Extension of requirements to produce

Fuels from

Wastes and residues

Note on the status of this document:
This reference document is an integral part of the 2BS voluntary scheme developed by the 2BS Association.

This update aims to comply with the current European Union Directive 2018/2001(RED II).

Table of Contents

Traceability of changes in this procedure[1]

Date	Section	Paragraph	Deleted text	Added text	Change of version

[1] *After its initial validation by the EC*

1. Introduction

The 2BS sustainability Principles applicable to biofuels, bioliquids and biomass fuels consumed in the Union, made from wastes and residues, are the same as those used for biofuels produced from other biomass. These are detailed in the audit standards "2BS STD 01[2]" and "2BS STD 02[3]".

This procedure applies to fuels produced from waste and residues. It supplements the general system principles and describes them in more detail, so feedstock can be traced back to its origin, covering the whole chain of custody[4].

In addition, the audit checks required to verify the economic operator's claims concerning the type of waste or residue and those necessary to ensure that material has not been deliberately modified and falsely claimed as waste or residue are described. These checks are elaborated further in the procedure "Requirements for the Certification Process", 2BS-PRO-02.

In summary:

1. Supply chains from waste and residues shall apply the requirements of the Implementing regulation (EU) 2022/996 set out in Article 13
    - in § 2 to 7 for biofuels and bioliquids
    - in § 2 to 5 for biomass fuels

2. The whole supply chain of custody needs to be covered, starting from its origin, i.e., the economic operator where the wastes or residue material arises

3. All economic operators (first gathering points, processing units and traders) need to be audited individually. However, group auditing approaches may be carried out at the origin of the supply chain, for example, restaurants and waste or residue producers.

4. The modality (offsite or on-site), the frequency and the intensity of the auditing procedure shall reflect the overall level of risk.
    a. For **biofuels and bioliquids**, points of origin supplying **five or more tones per month** of waste or residue listed in parts A and B of Annex IX (RED II) shall be subject to an on-site audit. The on-site audit may be based on a sample where a group auditing approach is taken.

    b. For **biomass fuels**, there is no mandatory requirement to audit on-site the points of origin. In addition,
        - the mandatory surveillance audits within 3 and 6 months after the first certification are not applicable ;
        - the annual on-site audit of intermediary collecting sites and respective mass balances is required.

[2] [2BS-STD-01] : 2BSvs audit standard => Requirements related to the verification of the feedstock applicable to the first gathering point – first interface
[3] [2BS-STD-02] : 2BSvs audit standard => Requirements related to the production of biofuels, bioliquids and biomass fuels and traders (biomass, biofuels, bioliquids and biomass fuels)– intermediary and last interfaces
[4] [BK/gs/ener.c.1(2014)3648524, 10 Oct 2014]: note to the voluntary schemes from the EC

5. First gathering points, shall be required to submit a list of all points of origin that have signed a self-declaration to the auditor prior to the audit of the collection point. The amount of waste generated monthly or annually shall be clearly stated on the self-declaration issued and signed by the point of origin. Evidence or documents for all individual deliveries shall be available at the first gathering point and verified by the auditor, including waste disposal agreement, delivery slips and self-declarations.

The following additional requirements apply for the verification of the supply chain of **biofuels and bioliquids** made from wastes and residues:

6. The auditor shall verify the existence of a number of points of origin equivalent to at least the square root of all the points of origin on the list. The verification may be performed remotely unless there is doubt concerning the existence of the point of origin or where it meets the criteria for on-site audit pursuant to point (4). Auditors shall check deliveries of sustainable material to downstream recipients by verifying the copies of the sustainability declaration issued by the collecting point to recipients of those deliveries, based on 25% random and 75% risk-based samples.

7. The certification body shall carry out a **mandatory surveillance audit within six months after the first certification.** For collection points and traders that deal with both waste and residues and with virgin materials such as vegetable oils, an additional surveillance audit shall be conducted **three months after the first certification audit**, covering the first mass balance period. Where a collection point has multiple storage sites, the auditor shall audit the mass balance of every storage site.

If there are reasonable doubts about the nature of the declared waste and residues, the auditor is authorised to take samples and to have them analysed by an independent laboratory.

European Union Directive 2018/2001, (RED II) includes definitions of « waste », « residue », and "agricultural, aquaculture, fisheries and forestry residues". A material conforming to these definitions can be considered to be a waste/residue, providing that the material has not been deliberately changed or modified to be classed as waste or residue.

Sustainability characteristics:

- shall be taken into consideration for residues directly generated by the following activities
  - *Agricultural,*
  - *Aquaculture,*
  - *Fisheries, and*
  - *Forestry residues*

- shall not be taken into consideration for residues from
  - related industries or processing.

For the purposes of GHG savings, wastes, and residues,

- have zero GHG emissions at their point of origin
- all transport phases shall be taken into account since the original place in which the wastes and residues arise unless transport default value be used all along the supply chain

Feedstocks from Annex IX (RED II) are considered a higher risk for auditing as they may have an enhanced value on the market compared with other feedstocks.

For materials not listed in Annex IV of the Implementing regulation (EU) 2022/996, and in the case that the material is sourced in the EU, then relevant national legislation in the country of origin applies. Relevant national legislation can also be applied if the material is sourced in a third country whose legislation is aligned with the EU.

In all other cases, the classification of the raw material consignments shall be determined using procedures established by the voluntary scheme, including decision trees (see annex 10.4).

The expression 'wastes and residues,' encompasses both (unless otherwise stated, following the definitions of 'waste' and 'residue'):

- renewable and
- non-renewable material

The status of “waste” or “residue” shall be

- clearly identified in the self-declaration by the point of origin
- verified by the buyer
- controlled by the third-party auditor

The requirement of an on-site audit of the point of origin producing wastes or residues for the biofuel and bioliquids supply chain is defined in procedure 2BS-PRO-02, section 5.2.5.

Further details on

- GHG emissions can be found in 2BS-PRO-03
- Biogas and biomethane can be found in 2BS-PRO-05
- Coprocessing can be found in 2BS-PRO-06
- Audit procedures (certification process) can be found in 2BS-PRO-02

2. Scope

The following section explains the requirements, criteria, and documentation for verifying the chain of custody of the wastes and residue value chains. The requirements cover wastes and residues of both renewable and non-renewable origin.

These system requirements apply to all economic operators in the wastes and residue supply chain.

The RED II, Annex IX Part A & B provides two lists of materials covering a broad range of feedstocks, to produce:

- Biogas for transport and advanced biofuels (Part A)
- Biofuels and biogas for transport (Part B)

In addition, Annex IV of the Commission Implementing Regulation (EU) 2022/996 for Voluntary Schemes contains a non-exhaustive list of feedstocks which fall under a sub-category of raw material set out in Annex IX of the RED II without being explicitly mentioned.

It is the responsibility of the 2BS auditor to determine to which category and sub-category the feedstock belongs.

The auditor is also responsible for verifying that waste is in compliance with Article 3 of Directive 2008/98/EC and has not been intentionally modified or contaminated to meet this definition.

Economic operators **shall** provide evidence that the feedstocks comply with these requirements. Such evidence **shall** include process details from the supplier showing that an industrial residue feedstock is not the main product of the process and that it arises from a stable period of production.

The following definitions are necessary concerning the certification units/interfaces:

1. The '**point of origin'** of wastes and residues: this is the physical site(s) (private household, farming/ forestry activity, restaurants, distilleries, refinery, industrial site) where the wastes, residues, or liquid or solid waste streams of renewable origin arise.

~~2.~~ The **'collecting site(s)**' is/are intermediary storage and collecting area(s) such as private or public recycling facilities where wastes and residues are delivered, sometimes brought voluntarily by private households, aggregated and transferred into a First Gathering Point, without the purpose of trading. The intermediary collecting site(s) is/are under the direct control of the First Gathering Point when dealing with the collection of agricultural wastes and residues.

3. The '**First Gathering Point'** of the wastes and residues is controlled by an economic operator who stores and later dispatches the wastes and residues generated directly by the points of origin or from the 'collecting site' (s) for further processing into fuels, heat and/or cooling and power.

The Central Office of the First Gathering Point is the site/interface that collects and centralises all relevant information needed regarding the origin of the potentially sustainable biomass, the mass balance system for each individual material, and all relevant GHG emission data, typically the GHG transport emissions.

First Gathering Points must therefore have access to documentary evidence of the origin of all their feedstock from the 'point of origin'.

The first gathering point, as the group manager, **must** select and specify the intermediary collecting sites and the points of origin of waste and residues generators that are covered by the scope of the certificate.
The flowchart on annex 10.1 shows how the "points of origin" and "intermediary collecting sites" supply the "first gathering point".

4. The '**processing unit**' is the facility where the wastes or residues are converted partially or entirely into biofuels, bioliquids, biogas transport fuel, heating or cooling and power.

5. '**Trader(s)**' are economic operators that take legal ownership of the material in the buying and selling activity of wastes and residues.

6. **'The last part of the chain of custody (or last interface)'** is the site where the biofuel, biogas transport fuel, heating or cooling and power are produced or sold under the technical specifications required by the market of the Member State [MS].

Economic operators that initially receive wastes or residues from the suppliers (e.g., restaurants, intermediary collecting sites, or traders are called 'First Gathering Points'. These economic operators sometimes combine different interfaces in the supply chain, such as collection, treatment, and processing operations. For instance, biogas plants typically have both interfaces on the same site.

Economic operators which exclusively conduct mechanical processing (**sedimentation, filtration**) of wastes or residues are considered as 'first gathering points', not as 'processing units'. This is the case as long as no chemical transformation takes place.

Economic operators that process biomass made from wastes or residues to the technical standard needed for use as fuel or as bioliquids to produce electricity are called **'(last) interfaces'**. These can be biodiesel, biogas transport fuel facilities, injection biomethane, bioethanol or treatment facilities.
'First Gathering Points', interfaces and suppliers that are active before the '(last) interfaces' above and are registered in the 2BS voluntary scheme need to be audited and certified according to the procedure [2BS-PRO-02][5] and the audit standard [2BS-STD-01][6].

[5] *[2BS–PRO-02]: 2BSvs procedure => "Requirements for the Certification Process"*
[6] *[2BS-STD-01]: 2BSvs audit standard => Requirements related to the verification of the feedstock applicable to the first gathering point – first interface*

3. Verification of waste and residue feedstocks

The operations included in the scope of the audit **must** explicitly name and describe the raw material used, verifying whether these substances are genuine wastes or residues tracing the feedstock back to its origin, covering the whole chain of custody.

The waste **must** be in compliance with Article 3 of Directive 2008/98/EC and **must** not have been intentionally modified or contaminated in order to meet this definition.

Evidence shall be provided that the feedstocks comply with these requirements.

Only materials that qualify with the waste hierarchy as set out in Article 4 of Directive 2008/98/EC **shall** be used. In addition, any intentional modification of the industrial process or product itself, done with the aim of producing more "wastes" and "residues", cannot be considered as producing sustainable "wastes" and "residues" according to European Union Directive 2018/2001 (RED II).

Evidence shall be provided that the feedstocks comply with these requirements.

The words' waste' or 'residue' **must** not appear on the certificate since the list of wastes and residues benefiting from specific incentives is decided by each Member State [MS].
The certificate **must** indicate the exact nature[7] of the material to prevent incorrect claims concerning the type of feedstock used.

4. Land use and soil quality-related sustainability criteria

Fuels, heat and/or cooling and power produced from wastes and residues **arising from agricultural, aquaculture, fisheries and forestry operations must** demonstrate compliance with the audit standard 2BS-STD-01:

- Principle 3: High Biodiversity Land,
- Principle 4: Monitoring of Impacts on soil quality and carbon content
- Principle 5: High Carbon Stock Land, and
- Principle 6: Peatland

This requirement does not apply to residues from related industries or processing such as food, fish, or timber processing. For wastes or residues that do not come from agriculture, forestry, fisheries, or aquaculture, the land-related criteria are not applicable (European Union Directive 2018/2001, (RED II)).

[7] *Name, code related to the name of the waste and residue material, and when applicable relevant category for animal oils and fats; the use of the nomenclature proposed in Annex IX of the RED II and Annex IV of the Implementing regulation (EU) 2022/996 is strongly suggested.*

Certification bodies are required to verify that the harvesting of agricultural waste and residues does not have a negative impact on the soil quality and the soil carbon stock. Auditors shall cross-check the self-declaration of the farmer with the soil management program and the practices deployed in order to establish conformity with principle 4 of the standard 2BS-STD-01.

Reliance on the CAP/GAEC or national law is not sufficient for demonstrating compliance with Principle 4.

Where there is a national law, the auditor shall verify that the economic operator:

i. Has a documented management plan required by the national law. A *m*echanism to monitor and enforce the implementation of the soil management plan of the farmers under the control of the FGP is verified by the *national/regional authorities*.

ii. The deployment of the national plan generates pieces of evidence (reports, soil pH, macro and micronutrients, heavy metals or other contaminants, or soil organic matter, etc.), enabling the *review and subsequent validation plan by the national/regional authorities.*

iii. The verification of national level compliance may be delegated to a certification body, provided they have the technical capacity to perform this role.

Where the is no national law, the auditor shall verify that the economic operator:

iv. Has a documented management plan. This plan shall be based on topographical, regional, and landscape characteristics addressing a timed program dedicated to ensuring the sustainable fertility and performance of soil as a natural resource. A *m*echanism to monitor and enforce the implementation of the soil management plan of the farmers under the control of the FGP is verified by *a competent individual, a professional agronomy advisor/ consultant, or a research institution's advice*.

v. The management plan shall address the prevention of potential negative impacts of the harvesting of agricultural waste and residues on:
    1. The quality of the soil
    2. The soil contamination, and
    3. The soil erosion

vi. The deployment of the above plan shall generate pieces of evidence (soil pH, macro and micronutrients, heavy metals or other contaminants, or soil organic matter, etc.), enabling the *review and subsequent validation by a competent individual, a professional agronomy advisor/ consultant, or a research institution's advice.*

Where group auditing is applied auditing against standard 2BS-STD-01, it is the responsibility of the collection point /first gathering point to develop a management plan[8] including a consistent set of soil management practices[9] in accordance with Annex VI of Implementing Regulation (EU) 2022/996 to ensure that all farms supplying agricultural wastes and residues meet the specified requirement.

The pedoclimatic conditions of the harvesting zone shall determine the extent and the variety of the monitoring practices, the methods of verification, and the soil management practice to be adopted and audited. Refer to sections 10.6 and 10.7 of this procedure.

Samples of the audit reports of FGP involved with harvesting agricultural wastes and residues are covered over the risk sampling of the monitoring of the 2BS integrity program.

5. Traceability and documentation requirements

Operators that supply wastes or residues to first gathering points, treatment, or processing operators **must** declare to the recipient that the supplied waste or residue consists only of biomass as defined by the RED II.

For wastes and residues, the traceability of the biomass or non-renewable wastes **must** be ensured by means of a mass balance system.

All site mass balance systems shall comply with Article 30 (1) and Article 30 (2) of the RED II and Commission Implementing regulation (EU) 2022/996 and ensure that the sustainability characteristics, the support that has been provided for the production and the origin of raw materials can be demonstrated for each consignment.

Mixing under the mass balance system is only possible if raw materials and fuels belong to the same product group. Separate mass balances shall be kept for different product groups.

The general requirements of a mass balance system are described in detail in:

- the certification process procedure 2BS-PRO-02, Annex 13,
- 2BS standards, [2BS-STD-01][10] and [2BS-STD-02][11].

The 2BS system stipulates that all economic actors need to have a document and information management system, which can be audited; the economic operators need to declare to auditors the names of all voluntary schemes they participate in and make available all relevant information – e.g., full mass balance records for all voluntary scheme certified material for all site(s).

[8] See examples of monitoring practices for soil quality and carbon mitigation impacts in section 10.6 of this procedure
[9] See examples of essential soil management practices to promote soil carbon sequestration (given the absence of residues) and promote soil quality in section 10.7 of this procedure
[10] [2BS-STD-01]: 2BSvs audit standard => Requirements related to the verification of the feedstock applicable to the first gathering point – first interface
[11] [2BS-STD-02]: 2BSvs audit standard => Requirements related to the production of biofuels, bioliquids and biomass fuels and traders (biomass, biofuels, bioliquids, and biomass fuels)– intermediary and last interfaces

Proper documentation is required to comply with the legal provisions for sustainable bioliquids, biofuels, biogas transport fuel and heating or cooling and power.
All documents in the document management system **must** be identified and accessible for at least five years or longer where it is required by the relevant national authority.

Economic operators who exclusively conduct mechanical processing **shall** document the incoming amounts compared to the outgoing amounts (input/output ratio). This **must** be checked and verified by the auditor during the audit.

To this end, the information is included on the delivery notes between the point of origin and the first gathering point. These delivery notes can be part of the control system implemented by customs or regulatory controllers at the Member States [MS]' level.

In the absence of such regulatory controls between the 'point of origin' and the 'first gathering point', the latter **shall** register the points of origin of the wastes or residues in a declaration document signed for every delivery of wastes and residues.

The declaration document **must** include the following details for all collected wastes or residues:

- name, code related to the name of the waste and residue material,
- when applicable relevant category for animal oils and fats (C1, C2, or C3),
- quantity, and
- date of removal and address of the point of origin

If a single declaration document is used for all deliveries related to an agreement or a contract, the contract number or agreement number **must** be indicated on the declaration document.

It is also possible to include the text of the declaration in the contract between the first gathering point and the waste producer.

The self-declaration record as such or as part of the contract is valid for a maximum of one year starting from the date of issue.

Names and addresses of all points of origin **must** be included as the distances need to be verified when the GHG transport emissions are considered.

6. Requirements for (GHG) emissions savings and the calculation method

In the case that the economic operator calculates the actual GHG value for the produced biofuel, bioliquid and biomass fuel and heat or cooling, and electricity, the procedure [2BS-PRO-03][12] provides a GHG emissions calculation methodology for the economic operators using the 2BS voluntary scheme.

[12] *[2BS-PRO-03]: 2BSvs procedure concerning the GHG emissions savings of biofuels, bioliquids and biomass fuels*

Alternatively, the economic operator may use default or disaggregated default values given by European Union Directive 2018/2001 (RED II).

GHG emission data **shall** only be included on commercial transaction documentation (change of legal ownership) if actual values have been calculated. In the case that default values are used, it is only necessary to transmit that the default value is used, in order to simplify the administrative burden and avoid mistakes. Therefore, it is the responsibility of downstream economic operators to include information concerning the (disaggregated) default GHG emission values for the final fuels, heat and/or cooling and power when reporting to the Member States.

The following points specific to the GHG emissions methodology for wastes and residues are essential.

1. 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 life-cycle 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.

2. Transport GHG emissions from:

    a. the point of origin and the First Gathering point must be accounted for when the latter is not a landfill, an incinerator where the material is destroyed without any other recovery
    b. the certified first gathering point up to the processing plants must be accounted for; whenever the processing and the collection interface are at the same site, etd emissions shall not be accounted.

3. Clarification between "point of origin", "first gathering point", and "processing interface" concerning the boundaries of the certification units:

    a. Waste resulting from a deconditioning process or hygienization carried out on the processing site (for instance, a methanization unit) is assigned zero GHG emissions (etd) because the point of origin is the collection point.
    b. Wastewater treatment plants (point of origin) can be certified as first gathering points.
    c. Rendering plants are collection points of C1 & C2 animal fats.
    d. The agricultural field is the point of origin of agricultural residues
    e. Industrial units (agri-food, biofuel production, etc.) are points of origin for industrial residues

4. Sedimentation and filtration of liquid wastes and residues such as used cooking oil are not GHG emissions-generating processes.

5. Animal by-products categories 1 and 2 are treated differently from those of category 3 for GHG emissions calculations. Default values listed in European Union Directive 2018/2001, (RED II) apply only to categories 1 and 2. Category 3 requires an actual calculation.

   The GHG emissions savings threshold to be attained is described in 2BS-PRO-03. The required threshold depends on the operational starting date of the units producing: biofuel, biogas transport fuel and electricity and heating and cooling.

6. An installation **shall** be considered to be in operation once the physical production of fuel, heat or cooling, or electricity has started (i.e., once the production of fuels, including biofuels, biogas or bioliquids, or production of heat, cooling or electricity from biomass fuels has started).

7. Electricity, heating and cooling produced from municipal solid waste shall not be subject to the greenhouse gas emissions saving criteria.

7. Mass balance / Credit account for sustainable wastes & residues

The applicable rules for calculating the Mass balance / Credit account and credit period are set out in the procedure 2BS-PRO-02 section 13.1.4 and the audit standards [2BS-STD 01][13] & [2BS-STD 02][14].

The maximum mass balance period for all economic operators is three months, except for agricultural or forestry economic operators, for whom the mass balance period can be up to one year (12 months), but for any period longer than three months, those economic operators **shall** not go into deficit[15].

Surveillance audits of First Gathering Points and traders following the first certification/ initial audit are also undertaken on-site.

8. Specific documentation requirements

The requirements for traceability and documentation described above apply to all economic actors dealing with wastes and residues and their derivatives: wastes or residues producers and traders, first gathering points, processing units (last interfaces) and traders.

The requirements described in the audit standards [2BS-STD 01][11] and [2BS-STD 02][12] apply.

This procedure may be supplemented with user guidelines, placed in annexes whenever further interpretation is needed and based on experience.

The information to be transmitted through the supply chain shall be included in the documentation accompanying the physical shipments of raw materials or fuels. For economic operators who are under the legal obligation to fill in transactions in the Union Database, it shall also be included in the Union database.

[13] *[2BS-STD-01]: 2BSvs audit standard => Requirements related to the verification of the feedstock applicable to the first gathering point – first interface*
[14] *[2BS-STD-02] : 2BSvs audit standard => Requirements related to the production of biofuels, bioliquids and biomass fuels and traders (biomass, biofuels, bioliquids and biomass fuels)– intermediary and last interfaces*
[15] *'deficit', i.e., that at any point in time more sustainable material has been withdrawn than has been added.*

The details of information transmitted through the supply chain via sustainability declarations are described in the procedure related to the production of fuels from biomass, 2BS-PRO-05 and the audit standards, 2BS-STD-01 and 2BS-STD-02.

Economic operators are required to keep all evidence necessary to comply with the REDII and IR[16] for a minimum of 5 years or longer where it is required by the relevant national authority.

9. Onsite Audits and certification

The first gathering points and processing units are certifiable interfaces.

For all economic operators/interfaces involved in the supply chain of fuels made from wastes and residues, auditors **shall** verify the requirements for traceability by a mass balance integrating the records/information related to the sustainability characteristics and the GHG emission verification for each interface, as applicable for:

- biofuels and bioliquids, and
- biomass fuels

'Points of origin' of a given "first gathering point" can be checked as a group (e.g., restaurants), and the sampling shall be based on a documented and updated risk analysis (e.g., nature of the material, the intensity of non-conformities.)

'First gathering points' shall have supporting evidence back to the origin of the material, which should be available for auditors to verify. This could include, for example, proof of collection from 'specific restaurants' or 'intermediary collecting sites'. The name of the specific feedstock should be on all documentation (self-declaration, delivery/transport slip, invoice, etc.). Claims made by 'first gathering points' based on records issued from control systems implemented by customs or regulatory controllers at Member States [MS] are helpful instruments of verification of the origin of the material.

The auditor **shall** verify that the country of origin of agricultural wastes and residues requires the application of essential soil management practices to address the potential impact of harvesting such residues on soil quality and soil carbon and has in place mechanisms to monitor and enforce the implementation of those practices. The auditor shall verify that such management practices are effectively applied and monitored by the First Gathering Entity at the level of the farm holdings supplying the biomass.

'Processing units' that produce and incorporate biofuels derived from materials (wastes and residues) **shall** be verified through onsite audits within the scope of certification of a 'processing unit' independently of the quantity of biofuel produced. 'Processing units' must be certified and cannot be included in a group auditing approach

[16] *Implementing Regulation (UE) 2022/996*

When all the wastes or residues are generated on the biofuel production site by an integrated economic operator, the 'point of origin' and the 'first gathering point' are the same (one certification unit), but the quantities qualify as wastes or residues need to be verified.

An economic operator can be at the same time, if relevant, the 'point of origin', the 'collecting site', the 'collecting point', the 'processing unit' and the 'trader' but will need to file different declarations depending on the activity that it performs.

User interpretation guidelines may be supplemented whenever further interpretation is needed and based on experience.

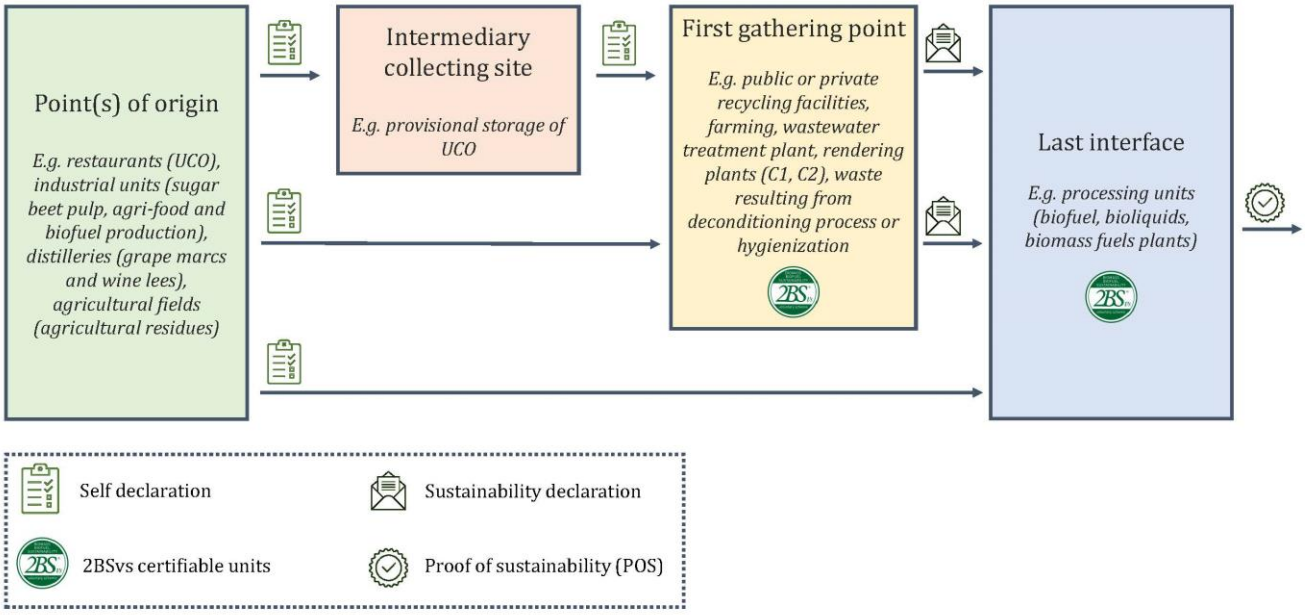
The frequency, the intensity, the risk analysis and the sampling methodology for auditing the production of fuels and heat and/or cooling & electricity power from wastes and residues are based on the procedure related to the certification process, 2BS-PRO-02, namely the specification of the audit requirements related to

- biofuels and bioliquids
- biomass fuels

The risk analysis objective is to correctly assess the risk of fraudulent behaviour and, therefore, **must** be conducted by the auditor to prevent false claims concerning the type of material used and to ensure the integrity of the chain of custody of fuels, heat and/or cooling and power made from wastes and residues.

10. Annexes

10.1. Biofuels, bioliquids and biomass supply chains



N.B : A last interface can be at the same time a point of origin, a first gathering point and a last interface (i.e., a plant producing bioethanol from EP2, a biomethane plant deconditioning and hygienizing biowaste, a biomethane plant using manure produced on site).

Note: the annual onsite audit of intermediary collecting sites and respective mass balances is required

10.2. Waste and residue feedstocks

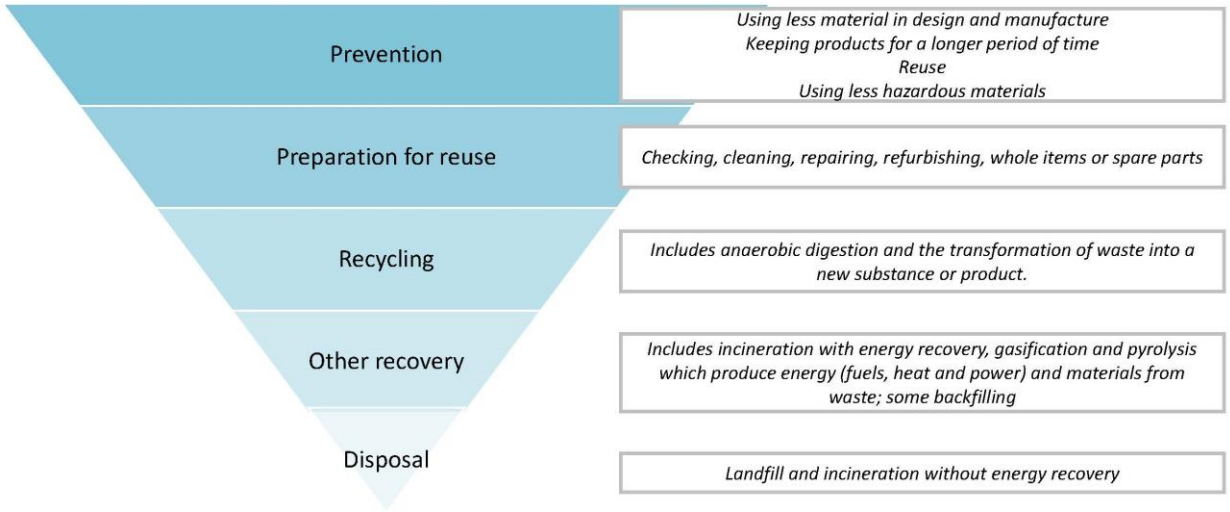
o Although many of the raw materials listed in Annex IX A and B of Directive (EU) 2018/2001 (RED II) are wastes and residues, this Annex IX is not per se a list of wastes and residue; Annex IV of the Commission Implementing Regulation (EU) 2022/996 of 14 June 2022 provides a list of substances that shall be considered as falling under a category of raw material set out in Annex IX to Directive (EU) 2018/2001 without being explicitly mentioned. The list is not comprehensive and complements the existing list of materials in Annex IX to Directive (EU) 2018/2001. The waste and residues listed in Annex IV shall not be considered as waste or residues where they have been deliberately modified to be declared as a waste or residue. Therefore, each consignment of a substance listed in Annex IX must be assessed according to 10.4 Assessment hereafter.

o Substances not listed in Annex IX A and B of Directive (EU) 2018/2001 (RED II) or Annex IV of the Commission Implementing Regulation (EU) 2022/996 of 14 June 2022 may be considered as waste or residues according to the results of 10.4 Assessment hereafter.

o The Waste Directive 2008/98/EC, Articles 3 (Waste definition) and Article 4 (Waste hierarchy apply).

10.3. Waste Hierarchy

Article 4 of the Waste Framework Directive 2008/98/EC establishes a priority order for waste prevention and management, referred to as the waste hierarchy, outlining when waste is appropriate for "other recovery," i.e. use as raw materials for the production of fuels, heat and/or and power. "Other recovery" refers to operations where the waste replaces materials that would otherwise have been used to fulfil a particular function in the plant or on the broader economy, such as oil as a fuel in transport.

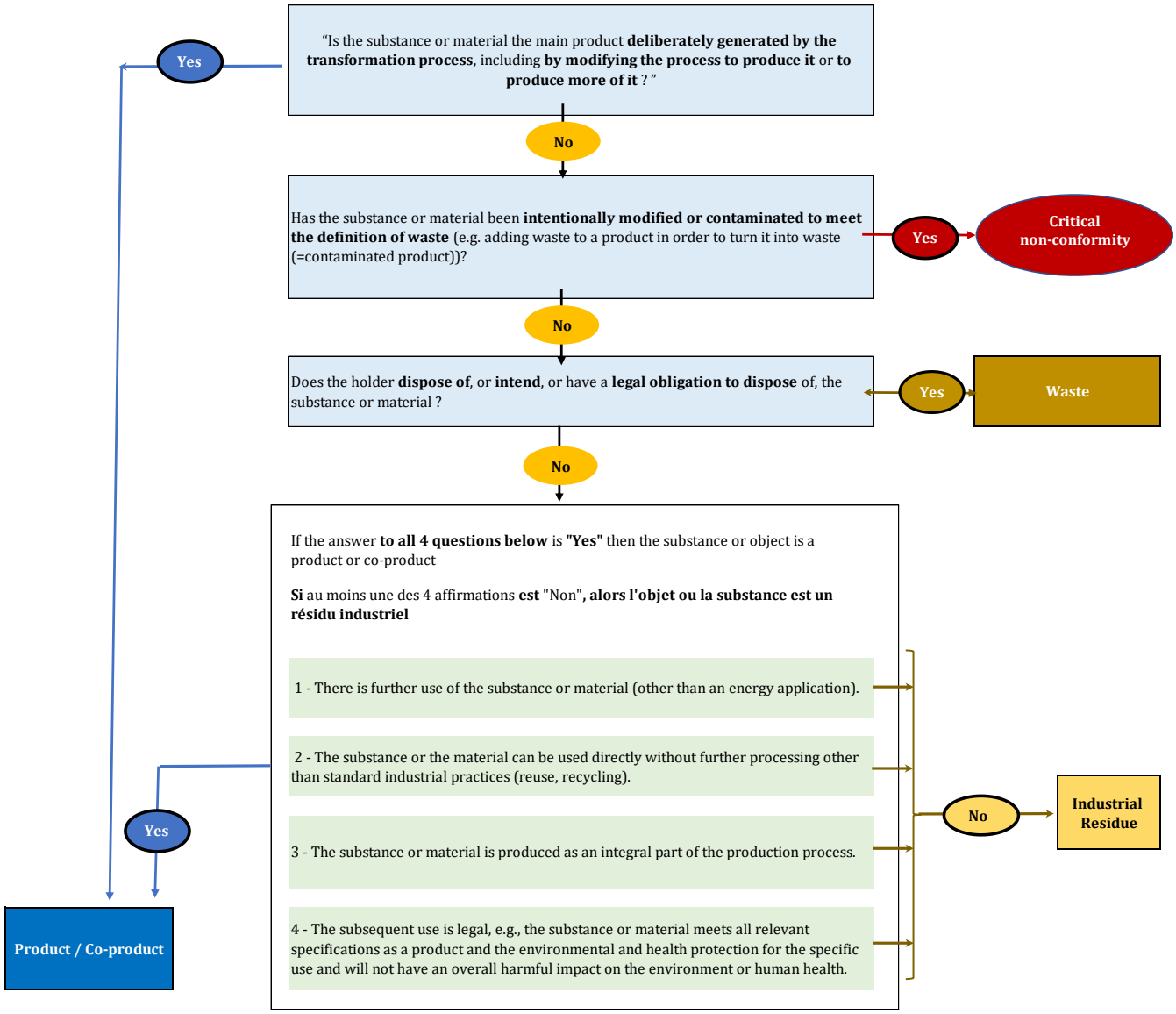


10.4. Assessment

Annex II of WFD (Waste Framework Directive) sets out a non-exhaustive list of recovery operations and explicitly includes "use principally as a fuel or other means to generate energy." The following flow chart is based on the principles specified in the WFD.

The guides on the flow chart below must be applied for individual (case-by-case) assessments conducted by the certification body at the point of origin if this is deemed necessary to evaluate if a consignment of raw material can be certified according to the 2BS waste and residues certification process.

Decision tree for determining whether or not a consignment of a substance or object is a product (co-product), a waste or an industrial residue



"**Waste**", means waste as defined in point (1) of Article 3 of Directive 2008/98/EC, excluding substances that have been intentionally modified or contaminated in order to meet this definition;

"**Product**", means any substance or material that is deliberately created in a production process. For the purposes of the GHG calculation, emissions are allocated according to the energy allocation method between products products and co-products (based on their energy content).

"**Residue**", means a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it;

"Co-product", is an intentional and inevitable secondary product, created during the same manufacturing process and at the same time as the main product. Both the main product and the co-product must meet specifications and each is suitable for direct use for a particular purpose; A co-product is not waste or processing residue. For the purposes of the GHG calculation, emissions are allocated according to the energy allocation method between products and co-products (based on their energy content).

10.5. Self-declaration for point of origin

	Self-declaration for point of origin and supplier of agricultural residues ***for each feedstock supplied***	**Version:** 4 (en) **Date:** 17/11/2023

Identity of the point of origin

Company name: _____

Address of the holding: _____

Name and phone number of the responsible: _____

Material concerned: _____

The material is produced by the following process: _____

Amount of material generated by the process above: _____t per months (average of last 12 months)

	I declare that (check boxes):	Yes	NA
1	The supplied material only contains biomass that complies with Directive (EU) 2018/2001[1].	☐	
2	The supplied material complies with the waste hierarchy as described in Art 4 of Directive 2008/98/EC which means the material supplied could not be reused or recycled before being recovered into energy.	☐	
3	The supplied material is part of Annex IX of Directive (EU) 2018/2001 (REDII) or Annex IV of the Implementing Regulation 2022/996.	☐	☐
	If not, please enter the waste code if applicable and validate the status of this material with the 2BSvs decision tree (Annex 10.4 of 2BS-PRO-04). Waste code/name: _____	☐	☐
4	The waste or residual materials are originated from agriculture, forestry, and fishing or from aquacultures.	☐	☐
	If yes, the material complies with the sustainability requirements set forth in Art. 29 of RED II.	☐	☐
5	In case of an agricultural residue, a. The monitoring approach is[2] : _____ b. The soil management practice is[3] : _____ c. The verification of level of compliance is - under the control of the national authority verified by delegation to a competent certification body - under the control of the first gathering point verified by a recognized certification body	☐ ☐	☐
6	The respective waste and residue originate exclusively from the contracted waste producer and have not been blended/contaminated with any other biomass.	☐	
7	In case the material is UCO (used cooking oil), the material derives (check only one box) ⇨ totally from vegetable origin ⇨ totally or partially from animal origin (animal fat categorized C1 and C2)	☐ ☐	☐
8	Applicable national legislation regarding waste prevention and management (transport, supervision, etc.) is complied with. If there are veterinary certificates, these are kept with commercial documents.	☐	☐
9	The regulations which apply to the identity and transport of the waste or residue, are respected and the appropriate transfer documentation (sales, customs, tonnage, transport) is provided for each delivery.	☐	
10	I keep available (for 5 years or longer where it is required by the relevant national authority), for contractual purposes, all the elements to demonstrate the veracity of this declaration according to the RED II.	☐	
11	I inform the first gathering point of any subsequent changes, concerning the evolutions of my tonnages and the identification of my material.	☐	

Note: *With this declaration, the point of origin acknowledges that auditors from certification bodies or 2BS or a Member State may come verify on-site whether the relevant requirements stipulated in Directive (EU) 2018/2001 have been satisfied. Evidence of the above requirements shall be made available and shall be provided during the audit and/or upon request.*

_____ _____

Place, date Signature

1 'Biomass' means the biodegradable fraction of products, waste and residues of biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin.

*2 Refer to **section 10.6 of 2BS-PRO-04***

*3 Refer to **Section 10.7 of 2BS-PRO-04***

10.6. Examples of monitoring practices for soil quality and carbon mitigation impacts

Monitoring approach	**Method of verification / demonstration**
Risk assessment	Identifying areas with high risk of soil quality decline helps prevent these risks and focus on areas with the greatest impact.
Soil organic matter analysis	Consistent sampling of soil organic matter improves monitoring so that this matter can be maintained or improved.
Soil organic carbon analysis	Soil organic carbon is seen as a good marker for wider soil quality.
Soil conditioning index sampling	A positive value indicates the system is expected to have increased soil organic matter.
Soil erosion assessment	Ensures that erosion is below a tolerable level, e.g., USDA Agricultural Research Service 't' levels.
Nutrient management plan	A plan outlining nutrient strategy (focusing mostly on N, P, K) and fertilizer regimes can prevent nutrient imbalances.
Regular soil pH analysis	Monitoring pH helps identify imbalances in pH

10.7. Examples of essential soil management practices to promote soil carbon sequestration (given the absence of residues) and promote soil quality.

Requirement	**Soil quality parameter**
At least a 3-crop rotation, including legumes or green manure in the cropping system, taking into account the agronomic crop succession requirements specific to each crop grown and climatic conditions. A multi-species cover crop between cash crops counts as one	Promoting soil fertility, soil carbon, limiting soil erosion, soil biodiversity, and promoting pathogen control
Sowing of cover/catch/intermediary crops using a locally appropriate species mixture with at least one legume. Crop management practices should ensure minimum soil cover to avoid bare soil in periods that are most sensitive	Promoting soil fertility, soil carbon retention, avoiding soil erosion, soil biodiversity
Prevent soil compaction (frequency and timing of field operations should be planned to avoid traffic on wet soil; tillage operation should be avoided or greatly reduced on wet soils; controlled traffic planning can be used).	Retention of soil structure, avoiding soil erosion, retaining soil biodiversity
No burning of arable stubble except where the authority has granted an exemption for plant health reasons.	Soil carbon retention, resource efficiency
On acidic soils where liming is applied, where soils are degraded, and where acidification impacts crop productivity.	Improved soil structure, soil biodiversity, soil carbon
Reduce tillage/no-tillage – Erosion control – addition of organic amendments (biochar, compost, manure, crop residues) – use of cover crops, rewetting Revegetation: planting (species change, protection with straw mulch) – landscape features – agroforestry	Increase soil organic carbon

11. Definitions

Annexes and Articles referenced below are those of European Union Directive 2018/2001, (RED II) unless otherwise specified.

- '**Actual value'** means the greenhouse gas emissions savings for some or all of the steps of a specific biofuel, bioliquid or biomass fuel production process, calculated in accordance with the methodology laid down in Part C of Annex V or Part B of Annex VI;

- '**Advanced biofuels'** means biofuels that are produced from the feedstock listed in Part A of Annex IX;

- '**Agricultural biomass'** means biomass produced from agriculture;

- **'Agricultural, aquaculture, fisheries and forestry residues**' means residues that are directly generated by agriculture, aquaculture, fisheries and forestry and that do not include residues from related industries or processing;

- '**Biofuels**' means liquid fuel for transport produced from biomass;

- **'Biogas'** means gaseous fuels produced from biomass;

- '**Bioliquids**' means liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass;

- **'Biomass fuels'** means gaseous and solid fuels produced from biomass;

- '**Biomass**' means the biodegradable fraction of products, waste and residues from biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin;

- **'Biowaste'** means biowaste as defined in point (4) of Article 3 of Directive 2008/98/EC;

- **'Default value'** means a value derived from a typical value by the application of pre-determined factors and that may, in the circumstances specified in this Directive, be used in place of an actual value;

- **'Economic operator'** means a producer of raw material, a collector of waste and residues, an operator of installations processing raw material into final fuels or intermediate products, an operator of installations producing energy (electricity, heat or cooling) or any other operator, including of storage facilities or traders that are in physical possession of raw material or fuels, provided that they process the information on the sustainability and greenhouse gas emissions saving characteristics of those raw materials or fuels;

- **'First gathering point'** means a storage or processing facility managed directly by an economic operator or other counterpart under contractual agreement that is sourcing raw material directly from

producers of agricultural biomass, forest biomass, wastes and residues or, in the case of renewable fuels of non-biological origin, the plant producing such fuels;

- '**Forest biomass'** means biomass produced from forestry;

- **'Fuels'** means fuels ready to be supplied for consumption, including biofuels, bioliquids, biomass fuels, renewable liquid and gaseous transport fuels of non-biological origin and recycled carbon fuels;

- **'Intermediate crops for energy purposes (CIVE)'** means crops, such as catch crops and cover crops, grown before or after main crops, provided that the use of such intermediate crops does not trigger demand for additional land. For example, Food and feed crops not reaching maturity and cultivated before or after the main crop can be considered intermediate crops. This definition is pending clarified guidelines or approval from the EU Commission.

- '**Ligno-cellulosic material'** means material composed of lignin, cellulose and hemicellulose, such as biomass sourced from forests, woody energy crops and forest-based industries' residues and wastes;

- **"Mix of raw material for further processing"** means the physical mixing of raw material **at the fuel production plant** for the sole purpose of producing biofuels, bioliquids, or biomass fuels;

- **'Non-food cellulosic material'** means feedstock mainly composed of cellulose and hemicellulose, and having a lower lignin content than ligno-cellulosic material, including food and feed crop residues, such as straw, stover, husks, and shells; grassy energy crops with a low starch content, such as ryegrass, switchgrass, miscanthus, giant cane; cover crops before and after main crops; ley crops; industrial residues, including from food and feed crops after vegetal oils, sugars, starches, and protein have been extracted; and material from biowaste, where 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 getting higher yields of arable main crops;

- '**Non-renewable raw materials**', also called finite resources, cannot be cultivated, produced, reused or regenerated at a level that could support their high consumption. That is, the consumption of non-renewable resources (used mainly as energy sources and raw materials) is greater than the time that nature needs to recreate, regenerate or because they are in a determined quantity. The non-renewable resources most used as energy sources are fossil fuels (oil, coal, natural gas) and radioactive elements that produce nuclear energy, making them non-renewable energies;

- **'Renewable raw materials**, come from living nature and include animal and plant materials usually produced by agriculture, forestry or fishing;

- **'Product group'** means raw materials, biofuels, bioliquids, non-gaseous biomass fuels with similar physical and chemical characteristics and similar heating values or gaseous biomass fuels, and LNG with similar chemical characteristics that all are subject to the same rules set out in Articles 7, 26 and 27 of European Union Directive 2018/2001 (RED II) for determining the contribution of biofuels, bioliquids and biomass fuels towards achieving the targets for renewable energy;

- **'Proof of sustainability'** means a declaration by an economic operator, made on the basis of a certificate issued by a voluntary scheme certifying the compliance of that economic operator with the sustainability and greenhouse gas emissions savings criteria set out in Articles 25(2) and 29 of European Union Directive 2018/2001 (RED II) for a specific quantity of feedstock or fuels;

- **'Raw material'** means substances that have not yet been processed into fuels, including intermediate products;

- **'Residue'** means a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process, and the process has not been deliberately modified to produce it;

- **'Typical value'** means an estimate of the greenhouse gas emissions and greenhouse gas emissions savings for a particular biofuel, bioliquid or biomass fuel production pathway, which is representative of the Union consumption;

- **'Union database'** means the database provided for in Article 28, point 2 of European Union Directive 2018/2001 (RED II);

- '**Waste**' means waste as defined in point (1) of Article 3 of Directive 2008/98/EC, excluding substances that have been intentionally modified or contaminated to meet this definition;