the sourcing of non-primary residual flows.

NOTE 5 The legal land-used based requirements for primary biomass and primary residual flows are laid down in Article 29(3), Article 29(4) and 29(5) of Directive(EU) 2018/2001. The legal requirements for providing accurate greenhouse gas emission data are laid down in Article 29(10) of Directive(EU) 2018/2001. The legal requirements related to the mass balance system are laid down in Article 30(1) and 30(2) of Directive(EU) 2018/2001.

In **k)** it is stated that the organization shall declare whether the production processes have been assessed for the purpose of, and comply with, Directive 2009/28/EC. This directive is superseded by Directive (EU) 2018/2001. In view of the “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen”, the organization shall make a similar declaration in the case the production processes have been assessed in accordance with and comply with this regulation including the biomass category [see also g)] and the explicit declaration that the definition of 'endangered plant and animal species' as laid down in this regulation has been applied in this assessment.

5.3 Records

In **5.3.1** a list of information is given that the organization is required to provide when requested. As stated in NTA 8080-1:2015, 5.4.5, the organization shall retain documented information for at least five years. This also applies to the documented information needed to meet the chain-of-custody requirements. Moreover, if an organization is also certified in accordance with another certification scheme, it shall also provide the documented information related to this certification including the audit report(s) when being assessed to the applicable requirements of NTA 8080-1:2015 and NTA 8080-2:2015.

NOTE 1 Other certification schemes can include voluntary schemes as recognized by the European Commission in the framework of Directive(EU) 2018/2001.

In 5.3.1 a list of information is given that the organization is required to provide when requested. If an organization is assessed in the framework of Directive (EU) 2018/2001, the organization will be required to enter all relevant information in the Union database.

NOTE 2 The Union database as described in Article 28 of Directive (EU) 2018/2001 is under development.

In **5.3.3** it is stated that any temporary shortages of biomass according to NTA 8080 or equivalent on the balance are not allowed. This approach is also referred to as having a balance on continuous basis.

5.4 Production location

In **5.4.1** and **5.4.2** reference is made to production location as defined in NTA 8080-1:2015, 3.24. If more than one legal entity operates on a production location then each legal entity shall operate its

own segregation or mass balance system.

6 Declarations

6.1 Declarations in the case of application in bioenergy

[No interpretation]

6.2 Declarations in the case of application in bio-based products

The organization is required to state its physical biogenic content and the assigned share of biogenic content in its products on the declarations. Possible determination methods are given in the notes. Biogenic content refers to bio-based content, in which 'bio-based content' is defined as fraction of a product that is derived from biomass and that is normally expressed as a percentage of the total mass of the product [source: EN 16575:2014, 2.4]. When stating the biogenic content, the organization shall apply the definition for bio-based content and shall document according to which method the bio-based content has been determined.

Annex A (informative) **Examples of mass balance systems**

[No interpretation]

Annex B (normative) **Transmission of information relevant for greenhouse gas emissions through the chain of custody**

All information that is relevant for establishing compliance with the sustainability criteria shall be transmitted through the chain of custody (see also 5.2 and interpretation of NTA 8080-1:2015, C.4.2). This includes information on greenhouse gas emissions. The following describes what kind of information shall be submitted and which units shall be used.

In order to establish whether the minimum greenhouse gas emissions savings have been achieved, greenhouse gas emissions from bioenergy production are compared to the relevant fossil fuel comparator. Greenhouse gas emissions are measured in this context in the unit gCO_{2eq}/MJ of bioenergy. Final bioenergy greenhouse gas emissions shall always be reported in this unit.

The situation is different for raw materials and intermediate products. In case actual values are calculated for raw materials and intermediate products, primary biomass producers (e.g. farmers) cannot report cultivation greenhouse gas emissions in the unit gCO_{2eq}/MJ of bioenergy, because this would require knowing how efficiently these are converted into final bioenergy. Instead, for raw materials and intermediate products, information on greenhouse gas emissions shall be provided in the unit gCO_{2eq}/dry-ton raw material or gCO_{2eq}/dry-ton intermediate product, respectively.

To receive information on emissions per dry-ton raw material, Formula (B.1) shall be applied:

$$e_{ec}\,\text{raw material}_a \left[\frac{g\ CO_{2eq}}{kg_{dry}}\right] = \frac{e_{ec}\,\text{raw material}_a \left[\frac{g\ CO_{2eq}}{kg_{moist}}\right]}{(1\text{-moisture content})} \qquad \text{(B.1)}$$

The moisture content should be the value measured after delivery, or, if this is not known, the maximum value allowed by the delivery contract.

Information on greenhouse gas emissions shall include accurate data on all relevant elements of the emission calculation formula. When default values are used, information on greenhouse gas emissions should be only reported for final bioenergy and can be reported as an aggregate value. When actual values are calculated, it is necessary to split the total amount of emissions into all elements of the greenhouse gas emission calculation formula that are relevant. This applies also to the elements of the formula, which are not included in the default values such as e_l, e_{sca}, e_{ccr}, and e_{ccs} ~~and e_{ee}~~.

NOTE 1 This measure is required to ensure transparency and robustness of the calculation of actual greenhouse gas emissions. If only aggregated values were used, it would not be sufficiently transparent which elements of the greenhouse gas emission calculation formula are comprised in the transmitted value. This would be in particular problematic at later stages of the chain of custody when it still could be decided to use disaggregated default values of individual elements of greenhouse gas emissions calculation formula.

In case actual values are not used, information on the amount of greenhouse gas emissions should not be transmitted through the chain of custody (before the last processing step), as it would be difficult to know at later stages of the chain of custody whether these emissions represent actual values or are derived from (disaggregated) default values. Furthermore, it would unnecessarily increase the administrative burden. Therefore, it is the responsibility of downstream organizations to include information concerning the (disaggregated) default greenhouse gas emission values for the final bioenergy when reporting to the Member States.

NOTE 2 In principle, only organizations operating within the framework of Directive (EU) 2018/2001 have this reporting requirement to the Member States.

Bibliography

Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources

Note on the conducting and verifying actual calculations of GHG emission savings – Version 2.0, European Commission DG Energy, reference: BK/abd/ener.c.1(2017)2122195

Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen

NCS 8080:2018-08, Better Biomass certification scheme

Directive 2009/28/EC is superseded by Directive (EU) 2018/2001. Everywhere where in NCS 8080:2018-08 reference is made to Directive 2009/28/EC this reference shall read Directive (EU) 2018/2001.

1 Scope

[No interpretation]

2 Normative references

[No interpretation]

3 Terms and definitions

[No interpretation]

4 General provisions

4.1 Ownership arrangement

[No interpretation]

4.2 Changes

It is stated that for organizations within the framework of Directive (EU) 2018/2001, it applies that existing and new certificate holders need to conform with the new edition of the certification scheme at the first regular audit (i.e. initial, surveillance or recertification audit), starting from the date that the recognition of this certification scheme by the European Commission is enforced. Irrespective the date of recognition for Directive (EU) 2018/2001, an organization shall comply with the sustainability and greenhouse gas emissions saving requirements as laid down in Directive (EU) 2018/2001 for audits carried out as of 1 July 2021.

4.3 Supervision

Member States can supervise the operation of the associated certification bodies for conformity assessment activities carried out in the framework of Directive (EU) 2018/2001.

Upon request of a Member State, or its own initiative, the European Commission can be required to investigate if this certification scheme operates in accordance with the rules in the framework of Directive (EU) 2018/2001 or to examine whether the sustainability and greenhouse gas emissions savings requirements as laid down in Directive (EU) 2018/2001 in relation to a particular consignment are met. The scheme manager, the associated certification bodies and Better Biomass certificate holders shall cooperate if such request is submitted.

5 Organization of the certifying body

5.1 General requirements

It is stated that the certification body shall be recognized on the basis of ISO/IEC 17065, as also included in the licence agreement for certification bodies that wish to enter into agreement with the scheme owner. ISO/IEC 17065 requires certification bodies to establish and maintain a management system that is capable of achieving the consistent fulfilment of the requirements of ISO/IEC 17065. As part of this management system, the certification body shall retain documented information associated with the conformity assessment activities according to the Better Biomass certification scheme for at least five years, or longer if required by the relevant national authority.

With requiring accreditation to ISO/IEC 17065 supplemented with the Better Biomass scheme documents, as part of the licence agreement for certification bodies that wish to enter into agreement with the scheme owner, the certification body is acquainted with the guidance on auditing as provided in ISO 19011 and the relevant Mandatory Documents published by the Internal Accreditation Forum.

5.2 Requirements for the audit team

It is stated that the audit team shall have expertise to assess greenhouse gas emission saving requirements by having relevant experience in agriculture, forestry, natural science, engineering (e.g. chemical, process), energy management or similar, and having specific experience of the greenhouse gas calculation methodology as laid down in NTA 8080-1:2015, Annex C. More specifically, the audit team shall have a minimum of two years' experience in biofuels life-cycle assessment, and specific experience in auditing greenhouse gas emission calculations following the methodology laid down in Directive 2009/28/EC and Directive (EU) 2018/2001.

It is stated that the audit team shall have expertise to assess the land use and environmental requirements, if applicable, by having experience in agriculture, forestry, ecology, environmental impact or similar, More specifically, experience in agronomy, natural science and silviculture or similar shall also be demonstrated.

In the case of group certification, the audit team shall also have experience in conducting group audits.

In the case the audit is conducted by a single person, this person shall conform to all requirements that apply to the audit team and the lead-auditor.

It is stated that the audit team may exist of experts, not being an auditor. Any expert shall operate under the direct control of the auditor.

An example is provided for sustainability aspects that require specific technical knowledge for which an expert can be added to the audit team. Another example concerns the verification of soil organic carbon levels for the purpose of applying the emission saving credit for soil carbon accumulation (e_{sca}), which also requires specific technical knowledge (e.g. soil science).

6 Method of inquiry

6.1 General

In 6.1, four types of scopes are distinguished. With respect to 'end-user', this also includes the organization that injects biomethane into the gas network.

NOTE See also interpretations of NTA 8080-1:2015, Figure 1 and NTA 8080-2:2015, Figure 1.

In 6.1, the information to be submitted by an organization that wish to become certified is listed. If the scope of certification (see item a)) includes 'producer', then the organization shall also indicate the relevant subscopes, i.e. 'biomass producer', 'smallholder', 'collector primary residual flows' and 'collector non-primary residual flows'. The organization shall also submit the following information:

g) whether it is a current or previous participant of another voluntary scheme;

h) whether it had a different legal form or name in the past twelve months.

As required per ISO/IEC 17065:2012, 7.3, the certification body shall conduct a review of the information obtained. As part of this review, the certification body shall cross-check the information by consulting the register of certificates of voluntary schemes concerned and the national register that contains the legal entities. If the scope of certification includes 'collector primary residual flows' and/or 'collector non-primary residual flows', the certification body shall determine whether the raw material is a residual flow at the point in the supply chain that the raw material originates, as specified in 6.4 and Annex B.

6.2 Assessment frequency

It is stated that surveillance audits shall be carried out at least annually. Within the framework of Directive (EU) 2018/2001, an organization that only collects residual flows in accordance with Annex B shall have a surveillance audit six months after the initial certification. In the case an organization not only collects residual flows in accordance with Annex B, but also sources primary biomass, an additional surveillance audit shall be carried out three months after the initial certification (covering the first mass balance period). Also during the period of validity of the certificate, the certification body may increase the number of surveillance audits, if the risk analysis as described in 6.4 and results of previous audits give reason for possible non-compliance with the sustainability criteria set out in Articles 29(2) to (7) and (10) and the greenhouse gas emissions savings thresholds set in Article 25(2) in Directive (EU) 2018/2001, as far as applicable with respect to the scope of certification.

In the interpretation to NTA 8080-1:2015, C.4.2, it is stated that the organization may use design data in the case actual data is not yet available because the organization is starting up its operations. If an organization uses design data during the initial certification, it shall provide the comparison between actual data and design data to the certification body six months after the date of issue of the certificate. The certification body shall verify the data and the impact on the greenhouse gas calculation to determine whether the organization still complies with Directive (EU) 2018/2001 concerning this aspect. During the next regular surveillance audit, the certification body shall verify the greenhouse gas calculation based on actual data.

6.3 Group certification

It stated the group is regarded as ‘producer’. This means that the same conditions as applicable to a single organization apply to the group with respect to method of inquiry including the assessment frequency (6.2) and the verification method (6.4),

6.4 Verification method

In **6.4** the verification method is described. One of the aspect is the determination of the scope of the certificate. In the case the scope of certificate includes ‘Producer’ being collector of primary residual flows and/or ‘Producer’ being collector of non-primary residual flows, the certification body shall determine that the production process(es) has (have) not been modified to produce more residual flows. The certification body shall include the following aspects in the assessment, as far as not yet covered with the risk analysis:

— checking whether the raw material is listed in NTA 8080-1:2015, Annex D taking into account the

scope of certification with respect to demonstrating compliance with legal sustainability requirements;

NOTE 1 NTA 8080-1:2015, Annex D includes separate sections for residual flows within the framework of Directive (EU) 2018/2001 and within the framework of "Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen".

— if raw material is not listed in one the tables of NTA 8080-1:2015, Annex D, and the assessment is not in the framework of Directive(EU) 2018/2001, verifying that raw material meets the criterion of maximum of 10 % of economic value of main product;

— checking the origin and nature of the raw material and the production process(es) at the disposer to determine whether it is likely that the raw material can be classified as residual flow (i.e. non deliberate modification in production process(es) to produce more of raw material concerned) by desk research or on-site visit at the disposer if needed;

— checking the relationship between disposer and collector (i.e. new or existing business relation), taking into accounting previous findings where applicable;

— visual inspection of the quality of the raw material at the production location of the collector to determine if this quality corresponds with the quality that can be expected from the raw material to be classified as residual flow;

— verifying the economic value and market prices;

— verifying whether the volumes are plausible, also by comparing with previous periods.

If it appears from this assessment that the raw material cannot be classified as residual flow, the organization shall be assessed for the scope of ‘Producer’ being biomass producer or ‘Producer’ being smallholder.

Table 1 describes the verification method for greenhouse gas emission savings. In the case the organization uses actual values to calculate its greenhouse gas emission performance, the organization shall make available to the certification body all relevant information in advance to the planned audit. This includes input data and any relevant evidence, information on the emission factors and standard values applied and their reference sources, greenhouse gas emission calculations and evidence relating to the application of greenhouse gas emission saving credits (e_{ccr}, e_{ccs}, e_{sca}).

As stated in NTA 8080-1:2015, C.4.2, the certification body shall verify the capability of the organization to conduct actual value calculations before the organization may make claims on greenhouse gas emissions based on actual values. The certification body shall verify the actual value calculations in subsequent audits.

The certification body shall document the emissions occurring at the production location subject to assessment in the audit report. In the case of processing of final biofuels, the audit report shall contain the emissions after allocation and the achieved savings. If the emissions deviate significantly from typical values, the audit report shall also include information that explains this deviation.

In the case of carbon capture and replacement, the certification body shall verify that the estimate of emissions saving from capture and replacement of CO_2 is limited to emissions avoided through the capture of CO_2 of which the carbon originates from biomass and which is used to replace fossil-derived CO_2. The organization shall provide the following information in this respect:

— the purpose for which the captured CO_2 is used;

— the origin of the CO_2 that is replaced including a description how the CO_2 that is replaced was previously generated and a written statement that due this replacement emissions of the reported quantity are avoided;

— the origin of the CO_2 that is captured;

— information on emissions due to capturing and processing of CO_2.

NOTE 3 Good examples for a replacement which can be expected to avoid CO_2 emissions are cases where the CO_2 that is replaced was previously produced in a dedicated process aiming at the production of CO_2.

Table 2 describes the verification method for mass balance system. The certification body may request the organization to make all mass balance data available at the request of the planned audit. The certification body shall assess the mass balance system as part of the conformity assessment activities. As listed in Table 5, an inadequate mass balance system is considered a major non-conformity that needs to be corrected by the organization before a certificate can be granted in the cases of an initial certification audit or recertification audit. When assessing the mass balance system, the certification body shall at least check the following:

a) list of all production locations that are under the scope of certification, for which each production location shall have its own mass balance records (see also NTA 8080-2:2015, 5.3.1);

b) list of all consignments received (inputs) per production location, including description of materials and details of the supplier for each consignment (see also NTA 8080-2:2015, 5.3.1);

c) list of all consignments sent (outputs) per production location, including description of materials and details of the buyer for each consignment (see also NTA 8080-2:2015, 5.3.1);.

d) the availability of records about both the inputs and the outputs of sustainable and non-sustainable material (including where relevant fossil fuels) handled by the production location(s) (see also NTA 8080-2:2015, 5.3.1);

e) conversion factors applied, especially in the case of processing residual flows to ensure that the process is not being modified to produce more residual flows (see also interpretation in the first paragraph of this subclause and NTA 8080-2:2015, 5.3.3);

f) a sample of the calculations (i.e. inputs, outputs, conversion factors, and any balances carried forward), for which all data are checked against the bookkeeping system (see also NTA 8080-2:2015, 5.3.1);

g) whether the timeframe of the masse balance is transparent, documented and consistent, and corresponds with the appropriate period of time (see also NTA 8080-2:2015, 5.3.3);

h) whether inputs and outputs are accompanied, where relevant, by an appropriately allocated set of sustainability characteristics in which the outputs may not exceeds the inputs (see also NTA 8080-2:2015, 5.3.3).

6.5 Audit duration table

[No interpretation]

6.6 Sample size in case of more production locations or group certification

6.6.1 Organization of sampling

[No interpretation]

6.6.2 Sample size in case of more production locations

[No interpretation]

6.6.3 Sample size in case of group certification

It is stated that the sample size of an initial certification audit, surveillance audit and recertification audit shall be at least √y, in which y is the number of associated group members in the group (or the regional organization). Referring to 6.6.1, the sample shall be based on a risk analysis and shall include both 'high-risk' group members and randomly selected group members. The randomly selected group members shall be at least 25 % of the sample. The sample shall be representative of the whole group. The selected group members should vary at every audit.

6.7 Stakeholders consultation by certification body

[No interpretation]

7 Assessment

7.1 Assessment criteria

[No interpretation]

7.2 Certification criteria

[No interpretation]

7.3 Certification decision

[No interpretation]

8 Reporting by the certification body

8.1 General

[No interpretation]

8.2 Requirements for the certificate

8.2.1 Certificate record

In **8.2.1 c)** the details of the certified subject are provided that shall be included to the certificate. As part of the regulatory framework, the certificate shall also include the following matters:

— declaration that production process(es) has (have) not been modified to produce more residual flows, in the case the scope of certificate includes 'Producer' being collector of primary residual flows and/or 'Producer' being collector of non-primary residual flows;

— whether the production process(es) has (have) been assessed within the scope of "Regeling

conformiteitsbeoordeling vaste biomassa voor energietoepassingen".

8.2.2 Audit report

It is stated that the audit reports remain in the possession of the certification body and will never be disclosed to third parties. Within the framework of Directive (EU) 2018/2001, the certification body is legally obliged to provide the audit reports to the scheme owner as part of the internal monitoring (see Clause 11) and, upon request, to a Member State, or its own initiative, the European Commission (see 4.3).

In **6.6.2** criteria are provided under which conditions an organization may certify more than one production location under a single certificate. One of the criteria is that the production locations operate within the same legal entity to which the same national laws and regulations apply. An organization can make use of facilities of another legal entity (e.g. storage facilities) while maintaining legal ownership of the biomass flow. These facilities are then part of the conformity assessment of the organization that intends to become or remain certified. For transparency, the externally used facilities shall be included in the summary audit report under the list of production locations, clearly describing that it concerns use of external facilities without stating the name of the legal entity that provides the facilities.

NOTE Reason for not stating the name of the legal entity that provides the facilities is to avoid possible confusion that legal entity as such is certified.

8.3 Complaints, objection and appeal

[No interpretation]

9 Reporting by the scheme manager

9.1 General

[No interpretation]

9.2 Requirements for scheme manager

In **9.2**, the items to be included in the annual report to the European Commission are listed. This annual report shall also contain a summary of the complaints related to Better Biomass, if any, based on information provided by the certification bodies and the complaints register of NEN (see Clause 11).

In addition to the annual reporting requirement, the scheme manager shall provide information about the sustainability criteria set out in Articles 29(2) to (7) and (10) and the greenhouse gas emissions savings thresholds set in Article 25(2) in Directive (EU) 2018/2001 upon request by the European Commission or a competent authority of an EU Member State. The scheme manager may consult the certificate holders to obtain the required information.

9.3 Requirements for certificate holders

In addition to the annual reporting requirement, the organization shall provide access to the actual greenhouse gas calculation, if applied, upon request by the European Commission. Referring to 9.2, the organization shall also provide information about the sustainability criteria set out in Articles 29(2) to (7) and (10) and the greenhouse gas emissions savings thresholds set in Article 25(2) in Directive

(EU) 2018/2001 in the case the scheme manager receives a request from the European Commission or a competent authority of an EU Member State for which information from certificate holders is required.

10 Use of logo

10.1 Conditions for use of logo

In **10.1**, the conditions for use of logo by certificate holders are described. In practice, also organizations other than certificate holders show interest in calling 'Better Biomass' to the attention in a visual way. To meet this interest, a specific 'Better Biomass' logo is designed to make a distinction from the logo that may be used by certificate holders. An organization can request for this logo at the scheme manager including a justification of intended use. The scheme manager will assess whether the intended use fits with the framework of the 'Better Biomass' certification scheme. The (visual) presentation of this additional 'Better Biomass' logo shall be in accordance with the requirements of (new) F.6.

10.2 Assessment correct use of logo by certification body

[No interpretation]

10.3 Monitoring improper use of logo by scheme owner

[No interpretation]

11 Internal monitoring

It is stated that NEN, as scheme owner, may request certification bodies that have entered into agreement with NEN to provide additional information for cross-checking. Within the framework of Directive (EU) 2018/2001, the certification body shall made available the audit reports and actual greenhouse gas emissions calculations including related background evidence on the application of greenhouse gas emission saving credits (e_{ccr}, e_{ccs}, e_{sca}), where applicable, to the scheme owner (see also interpretation to 6.4).

Referring to 5.1, certification bodies that enter into agreement with NEN are required to be accredited to ISO/IEC 17065 supplemented with the Better Biomass scheme documents. By requiring this level of accreditation, the accreditation body, being an IAF member, supervises the certification body in which the surveillance activities include an annual witness visit of a Better Biomass audit carried out by the certification body to check if the certification body conduct the conformity assessment activities in accordance with the Better Biomass scheme documents including whether the audit team meets the competency requirements. Within the framework of Directive (EU) 2018/2001, the scheme owner shall undertake the following monitoring activities in addition to the activities that are normally delegated to the accreditation body:

a) check a representative sample of audit reports provided by the certification body, in which attention is paid to the risk analysis, verification method, evidence, audit duration including justification for deviation and sampling, if applicable as well as the non-conformities;

b) witness at least annually an audit carried out by the certification body, for which a representative organization is selected considering the geographical location, the nature of raw materials, the production processes as well as the level of risk following the approach described in 6.4;

c) check whether auditors and audit teams meet the competency requirements of 5.2 within the scope of certification based on curricula vitae, training certificates (conditional on passing a mandatory

examination) and other evidence that supports demonstrating the required competences.

The monitoring activities shall take into account the scope of certification, the geographical location, the nature of raw materials, the production processes and the type of values used to calculate the greenhouse gas emissions savings.

The scheme owner shall use the results from the monitoring activities including information received from Better Biomass members or third parties (e.g. queries, complaints) as part of the continual improvement process in accordance with the NEN management system, and identify needs for interpretations, guidance documents or other supporting materials for certification bodies and/or organizations that wish to be or are already a Better Biomass certificate holder.

It is stated the scheme owner shall organize at least annually an auditors meeting. At this auditors meeting also the possible training needs shall be discussed in addition to the required training for auditors of certification bodies that enter into agreement with the scheme owner as stated in the licence agreement.

As part of the internal monitoring, the scheme owner shall advise the certification bodies that have entered into agreement with NEN about developments that will or can have an impact on the conformity assessment activities.

NOTE 1 Developments can relate to updates of the NEN Scheme management manual, exemption rules in case of extraordinary event or circumstance, updates to the regulatory framework (e.g. letters from the European Commission to voluntary scheme owners) or relevant findings from the internal monitoring process).

Concerning internal monitoring, reference is made to NEN Scheme management manual. This manual also describes the process for complaint handling supplementing the general complaint handling process of NEN. This complaint handling process includes the following steps:

— analysing complaint to check whether it qualifies as complaint or as customer inquiry;

— in case of qualification as complaint, sending a confirmation message to the submitter of the complaint;

— filing the complaint in the central database of complaints, in which the submitter of complaint will receive a notification;

— processing and resolving the complaint by the responsible NEN employee(s), in which it shall be ensured that this employee can act impartially and without conflict of interest;

NOTE 2 This means that the complaint is processed and resolved by a NEN employee who is no subject to the complaint. In the case complaint relates to Better Biomass scheme management, then the complaint will be processed and resolved by a NEN employee within NEN Scheme Management who has no involvement in Better Biomass scheme management, but is acquainted with scheme management activities.

NOTE 3 The NEN Scheme management manual describes the complaint handling procedure for complaints related to NEN Scheme management activities including Better Biomass certification. This procedure contains provisions to determine whether the complaint is admissible within the scope of activities, to ensure that the person(s) who are subject to the complaint is (are) not involved the complaint handling process, as well as provision about obtaining more information and terms to be applied for complaint resolution and informing the relevant parties.

— closing the complaint by providing feedback to the submitter of complaint as well as internally, and where relevant, submitting a proposal for improving internal processes to avoid similar complaints in future;

NOTE 4 The internal feedback is provided to the complaints coordinator and includes the description of the

complaint, the root cause and the resolution provided.

All complaints will be discussed and analysed by the management team on a quarterly and annual basis.

The submitter of the complaint has the possibility to appeal against the resolution of complaint.

NOTE 5 The NEN Scheme management manual describes the appeal handling procedure for appeals related to NEN Scheme management activities including Better Biomass certification.

NOTE 6 The NEN management system is ISO 9001:2015 certified with respect to the quality management elements of the management system that includes the procedures about complaint and appeal handling.

Annex A (normative) **Group certification**

[No interpretation]

Annex B (normative) **Residual flows**

In **B.1**, it is stated that the certification body shall include the evaluation of disposers in the assessment of the producer by means of sampling. This means that the organization that collects the residual flows shall have a list of all disposers which contains the nature and origin of the residual flows, the volumes and statement by disposer that the residual flow conforms to criteria to be classified as such in accordance with NTA 8080-1:2015. The certification body shall verify this information by taking a sample of at least $\sqrt{y}$, in which y is the number of disposers that supply the residual flows. This verification may be undertaken remotely. In case of high risk classification by the certification body, the information shall be verified by an on-site audit.

NOTE The assessment frequency depending on the risk categorization is described in 6.2.

In **B.2**, it is stated that certification shall always start at the first point of collection of residual flows if the biomass flow represents an energy value of more than 378 GJ per month on average. Referring to the first note, this requirement is derived from Directive(EU) 2018/2001. This requirement is therefore only applicable to biomass flows within the framework of Directive (EU) 2018/2001.

In **B.2**, it is stated that certification of residuals flows applied within the framework of “Regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen” shall also start at the first point of collection. In other words, certification can only start at other than first point of collection of residual flows if the biomass flow is not used to demonstrate compliance with legal sustainability requirements.

Annex C (normative) **NTA RED**

[No interpretation]

Annex D (informative) **Guidelines for executing a stakeholder consultation**

[No interpretation]

Annex E (normative) **Description of production processes**

[No interpretation]

Annex F (normative) **'Better Biomass' logo – visual representation**

F.6 'Better Biomass'-logo for non-certificate holders

The 'Better Biomass'-logo that an organization other than a certificate holder may conditionally use is presented in Figure F.3.

Figure F.3 — 'Better Biomass'-logo for non-certificate holders

The green colour in the 'Better Biomass' logo is specified in Table F.1 with the usual standards. The text in the 'Better Biomass' logo shall be displayed using the font Effra Bold.