



**SUSTAINABLE RESOURCES**  
Verification Scheme GmbH

## Scheme principles for the production of agricultural biomass

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Version: SSP-AGRI-en-1.0  
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# 1 Introduction

Directive (EU) 2018/2001 (RED II) sets political targets for the EU member states to significantly increase the share of renewable energy in our energy consumption by 2030. The use of biomass as a renewable raw material will play an important role in these efforts.

Agriculture is an important source of biomass, which can be processed and used as a fuel for electricity and heat generation<sup>1</sup>. In addition to selectively grown annual or perennial crops, this also includes harvest residues and other agricultural residues that can be put to further use. The demand for agricultural biomass to meet the energy demand in Europe is expected to increase.

It is therefore important to ensure that the principles of sustainable production and use of agricultural biomass are upheld and reliably implemented by market actors in order to protect natural resources, preserve biodiversity and make a significant contribution to greenhouse gas reduction.

The European Union has adopted these kinds of sustainability requirements for the generation of electricity and heat from biomass fuels in Directive (EU) 2018/2001, which must be complied with by the economic operators. Voluntary certification schemes are regarded here as a particularly suitable way of providing this evidence of compliance in an objective, transparent and credible manner.

The SURE-EU system is this kind of certification scheme, which translates the requirements of RED II into a practical verification scheme for the market and ensures compliance.

## 2 Scope of application

The requirements set out in this document for the sustainable production of agricultural biomass apply for all companies that produce agricultural biomass and feed it into the supply chain for use as energy.<sup>2</sup> The scope of this document explicitly covers waste and residues from agricultural biomass before processing.

The neutral inspection of these operations includes all of the requirements outlined below in this document. Exceptions to this are indicated at the appropriate places. All relevant SURE documents as well as Directive (EU) 2018/2001 apply to the scope of this scheme.

## 3 Definitions

In order to establish a common understanding of the terms and definitions used in these scheme principles, reference is made to the SURE document “Definitions in the SURE system”. All SURE scheme principles relate to this document.

## 4 Generally applicable principles and requirements

Producers who supply agricultural biomass to first gathering points for electricity and heat production must demonstrate that they comply with the requirements of Directive (EU) 2018/2001 and the SURE-EU system. In the SURE-EU system, agricultural biomass producers are therefore subject to inspection.

Certification bodies approved and accredited by national authorities in the SURE-EU system check compliance with the scheme requirements along the entire production, processing and supply chain as part of a neutral sample inspection.

### 4.1 Verifying and monitoring scheme conformity

Agricultural biomass producers are *subject to* (if applicable, sample) *inspections* and must provide proof of conformity as part of the certification process.

In the SURE-EU system, compliance with sustainability requirements for agricultural biomass can be verified by means of an inspection of the agricultural biomass producer using the SURE checklist for agricultural biomass.

The traceability of the sustainably produced raw materials for biomass must be guaranteed in the agricultural biomass production operation and verification must be possible using appropriate documents (e.g. invoices, contracts, etc.).

In addition, the requirements from section 4.3 “Traceability and documentation” apply.

Agricultural biomass producers have to prove to the first gathering point that the biomass supplied complies with the requirements of Directive (EU) 2018/2001 and the SURE-EU system. This is done by means supplying proof of a valid and recognised certificate or a SURE self-declaration. If a self-declaration is provided as proof, the SURE form “Self-declaration for producers of agricultural biomass” must be filled out and provided to the biomass recipient as an active self-declaration. This form can be found on the SURE website at [www.sure-system.org](http://www.sure-system.org)<sup>3</sup>.

The form can be used for every individual consignment or all consignments arising from an agreement or contract. If the self-declaration is used for all consignments in an agreement or contract, the contract number or agreement number must be indicated on the self-declaration.

It is also possible to incorporate the same wording in the self-declaration as text in the contract between the first gathering point and the biomass producer. The self-declaration as such or as part of the contract is valid for a maximum of one year starting from the date of issue.

The respective documents verifying that the individual requirements have been met must either be kept by the first gathering point or be able to be provided by the producer.

The documentation on the location where the biomass was cultivated must be available with the agricultural biomass producer and be able to be provided at any time for the purpose of a neutral inspection – also independently of an ongoing certification process of the first gathering point.

In the declaration, the biomass producer also confirms and accepts that, within the scope of audits by the first gathering point to whom he supplies verifiably sustainable biomass, inspections can be performed by his certification scheme or the executing certification body.

A valid self-declaration (copy or original) must be available with the biomass producer.

The currently valid version of the sample declaration is publicly accessible and can be downloaded from the SURE website.<sup>4</sup>

#### 4.1.1 Individual certification

Agricultural biomass producers who want to be certified under the SURE-EU system as part of a neutral inspection must first register with the SURE-EU system. This can be done online at [www.sure-system.org](http://www.sure-system.org). The individual steps for joining the scheme are described in detail in the SURE document “Scope and basic scheme requirements”.

A detailed description of the requirements for neutral inspection can be found in the document “Scheme principles for neutral inspections”.

#### 4.1.2 Group certification of agricultural biomass producers

In the SURE-EU system, agricultural biomass producers can be inspected as an individual company or as a group. A group inspection is performed for a group of agricultural biomass producers with similar production systems, where the inspection is considered to apply to the

group as a whole. In these cases, a selection of various operations in the group can be spot checked as a representative sample as proof that all units comply.

A detailed description of the requirements for group certification can be found in the SURE document “Scheme principles for neutral inspections”.

More detailed information on the proof of conformity with Directive (EU) 2018/2001 can be found in the section 5 “Specific requirements for the production of agricultural biomass”.

## 4.2 Cross compliance

Agricultural biomass producers

- ✓ that receive direct payments<sup>5</sup> or aid for area-based measures to support rural development<sup>6</sup> in an EU member state that requires cross compliance, or
- ✓ for which EMAS registration exists,

are subject to the requirements of cross compliance with respect to the following criteria:

- ✓ soil structure and soil organic matter
- ✓ handling and use of nitrogenous fertilisers
- ✓ use of sludge
- ✓ integrated pest management
- ✓ handling and use of plant protection products
- ✓ handling and storage of substances hazardous to water
- ✓ water protection and management

These operations are considered to be inspected with regard to (only) these (area) criteria.

The application for direct support schemes pursuant to Regulations (EU) No. 1307/2013, EU No. 1306/2013, EU No. 639/2014, EU No. 640/2014, EU No. 641/2014, EU No. 809/2014, EU No. 2015/1089, EU No. 2016/699, EU No. 2017/1272, EU No. 2018/819 or for area-based measures as well as the notification that payments will be granted under these schemes can be used as evidence.

Compliance with the requirements above in Directive (EU) 2018/2001, which cannot be proven by fulfilment of the cross-compliance requirements, must be explicitly verified in a neutral inspection (external audit or inspection).

## 4.3 Traceability and documentation

The SURE-EU system requires all economic operators to have a document management system that can be checked as part of an audit. Proper documentation is mandatory for all economic operators to ensure compliance with the legal provisions. All of the documents in the document management system must be kept for at least 5 years regardless of any other legal requirements relating to retention period.

In terms of agricultural biomass, the traceability of the biomass or biomass fuels must be ensured by means of a mass balance system. In this case, the biomass from the harvest counts as incoming biomass. Type, quantity and origin of the biomass must be plausible.

The general requirements of a scheme-compliant mass balance system are described in detail in the SURE document “Technical guidance for mass balancing”.

Producers who process waste and residues by purely mechanical methods must document changes in quantities (ratio of input/output). This must be checked by the auditor and verified during the audit.

All economic operators in the SURE-EU system are required to provide data to SURE on request (e.g. when necessary to verify the full traceability of sustainable biomass and biomass fuels).

When transmitting sensitive company data, proof must be provided that this data is handled confidentially.

## 4.4 Verification of the status of land and land-related information

In order to demonstrate their conformity with Directive (EU) 2018/2001, agricultural biomass producers must keep records of their land used for the production of sustainable biomass, providing the information necessary to comply with the Directive.

In most cases, several documents or equivalent proof are required to verify the status of land and ensure that the inspection is carried out at an appropriate level of detail.

### 4.4.1 Location where the biomass was cultivated

The exact location of the biomass cultivation must be documented. The proof can be provided as a polygon or similar verification of area using field blocks, plots and parcels.

#### 4.4.2 Polygon

The polygon must be drawn in geographic coordinates with a resolution of 20 metres for each individual point.

In connection with the creation of the polygon, it is also possible to approximate the actual shape of the field with a polygon (in the most basic case with a triangle) for reasons of practicality. The respective start and end points of these lines delineating the polygon satisfy the accuracy requirements for the individual points above. The approximation using a polygon can be created with relatively few points provided that the resulting field area does not deviate any more than 10 % from the officially determined field area. The official area can be verified by providing the application for the area-based premium, register entries or other similar documents.

If the geo-coordinates of the individual points are not available in table form, they can be identified on the basis of tools such as Google Earth in such a way that the individual points are positioned manually as location markers (distinct, unique points that mark the border of the property) and the results (geo-coordinates) read and documented for the location markers.

As another application option for the polygon, the entire arable area of a farm including leased areas can be taken as a basis and then captured in a single polygon as long as there are no partial areas on the total area where no biomass may be grown as defined in Directive (EU) 2018/2001.

#### 4.4.3 Field blocks, plots, parcels

If the farmer already has other proof of the areas for field blocks, plots or parcels that are similar to the polygon and identify the exact position of the area, these can also be used to verify the location of biomass cultivation.

#### 4.4.4 Cropland before 01 January 2008

The biomass originates from cropland that was already classified as such prior to 01.01.2008.

The following documents can be used to prove<sup>7</sup> that the land was already used for agricultural purposes before the cut-off date (not exhaustive):

- ✓ official documents on the status of the land as of the cut-off date or conversion date
- ✓ certificates from contracted, independent verifiers or experts
- ✓ analyses and interpretations from remote sensing data and maps

- ✓ international, regional and local maps (e.g. land-use maps, site mappings, hydrological maps, vegetation maps, registry excerpts) or data
- ✓ the application for direct support schemes pursuant to Council Regulation (EC) No. 1307/2013 or for area-based measures as well as the notification that payments have been granted

#### 4.4.5 Land within protected areas

Growing and harvesting raw material for biomass on land within protected areas where forestry management is permitted represents a unique case. The farmer has to document whether farming takes place within an area designated to serve purposes of nature conservation and that nature conservation requirements have been met in the growing and harvesting of the raw material for biomass.

The following measures can serve as proof of compliance with nature conservation requirements (not exhaustive):

- ✓ inspection of compliance with nature conservation requirements by a certification body
- ✓ provision of an official document from the nature conservation authority responsible for the protected area
- ✓ similar confirmation by the competent authority as part of an inspection whereby the agricultural biomass producers has to be able to provide the authority with the contact people responsible and their telephone numbers

#### 4.4.6 Peatland

Peatland that was already used as cropland before the cut-off date may be used for biomass cultivation as long as evidence is provided that the cultivation and harvest of this raw material did not require land to be drained that was previously not drained.

#### 4.4.7 Land conversion after 01 January 2008

The following proof and documents are accepted as evidence that the converted land is not subject to the requirements for sustainable biomass production:

- ✓ land-use plans, geographic material, official documents or comparable documents related to the reference area after January 2008 but prior to conversion that make it possible to clearly identify the reference area

- ✓ certificates of commissioned, independent verifiers or experts related to the reference area after January 2008 but prior to conversion
- ✓ satellite images with sufficiently high resolution that show the reference area after January 2007 and make it possible to clearly identify the reference area

## 4.5 Qualification requirements

All economic operators must have qualified (expert) personnel. Expertise means having at least knowledge of the legal basis regarding the cultivation, harvesting, trade/distribution and transport of agricultural biomass. More detailed information is provided in the section 5 “Specific requirements for the production of agricultural biomass”.

Furthermore, qualifications in handling data relating to biomass, such as weighing data, registers and other data is indispensable (electronic records).

Knowledge of permit law (especially when importing biomass) is an advantage.

Proof of expertise can be provided by the professional qualification. It can also be provided as part of an initial training plan or through successful participation in a relevant course.

## 4.6 Compliance with international agreements and conventions

### 4.6.1 Social responsibility requirements

Participants in the SURE-EU system assume social responsibility and undertake to comply with at least the Core Labour Standards of the International Labour Organisation (ILO<sup>8</sup>), based on the fundamental principles of:

- ✓ Freedom of association and collective bargaining
- ✓ Elimination of forced labour
- ✓ Abolition of child labour
- ✓ Elimination of discrimination in respect of employment and occupation

which in turn are reflected in eight conventions and have been ratified by currently 139 states<sup>9</sup>:

- ✓ ***Convention 87 concerning Freedom of Association and Protection of the Right to Organise, 1948***

Convention 87 concerning Freedom of Association and Protection of the Right to Organise of 1948 guarantees the right of workers and employers to form

associations without previous authorisation. These organisations must have the right to draw up their constitutions and rules, to elect their representatives in full freedom, to organise their administration and activities and to formulate their programmes.

✓ ***Convention 98 concerning the Application of the Principles of the Right to Organise and to Bargain Collectively, 1949***

Convention 87 is supplemented by Convention 98 concerning the Application of the Principles of the Right to Organise and to Bargain Collectively, 1949. It calls for adequate protection of workers against any discrimination contrary to freedom of association in respect of their employment. This includes, in particular, acts calculated to make the employment of a worker subject to the condition that he shall not join a union or that cause the dismissal of a worker by reason of union membership or because of participation in union activities. The possibility of concluding collective labour agreements between employers or organisations of employers and organisations of employees to regulate pay and working conditions shall be encouraged.

✓ ***Convention 29 - Forced Labour, 1930***

Convention 29 on forced labour calls for the elimination of forced and compulsory labour as soon as possible, whereby forced and compulsory labour for the benefit of private individuals is completely prohibited, especially products in which they trade. If forced or compulsory labour cannot be eliminated immediately, it is subject to certain conditions and must be remunerated at the prevailing rates.

✓ ***Convention 105 concerning the Abolition of Forced Labour, 1957***

Convention 105 on the Abolition of Forced Labour adds that forced or compulsory labour shall not be used as a means of political coercion or education or as a punishment for holding views ideologically opposed to the established system, as a method of mobilising and using labour for purposes of economic development, as a means of labour discipline, as a punishment for having participated in strikes or as a means of racial, social, national or religious discrimination.

✓ ***Convention 100 concerning Equal Remuneration of Men and Women Workers for Work of Equal Value, 1951***

Convention 100 seeks to promote and, where possible, ensure equal pay for men and women for work of equal value.

✓ ***Convention 111: concerning Discrimination in Respect of Employment and Occupation, 1958***

According to Convention 111, all forms of discrimination must be eliminated. Discrimination means any distinction, exclusion or preference made on the basis of race, colour, sex, religion, political opinion, national extraction or social origin. It also

includes any such other distinction, exclusion or preference which has the effect of nullifying or impairing equality of opportunity or treatment in employment or occupation.

✓ ***Convention 138 concerning Minimum Age for Admission to Employment, 1973***

Convention 138 on the minimum age is designed to ensure the effective abolition of child labour and to raise progressively the minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons. The minimum age for less developed countries is 14 years, otherwise 15 years, and 18 years for jobs that are likely to jeopardise the health, safety or morals of young persons. Considerable derogations from these principles are permitted, firstly for less developed countries, secondly for persons aged 14 years or over for training purposes and finally for persons aged 13 to 15 years who perform light work which is not likely to be harmful to their health or development or prejudice their attendance at school, their participation in vocational orientation or training programmes.

✓ ***Convention 182 concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, 1999***

The most recent ILO core labour standard on child labour supplements Convention 138 and covers all persons under 18 years of age. States ratifying the Convention shall ensure that all forms of slavery and practices similar to slavery (such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour), the use, procuring or offering of a child for prostitution, for the production of pornography or for illicit activities, in particular for the trafficking of drugs, and work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children are prohibited and eliminated.

The social responsibility requirements of the scheme participant can be considered fulfilled if the country where the economic operator operates has ratified ILO core labour standards 29, 87, 98, 100, 105, 111, 138 and 182. An overview of the states that have ratified the ILO core labour standards is available on the ILO website<sup>10</sup>. This list is updated on a regular basis.

#### 4.6.2 Convention on Biological Diversity (CITES)

The *Convention on Biological Diversity* regulates trade in protected animal and plant species, regardless of whether they appear on the IUCN (International Convention for Conservation of Nature) Red List or the World Conservation Union. The list of protected species can be found in the appendices to the Convention and is updated by the member states on the Conferences of the Parties. Depending on their potential risk, the species concerned are listed in Appendix

I, II or III of CITES and, depending on the category, they are subject to specific import and export conditions and must meet certain requirements.

In the SURE-EU system it must be ensured that the CITES requirements are observed and complied with. A continuously updated list of threatened species and their classification in the relevant appendices is published on the CITES website<sup>11</sup> for comparison. For this purpose, the exact Latin name of the biomass is required.

The following requirements apply to CITES-listed biomass:

- ✓ Appendix I of the CITES Convention: biomass listed in Appendix I of the CITES Convention may not be traded internationally for commercial purposes. In the SURE-EU system, it may not be used as a fuel for energy production, even domestically. Trade in offspring or non-commercial trade is possible provided that there is no threat to the survival of the species and national laws are complied with. Export and import licences for this biomass are mandatory.
- ✓ Appendix II of the CITES Convention: Commercial trade in biomass requires an assessment to be conducted by the country of export, certifying that the biomass is used sustainably without endangering the species. An export licence from the country where the sourcing area of the agricultural biomass is located is mandatory.
- ✓ Appendix III of the CITES Convention: The biomass is considered an endangered species in one or more specific countries. These are listed in Appendix III and require an export licence from the country concerned. Biomass listed there from countries other than those listed in Appendix III requires a clear and complete proof of origin.

## 5 Specific requirements for the production of agricultural biomass

Economic operators using biomass to generate electricity or heat must take appropriate measures to minimise the risk of using agricultural biomass that is not sustainably produced. Despite increasing demand for agricultural biomass, the SURE-EU system must ensure that it comes exclusively from areas where cultivation and harvesting comply with the requirements defined in these documents, the general principles of sustainable management and the provisions of Directive (EU) 2018/2001.

## 5.1 Biomass from areas designated for nature conservation purposes

Areas serving purposes of nature conservation have been designated, by law or by the competent authority, for the purposes of nature conservation, and land that has been recognised by the Commission of the European Communities for the protection of rare, threatened or endangered ecosystems. A distinction is made between the various areas depending on their size, conservation function and conservation objectives. The restrictions for their use can be determined on this basis:

The most important categories of protected areas are:

- ✓ Nature reserves
- ✓ National parks
- ✓ Biosphere reserves
- ✓ Landscape reserves
- ✓ Nature conservation parks
- ✓ Protected areas designated as NATURA 2000 sites

Biomass may be grown or harvested on land that serves nature conservation purposes as long as evidence is provided that the production of that raw material did not interfere with the stated nature conservation purposes. The scheme participant in the SURE-EU system has to document whether forestry management takes place within an area serving the purposes of nature conservation and that nature conservation requirements have been met in the growing and harvesting of the raw material for biomass. The following measures can serve as proof of compliance with nature conservation requirements (not exhaustive):

- ✓ inspection of compliance with nature conservation requirements by a certification body
- ✓ provision of an official document from the nature conservation authority responsible for the protected area
- ✓ similar confirmation by the competent authority as part of an inspection whereby the agricultural biomass producers has to be able to provide the authority with the contact people responsible and their telephone numbers

## 5.2 Biomass from land with high biodiversity value<sup>12,13</sup>

Agricultural biomass may not be produced or sourced from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status:

### 5.2.1 Primary forests, forests with high biodiversity and other wooded land

#### *Primary forests and other wooded land*

Primary forests and other natural forested areas are forests where native tree species grow and there is no clearly visible indication of human activity and ecological processes are not significantly disturbed.

Native tree species are tree species which have evolved in the same area, region or biotope where the forest stand is growing and are adapted to the specific ecological conditions predominant at the time of the establishment of the stand.

Native tree species do not include:

- ✓ tree species introduced into areas by humans where they never would have grown without human intervention
- ✓ tree species and/or cultivated species that would not have grown in these places or under these climate conditions without human intervention even if these places and/or climate conditions are still within the wider geographic growing range

Clearly visible indications of human activity are:

- ✓ economic use (e.g. wood harvest, forest clearance, land-use change)
- ✓ heavily fragmented by infrastructure (e.g. streets, power lines)
- ✓ disturbances of the natural biodiversity (e.g. significant presence of non-native plants and animal species)

Activities performed by indigenous populations and other traditional sections of the population whose livelihoods depend on the use of forest products who have a minor impact on the forested land (e.g. collection of wood and non-wood products, use of a small number of trees and small-scale clearance as part of traditional systems of use) are not considered clearly visible indications of human activity as long as the impact on the forest is minor.

### *Forests and other wooded land with high biological diversity*

Forests and other wooded land of high biological diversity are non-degraded, species-rich forest or wooded areas or areas designated by the competent authorities as wooded or wooded areas of high biological diversity.

“Biological diversity” or “biodiversity” is defined by the Convention on Biological Diversity as

*“variability among living organisms from all sources, (...); This includes diversity within species, between species and of ecosystems.”*

Biological diversity is thus not limited to species of flora and fauna (animals, higher plants, mosses, lichens, fungi and microorganisms) per se. Many species are also further divided into sub-species and regional varieties and are divided into genetically different populations. Biodiversity therefore includes intra-species genetic diversity as well as the habitats of organisms and ecosystems. In simplified terms, biodiversity thus describes the levels “diversity of habitats”, “diversity of species” and “genetic diversity within species”.

Not degraded means not characterised by long-term loss of biodiversity due to for instance overuse, mechanical damage to the vegetation, soil erosion or loss of soil quality.

In the case of species-rich areas, this is:

- ✓ a habitat of significant importance to critically endangered, endangered or vulnerable species as classified by the International Union for the Conservation of Nature Red List of Threatened Species or other lists with a similar purpose for species or habitats laid down in national legislation or recognised by a competent national authority in the country of origin of the raw material
- ✓ a habitat of significant importance to endemic or restricted-range species
- ✓ a habitat of significant importance to intra-species genetic diversity
- ✓ a habitat of significant importance for globally significant concentrations of migratory species or congregatory species
- ✓ a regionally or nationally significant or highly threatened or unique ecosystem

Forests or wooded land in the following regions of the European Union must, without exception, be considered highly diverse forests or wooded areas:

- ✓ habitats listed in Annex I of Directive 92/43/EEC of the European Council
- ✓ habitats with great significance for animal and plant species of Community (EU) interest (Annexes II and IV of Directive 92/43/EEC)

- ✓ habitats of importance for wild birds listed in Annex I to Directive 2009/147/EC of the European Parliament and of the Council

Proof of compliance with the criterion of “protection of forest areas with high biological diversity” requires both forestry and technical knowledge that goes beyond the skills that can be expected of the auditors who verify the accuracy of the information provided by economic operators. A precautionary approach is therefore taken when identifying and assessing the potential biodiversity of forest or wooded land: The auditor must assess whether a general evaluation of highly biodiverse forest or wooded land is necessary. If “an evaluation is necessary”, it must be carried out by an independent expert who can be consulted in addition to the “auditor”.

The evaluation and the result must then be checked as part of the audit. The requirements applicable to SURE auditors and experts are described in detail in the SURE document “Scheme principles for neutral inspections”.

*The use of biomass from forests or other wooded land with high biological diversity is permitted if it can be proven that the sourcing of this raw material does not negatively impact biological diversity.*

### 5.2.2 Areas designated for the protection of rare, threatened or endangered ecosystems or species

Areas designated for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the second subparagraph of Article 30(4) of Directive (EU) 2018/2001.

*Exceptions are possible if evidence is provided that the production of that raw material did not interfere with those nature conservation purposes.*

### 5.2.3 Highly biodiverse grassland

Solid or gaseous biomass fuels from agricultural biomass may not be produced from raw material obtained from land that is larger than 1 hectare and that was protected as highly biodiverse grassland in or after January 2008, whether or not the land still has that status.

According to Article 1 (1) of Regulation 1307/2014 (EU), grassland means terrestrial ecosystems dominated by herbaceous or shrub vegetation for at least five years continuously. It

includes meadows or pasture that is cropped for hay but excludes land cultivated for other crop production and cropland lying temporarily fallow.

Human intervention means managed grazing, mowing, cutting, harvesting or burning. It also excludes continuously forested areas as defined in Article 29 (4)(b) of Directive (EU) 2018/2001, except in the case of agroforestry systems which include land-use systems where trees are managed in agricultural structures together with crop or livestock production systems. The predominance of herbaceous vegetation or shrubs means that their combined ground cover is greater than the canopy cover of trees.

### *Highly biodiverse natural grassland*

In this context natural highly biodiverse grassland means grassland that:

- ✓ would remain grassland in the absence of human intervention
- ✓ maintains the natural species composition and ecological characteristics and processes

### *Non-natural highly biodiverse grassland*

Non-natural highly biodiverse grassland means grassland that:

- ✓ would cease to be grassland in the absence of human intervention
- ✓ is not degraded, that is to say it is not characterised by long-term loss of biodiversity due to for instance overgrazing, mechanical damage to the vegetation, soil erosion or loss of soil quality
- ✓ is species-rich, that means:
  - a habitat of significant importance to critically endangered, endangered or vulnerable species as classified by the International Union for the Conservation of Nature Red List of Threatened Species or other lists with a similar purpose for species or habitats laid down in national legislation or recognised by a competent national authority in the country of origin of the raw material
  - a habitat of significant importance to endemic or restricted-range species
  - a habitat of significant importance to intra-species genetic diversity
  - a habitat of significant importance for globally significant concentrations of migratory species or congregatory species, or
  - a regionally or nationally significant or highly threatened or unique ecosystem

- unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status

Grassland in the following geographical areas of the European Union must be considered highly diverse grassland with no exceptions:

- ✓ Habitats listed in Annex I of Directive 92/43/EEC of the European Council
- ✓ Habitats with great significance for animal and plant species of Community (EU) interest (Annexes II and IV of Directive 92/43/EEC)
- ✓ Habitats of importance for wild birds listed in Annex I to Directive 2009/147/EC of the European Parliament and of the Council

For all land which according to the above mentioned definition was grassland in January 2008 or has become grassland in the meantime it needs to be established whether the grassland would remain or cease to be grassland in the absence of human intervention for “natural highly biodiverse grassland” and “non-natural highly biodiverse grassland”. It needs to be distinguished between those two types of grassland.

In case the grassland would remain grassland or would have remained grassland (if it was converted) in the absence of human intervention and the land is located in the areas referred to in Article 2 of Directive 1307/2014 (EU), the land has to be considered to be or have been natural highly biodiverse grassland. If such land is located outside these areas it needs to be assessed whether the grassland maintains or would have maintained the natural species composition and ecological characteristics and processes. If this is the case the land has to be considered to be or to have been natural highly biodiverse grassland. No raw materials from land which is or was natural highly biodiverse grassland in or after January 2008 may be used for the production of solid or gaseous biomass fuels.

In case the grassland would not remain grassland in the absence of human intervention and the harvesting of the raw material is necessary to preserve the grassland status, no further evidence is necessary to show compliance with Article 29 (3)(d) of Directive (EU) 2018/2001. This also applies if the grassland is located in the areas referred to in Article 2 of Directive 1307/2014 (EU). Artificially created grassland with high biodiversity value must be identified as such by the competent authority.

If the harvesting of raw material is not necessary to preserve the grassland status or the grassland has been converted e.g. to cropland used for the production of raw materials, it has to be established whether the grassland is or was highly biodiverse:

If the land is located in the areas laid down in Article 2 of Directive 1307/2014 (EU), the grassland has to be considered non-natural highly biodiverse grassland

If the land is located outside these areas, it needs to be assessed according to the criteria laid down in Article 1(3) and (4) of Directive 1307/2014 (EU) whether the land is/was degraded and species rich. If the land is not degraded and species-rich, or it was before being converted, it has to be considered as non-natural highly biodiverse grassland. In case the grassland is or was non-natural highly biodiverse grassland raw material from this area cannot be regarded as compliant with the sustainability criteria.

Artificially created grassland with high biodiversity value must be identified as such by the competent authority.

If grassland has already been converted to cropland, it is not possible to assess the characteristics of the land itself. Proof of compliance with the criterion of “protection of highly biodiverse grassland” requires technical knowledge that goes beyond the skills that can be expected of the auditors who verify the accuracy of the information provided by economic operators.<sup>14</sup> Such evidence may take the form of confirmations or certificates issued by authorities in relation to changes in the status of grassland, where the biodiversity aspect was taken into account at the time of issue. A precautionary approach is therefore taken when identifying and assessing the potential biodiversity of grassland: The auditor “must assess whether an evaluation of highly biodiverse grassland is necessary”. If “an evaluation is necessary”, it must be carried out by an independent expert who can be consulted in addition to the “auditor”.

The evaluation and the result must then be checked as part of the audit. The requirements applicable to SURE auditors and experts are described in detail in the SURE document “Scheme principles for neutral inspections”.

Information about the grassland status can still be obtained from the land-use codes specified in the farm’s application for the direct support scheme, special area-related support measures, agricultural and environmental measures, participation in contractual nature conservation management or nature conservation programmes, etc. as well as in other applications submitted to or assessments from government agencies, e.g. the federal or regional nature conservation authority.

However, the legally stipulated bans on ploughing and conversion (e.g. regulations governing the preservation of permanent grassland relevant to cross compliance; grassland habitat types in FFH areas with special protection under nature conservation laws; preservation of permanent grassland/greening; areas protected by nature conservation laws delineated in protected area ordinances, etc.) always have to be taken into account.<sup>15</sup>

## 5.3 Areas with high above-ground or underground carbon stock<sup>16</sup>

Solid and gaseous biomass fuels made from agricultural biomass may not be made from raw material obtained from land with high carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status:

### 5.3.1 Wetlands<sup>17</sup>

Wetlands are land that is covered with or saturated by water permanently or for a significant part of the year. These provisions do not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008. Wetlands include, in particular, swamps, marshes or bogs, as well as other bodies of water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.

“Covered with water” means that water is visible on the surface as surface water.

The soil is “saturated by water” if it is completely inundated with water and, as a result, moisture is present at the surface but no shallow pools form.

This state is evident throughout the entire year for areas that are permanently covered or saturated by water.

This state is not evident throughout the entire year for areas that are covered or saturated by water for a significant part of the year. “A significant part of the year” means that the cover or saturation with water lasts for such a considerable part of the year that the dominant organisms have adapted to moisture or reduced conditions. This applies, in particular, to shallow water areas, coastal areas, swamps, bogs, fens and moors.

Retaining the wetland status also means that this state may not be actively changed or adversely affected. During the annual audit, an auditor must examine every change in the status of wetlands that has occurred within a year.

### 5.3.2 Forested areas

Forested areas are:

- ✓ Continuously forested areas, i.e. land spanning more than 1.0 hectare with trees higher than 5 metres and a canopy cover of more than 30%, or trees able to reach those thresholds in situ (Article 29 (4) (b) of Directive (EU) 2018/2001). It does not include land that is predominantly under agricultural or urban land use (Communication of the EU Commission 2010/C 160/02).<sup>18</sup> “Land under agricultural use” in this

context refers to tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems when crops are grown under tree cover.

- ✓ Land spanning more than 1.0 hectare with trees higher than 5 metres and a canopy cover of between 10% and 30% (known as “sparsely forested areas”), or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in part C of Annex VI of Directive (EU) 2018/2001 is applied, the conditions laid down in paragraph 10 of this Article of Directive (EU) 2018/2001 would be fulfilled (Article 29(4) (c))

The canopy cover is the degree to which the surface of the forest is covered by a layer of branches and foliage at the top of a forest’s trees. A tree’s cover corresponds to its crown width. The crown width can be estimated or measured. When determining the percentage of tree canopy cover, the vertical projection of all crown widths is used.

The status of forested areas includes all development stages and ages. It is possible for the cover canopy to fall below 10% or 30% temporarily in the event of deforestation or as a result of a natural catastrophe (e.g. avalanches, beetle infestation, etc.). This does not, however, change the land’s status as a forested area as long as reforestation or natural rejuvenation is assured within a reasonable amount of time.

The canopy cover expressed as a percentage denotes the average canopy cover of a forest area; it corresponds to an area with a homogenous canopy cover. If an area has measurably different canopy covers, it must be broken down into sub-areas each with homogenous canopy covers to determine the average canopy cover. The average canopy cover is then derived from the canopy covers of the sub-areas.

The total size of the forested area has to be considered regardless of much of the forested area lies within the farmed areas or cropland. Accordingly, the total size applies as a standard for the limits listed here for the cover degree of 10% (subparagraph b. – sparsely forested) or 30% (subparagraph a. – continuously forested). If the total size of the forested area is larger than one hectare and if the entire area has trees higher than five metres, the area, and every part situated within an operational or cultivated area, is classified as forested area. Even if only 0.5 ha of the forested area lies within the farmed area, these 0.5 ha have to be classified as forested area as does the entire area.

Continuously forested areas may not be converted even if national regulations allow this.

Short-rotation plantations are not subject to the regulation set forth in Article 29(4)(b) and (c) of Directive (EU) 2018/2001 because they are classified as permanent crops and thus part of the agricultural land. Short-rotation plantations are not considered continuously forested

areas or wooded land as defined in Article 29 (4), unless otherwise defined by law in the country of origin.

*The provisions set forth in paragraph of Directive (EU) 2018/2001 (Art. 29 (4) a) to c) do not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.*

## 5.4 Biomass from areas that were peatland in January 2008<sup>19</sup>

Solid and gaseous biomass fuels made from agricultural biomass may not be made from raw material obtained from land that was peatland in January 2008.

An exception is possible if evidence is provided that

- ✓ the land was completely drained in January 2008 or
- ✓ the land has not been drained since January 2008.

This means that for peatland that was partially drained in January 2008 a subsequent deeper drainage, affecting soil that was not already fully drained, would constitute a breach of the criterion<sup>20</sup>.

Peat itself is not considered biomass.

Drainage is defined as a reduction of the average annual water level due to an increased water loss or a reduced water supply as a result of human activities or installations both inside and outside of an area.

Peatland that was already used as cropland before the cut-off date may be used for biomass cultivation as long as evidence is provided that the cultivation and harvest of this raw material did not require land to be drained that was previously not drained.

## 5.5 Environmentally responsible biomass production

Producers must keep their land in good agricultural and environmental condition and ensure that there is no significant decrease in or conversion of permanent grassland. This includes preventing deterioration of natural habitats e.g. by constructing buildings or other facilities with excessive land use change and preventing the encroachment of unwanted vegetation on agricultural land. In the SURE-EU system it must therefore be ensured that agricultural biomass – including the provision of harvest residues and other agricultural residues – is produced in an environmentally responsible manner.

Environmentally responsible biomass production means:

- ✓ farming that meets the requirements of CAP (Good Agricultural Practice)
- ✓ maintaining the soil in a “good agricultural and environmental condition”

SURE, with the provisions of the CAP Directives, refers to EC Regulation 1307/2013, regulates direct payments to farmers under the Common Agricultural Policy (also known as “cross-compliance criteria”). Specifications for environmentally responsible biomass production can be taken from the cross-compliance criteria in Annex II of the section “Environment, climate change, good agricultural condition of land” and in the correlation table in Annex III of Regulation (EU) 1306/2013.

In addition, the SURE-EU system must respect the principles of good agricultural practice and standards for maintaining land in good agricultural and environmental condition. The principles of good agricultural practice are to ensure the sustainable fertility and performance of soil as a natural resource.

The requirements of the SURE-EU scheme for environmentally responsible biomass production explicitly apply to harvest residues and other agricultural residues.

The principles of good agricultural practice include in particular:

- ✓ the soil structure is preserved or improved
- ✓ soil compaction is prevented to the extent possible, particularly taking into account soil type, soil moisture and soil pressure caused by the equipment used for farming
- ✓ soil erosion is prevented to the extent possible through site-adapted use, in particular by taking into account slope, water and wind conditions and soil cover
- ✓ natural structural elements of fields, especially hedges, trees growing in the middle of fields, field margins and field terraces, which are necessary to protect the soil, are maintained
- ✓ the biological activity of the soil is preserved or promoted by appropriate crop rotation
- ✓ the humus content of the soil typical of the site is preserved, in particular by a sufficient supply of organic matter or by reducing the intensity of tillage, and
- ✓ soil tillage must always be adapted to the site, taking into account the weather conditions.

### 5.5.1 The soil structure remains intact

Soil structure or soil texture means the physical distribution of the solid soil components. The suitability of a soil as a location for plants (production function of the soil) with high biological

activity (habitat function of the soil) and as a filter for the groundwater (regulating function of the soil) depends on this physical distribution with the encapsulated pores for soil air and soil water. A site- and field-specific, careful assessment of the soil structure is necessary.

In the SURE-EU system, agricultural land must be used in a way that preserves or improves the structure of the soil so that

- ✓ the physical condition of the soil is generally suitable for the intended crop by means of a sufficiently coarse and medium-pored, stable soil structure without harmful compaction and soil erosion
- ✓ the water, air and heat content as well as the filtering and buffering effect of the soil is ensured and nutrients are accessible through good root growth
- ✓ the potential for biological growth and degradation is increased and the self-regulating capacity of biologically active soils, which are sufficiently supplied with organic matter, is supported through microorganisms and soil animals
- ✓ possible interactions with disease and pest infestation are taken into account.

This can be achieved, for example, by:

- ✓ creating a porous, less silty soil surface through coarse-grained seedbed preparation after soil tillage or by mulch or direct sowing, strip-till method where this is possible or necessary depending on the location and crop rotation
- ✓ creating/maintaining a stable, resilient soil structure in the topsoil of farmland through gentle tillage to eliminate soil compaction or promote a crumb structure, sufficient humus supply, adaptation of soil loosening to crop rotation, conservation tillage (where possible) or biological stabilisation (intensive root growth, e.g. through catch crops and deep-root plants)

### 5.5.2 Soil compaction is prevented to the extent possible

Soil compaction is defined as the increase in soil density ( $\text{g}/\text{cm}^3$ ) or the corresponding decrease in pore content (vol.%) and has consequences for soil functions. It can be caused by anthropogenic factors (normal and shear forces, kneading), by subsidence due to its own weight or by the deposition of solid substances.

In plant production, powerful machines, equipment and transport vehicles are used in the interest of high output. The performance parameters (engine power, working widths, container volumes, etc.) of agricultural tractors, harvesting machines in particular, and transport and application technology have increased over the past decades. The mechanical load of

agricultural soils carries the risk that when driving with extreme wheel loads under conditions that are too humid, harmful compaction can be caused in the subsoil.

In the SURE-EU system, cropland must be driven over in such a way that harmful compaction is prevented as far as possible, so that

- ✓ root growth, crop development and accessibility of water and nutrients are not affected
- ✓ the degradation of soil organic matter and buffering and filtering are not hindered
- ✓ the living conditions for soil microflora and fauna are not negatively affected
- ✓ the infiltration capacity is not inhibited

This can be achieved, for example, by:

- ✓ technical possibilities, including reduction of the contact surface pressure (e.g. grid wheels, dual tyres, wide and terra tyres, belt drives, reduction of the internal tyre pressure, adaptation of the wheel load to the ground conditions), wheel load reduction (e.g. multi-axles, chassis that are gentle on the soil), use of machines and equipment with low wheel loads, power transmission that is gentle on the soil, prevention of soil slippage (e.g. all-wheel drive, PTO-driven instead of towed equipment on heavy soils, semi-mounted instead of mounted equipment), etc.
- ✓ possibilities for adapting working methods, including combining operations, driving outside the furrow when ploughing, not driving on unstable soil, using “crab steering” on multi-axle machines (e.g. beet or potato harvesters), providing field and intermediate storage, using full working widths to minimise trace amounts, etc.
- ✓ making the soil easier to drive over, e.g. by loosening of the soil specific to the soil type only under optimum conditions, restriction of ploughing and crumb loosening to the absolutely necessary extent depending on the crop rotation and crop type, restriction of deep loosening to the amount determined by previous assessment (e.g. soil probe, spade diagnosis), conservation tillage or direct sowing (as far as possible), biological stabilisation of a mechanically loosened soil structure (catch crop cultivation, set-aside or similar), etc.

### 5.5.3 Soils are protected against erosion

Soil erosion is defined as soil loss that is more or less influenced by erosive precipitation or wind and land use by humans. It leads to the detachment, transport and accumulation of soil particles and associated nutrients and pollutants. In addition to the negative effects of soil displacement with respect to soil functions and soil fertility on the affected area, substance

discharges and inputs can have consequences for neighbouring and distant water bodies and biotopes.

In the SURE-EU system, producers have to protect the soil from erosion by means of appropriate measures. This requires

- ✓ a basic evaluation of the farmland with regard to its potential risk of erosion, which can be derived from the length of the slope, slope gradient, type of soil, soil cover (tillage method, crop rotation) and, in particular, from empirical values (the potential soil erosion to be determined (e.g. by means of a soil erosion equation) must not, however, be equated with the actual soil erosion), as well as
- ✓ precautionary measures derived from this, which must be based on the assessment of the potential risk.

The challenge is to maintain the natural soil structure while lowering the risk of erosion caused by wind and water and to minimise the amount of time the soil is uncovered (e.g. time between harvest and next sowing). Areas with a higher potential for or risk of erosion should be identified and subject to special monitoring. Special attention should be paid to very sandy soils and land on slopes.

Minimum requirements to reduce the risk of erosion are therefore defined, depending on the degree of water or wind erosion risk on agricultural land. As guidance for the risk assessment and the minimum requirements derived from it, the SURE-EU system refers to the recommendations of the “GAEC 5 provisions” and the provisions of cross compliance to limit soil erosion during tillage.

According to the GAEC 5 and cross-compliance provisions, the following applies:

- ✓ Cropland assigned to the water erosion category  $CC_{Water1}$  and not included in a special erosion control measure may not be ploughed from 1 December to the end of 15 February. Ploughing after the previous crop has been harvested is permitted only if sown before 1 December. Where cultivation occurs perpendicular to the slope, these two restrictions on ploughing do not apply.
- ✓ If cropland is assigned to the water erosion category  $CC_{Water2}$  and is not included in a special erosion control measure, it may not be ploughed between 1 December and 15 February. Ploughing between 16 February and the end of 30 November is allowed only right after sowing. The latest date for sowing is 30 November. Ploughing is prohibited before sowing row crops with row spacing of 45 centimetres or more.
- ✓ If cropland is assigned to the wind erosion category  $CC_{Wind}$  and is not included in a special erosion control measure, it may only be ploughed if sown before 15 March. Deviating from this rule, ploughing is only permitted from 1 March onwards, except

in the case of row crops with row spacing of 45 centimetres or more, when sowing takes place immediately afterwards. The ban on ploughing of row crops does not apply where, before 1 December, green strips at least 2,5 metres wide and at a distance of not more than 100 metres are sown perpendicular to the main wind direction, or in the case of crops grown in embankments, where the embankments are positioned perpendicular to the main wind direction, or where seedlings are planted immediately after ploughing.

Basic measures to prevent soil erosion can be, for example:

- ✓ Erosion-reducing soil tillage and cultivation methods such as conservation tillage with mulch sowing for the purpose of large-scale erosion control (if possible, in the entire crop rotation, but at least in individual areas particularly affected by erosion (maize, sugar beets), mulch sowing if possible without seedbed preparation in the interest of leaving a soil-protecting mulch layer and maintaining stable soil aggregates, etc.)
- ✓ Measures to prevent erosion in crop and plant farming, such as minimising periods without soil cover, including crop rotation, catch crops, undersowing and straw mulch, tilling the soil perpendicular to the slope, avoiding tracks running downhill, avoiding or eliminating infiltration-inhibiting soil compaction, establishing and preserving stable soil aggregates that reduce silting by promoting biological activity and by lime or similar measures, etc.
- ✓ Erosion-reducing design of crops and fields, such as subdividing the field by erosion control strips (e.g. trees, field margins), paths with ditches or by laying windbreaks perpendicular to the gradient or main wind direction, laying parallel strips perpendicular to the gradient and main wind direction with a change of crop types or sowing grass strips to slow down runoff, etc.

#### 5.5.4 Natural structural elements of the field are preserved

In the SURE-EU system, the producers must ensure, where possible, that typical landscape features (e.g. hedges, ponds, natural watercourses, ditches, trees in line, in groups or isolated, etc.) are reserved or restored.

The protection of natural structural elements in fields or in the agricultural area is both a component of proper agriculture and an important goal of nature conservation. The importance of natural structural elements results from their diverse ecological and cultural functions (soil and water protection, habitat function for flora and fauna, landscape diversity and character).

The soil protection function of structural elements in the agricultural area primarily extends to the reduction of soil erosion by wind and water on cropland. As a result, the structural

elements required for soil protection should be preserved and, if necessary, supplemented. The SURE-EU system refers here to the “GAEC 7 provisions” on the protection of landscape features, which include in particular:

- ✓ structural elements to reduce wind erosion on farmland, such as permeable hedges/windbreak plantings, sufficiently dense rows of trees, possibly also other woodland plantings or landscape features that increase the roughness of the terrain, and
- ✓ structural elements to reduce water erosion on farmland, such as farmland terraces, roadways with borders, copses, absolute grassland and other small structures, ditches across the gradient, grass strips/margins with sufficiently deep marginal furrows and sufficient width across the gradient, hedges with undergrowth and sufficiently deep furrows at the edges as well as sufficient width perpendicular to the direction of the slope, in each case within and/or above the field, permanent grassland on slopes, in hollows, in former valley paths and deep gullies to slow down runoff and erosion.

When creating new structural elements for soil protection, former paths, field boundaries etc. should be used as far as possible. Through their integration into an overall concept of agricultural land use, they not only serve the purpose of soil protection, but also fulfil other ecological functions, especially with regard to biodiversity (biotope and biotope network function) as well as the diversity and individuality of the landscape.

### 5.5.5 The soil organic matter content typical of the site is maintained

The humus (also: soil organic matter (also  $C_{org}$ ) is a prerequisite for soil formation and soil fertility and represents one of the largest carbon pools. It influences almost all physical, chemical and biological soil properties as well as the C and N cycles. It is therefore a decisive environmental factor and requires special attention. This raises the question of the optimal humus content. Humus and the nutrients it contains must be seen as an inseparable unit, as they influence each other.

In contrast to the mineral plant nutrients in the soil, there are no international reference values for optimum or desirable humus content of soils. Soil organic matter (SOM) consists of a decomposable (active) and a largely inert (stable) fraction. Only the decomposable part (“nutrient humus”) is dependent on soil management and can be influenced accordingly. On the other hand, the inert fraction (“permanent humus”), which accounts for up to two thirds of the total quantity, is largely protected from decomposition depending on the soil type.

The total content of humus alone therefore says very little about the supply of decomposable SOM. Thus, for example, arable sandy soil with 1% organically bound carbon is already very

rich in humus; a loamy soil with 1.5% C<sub>org</sub>, on the other hand, may already be completely poor in decomposable organic matter.

The soil organic matter levels must be maintained in the SURE-EU system by means of locally adapted field tillage practices or restored in the event that the soil has been drained of nutrients. This means that a balanced humus content must be sought for farmland, and a positive humus content must be sought in the event of undersupply. In the SURE-EU system, this requirement explicitly applies not only to the cultivation of the main crop on the farmland, but also to the use of harvest residues or other residues from agricultural land.

If organic fertiliser is used to improve the organic soil substance, the nutritional-physiological requirements of the soil must be taken into account. The generally lower tillage intensity of conservation cultivation methods can effectively contribute to maintaining and increasing the SOM with all the positive consequences for the soil structure and properties.

The supply of the soil with organic matter can be assessed with the help of a suitable “humus balance method”, as no reliable reference values for optimal humus content of the soil are available yet.

The requirements for the preservation of organic matter are considered to be met if there is sufficient crop diversification at farm level. Accordingly, the SURE-EU system sets minimum requirements for the number and permitted percentages of individual agricultural crops in the total arable land of a farm. Diversification of cultivation generally only refers to the arable land of a farm. Permanent crops and permanent grassland, on the other hand, are not included in the agricultural crops to be taken into account in the context of crop diversification.

The following minimum requirements apply in the SURE-EU scheme to demonstrate soil organic matter preservation through crop diversification:

- ✓ Farms with up to 30 hectares of arable land must grow at least 2 different crops, with the main crop accounting for a maximum of 75 percent of the farmed area.  
Farms with more than 30 hectares of arable land must grow at least 3 different crops, with the main crop accounting for a maximum of 75 percent and the two crops with the largest area together for a maximum of 95 percent.  
If these farms meet the requirement ‘at least three different crops’ but do not meet all or part of the remaining requirements, the requirements are nevertheless met in the following two cases:
- ✓ The first exception involves farms with more than 75% grass or other green fodder crops as the main crop. In this case, the area of the other main crop of the remaining arable land must be less than 75%, unless this is fallow land.

- ✓ The second exception involves farms with more than 75% fallow land as their main crop. Then the area of the other main crop of the remaining arable land must be below 75%, unless this is grass or other green fodder crops.

If this is not the case, the preservation of soil organic matter in the SURE system can be verified (not exhaustive), for example by the following methods:

- ✓ every year, a humus balance is calculated at farm level by 31 March of the following year. If the humus balance is not below -75 kg humus-C per ha, the condition is met. The results of the humus balance must be kept for 5 years, or
- ✓ a soil humus survey is carried out, the results of which must not be older than 7 years in the calendar year in which the farm is inspected. Humus analyses are required for each field plot of 1 ha or more. For soil testing, humus content of more than 1% for soils with a clay content of up to 13% and a humus content of 1.5% for soils with a clay content of more than 13% is the limit value to meet the requirement. The results of the humus balance must be kept for a minimum of 8 years.

If, however, only crops with neutral or positive effects on the soil humus content (“humus multipliers”) are grown on a farm, the farmer is exempted from the requirement to create a humus balance or soil humus analysis and the requirement to maintain organic matter is also deemed to be fulfilled.

Crops with positive or neutral changes in the humus content are considered to be (according to Art. 3 (1)(6) in connection with Annex 4 of the Direct Payments Obligations Ordinance):

Protein crops (in particular field beans, peas, lupins) exclusively for the production of grain

- ✓ oilseeds (in particular rapeseed, sunflower) exclusively for the production of grain
- ✓ maize for the exclusive use of cobs or grains
- ✓ set-aside (cropland)
- ✓ perennial arable fodder (in particular clover, clover grass, lucerne, arable grass and mixtures thereof), also for seed multiplication
- ✓ green fallow land

The burning of stubble fields is prohibited in the SURE system in accordance with the “GAEC 6 provisions” for the preservation of soil organic matter. It can be approved if this is necessary for plant protection as defined in the Plant Protection Act and if there is no reason to be concerned about harmful effects on the natural balance.

### 5.5.6 Fertilisers are handled and used responsibly

Good Agricultural Practice includes rules for handling and applying all kind of fertilisers responsibly. Special attention must be paid to fertilisers with high nitrogen content because of their negative impact on ground and surface water quality (nitrates and ammonium) as well as on GHG emissions ( $\text{NH}_4$  and  $\text{NO}_2$ ).

Producers therefore need to implement practices that reduce nitrate pollution taking into consideration the specific farming conditions in their region and the type of crop. This means:

- ✓ respecting periods when it is prohibited to apply fertiliser
- ✓ not applying fertiliser to ground with a steep gradient
- ✓ not applying fertiliser to water-saturated, frozen or snow-covered ground
- ✓ creating a crop nutrient balance taking into account nutrient inputs in relation to crop offtake (input = every kind of fertiliser; crop offtake = everything that is harvested including straw and by-products) or documenting the fertiliser or nutrient quantities actually applied
- ✓ using care when applying fertiliser near watercourses (e.g. no fertiliser at all around or near bodies of water or reduced amounts)
- ✓ calculating and providing the necessary storage capacity and setting up slurry storage facilities
- ✓ storing mineral fertilisers in appropriate storage facilities (covered, dry and clean)
- ✓ undertaking measures to prevent water contamination caused by run-off and seepage of liquids that contain slurry or slurry effluent from stored plant material (e.g. silage) into the groundwater or surface water
- ✓ using suitable procedures for applying chemical and organic fertilisers that keep nutrient losses (nitrates) to the groundwater at an acceptable level in terms of fertiliser quantity and quality
- ✓ storing organic and mineral fertilisers in suitable areas or storage facilities (generally covered, dry and clean)

The producer must ensure that he himself and all employees involved in applying fertilisers have the knowledge necessary (expertise).

The producer must provide continuous documentation about the type of crop, time, area, type and amount of fertiliser.

### 5.5.7 Use of sludge

The use of “sludge” as defined in Article 2 a) of Directive 86/278/EEC as a fertiliser on agricultural land is prohibited unless country-specific laws and regulations explicitly allow and regulate the use of sludge consistent with the above Directive.

If sludge is allowed to be applied as fertiliser, the documentation and verification requirements are the same as for fertilisers. Proof that official authorisation has been granted to apply sludge must also be available.

### 5.5.8 The principles of integrated pest management are observed

Another important aspect of Good Agricultural Practice is integrated pest management (IPM). The goal is to ensure that products are safe and of high quality while minimising the use of pesticides and other chemical plant protection products. This goal is achieved through various preventative measures. It requires continuous monitoring and analysis of all conditions that affect plant growth.

Producers must keep proof of their IPM activities and assess their production processes in relation to integrated pest management processes.

### 5.5.9 Plant protection products are handled and applied properly and responsibly

Producers are not allowed to handle or apply plant protection products (PPP) that are not officially approved and registered for a specific target crop. This also explicitly includes local or temporary restrictions on application, e.g. in protected areas or in places where “incidents” have already occurred.

Producers must follow the manufacturer’s instructions provided for application.

Producers must keep and maintain adequate records of the plant protection products used for each type of crop, the quantity applied and the date of application. including the results of monitoring for a particular plant disease and how often it occurs.

They also have to provide information about the origin of the PPPs to ensure traceability (e.g. bills, shipping documents).

The producer must ensure that he himself and all employees involved in applying plant protection products have the knowledge necessary (expertise) for each activity. Every individual who handles PPPs must have appropriate personal safety equipment.

The equipment used to apply the PPPs must be appropriate (i.e. accurate dosage and distribution of the PPPs) and it must ensure safe working conditions. There must be a process in place for regularly inspecting and calibrating this equipment.

Leftovers of approved PPPs or substances that are still in the possession of the producer after the approval has expired may not be applied to plants as a means of disposing of them. Just like the packaging for PPPs, they must instead be provided to appropriate and approved disposal facilities or returned to the manufacturer, who is generally required to take them back, for disposal.

### Groundwater resources are protected

Producers may not discharge any dangerous substances contained in List I of Directive 2014/80/EC<sup>21</sup> into the groundwater. In agricultural production, this mainly involves substances such as products with a mineral oil basis and pesticides that explicitly contain toxic organic-chemical substances and substances with biological risk potential.

Producers must also prevent indirect discharge of the dangerous substances contained in List II of Directive 2014/80/EC into the groundwater. They thus have to provide adequate facilities for the storage and handling of slurry or other type of livestock manure and silage with no risk of leakage or drip loss. If national provisions apply (e.g. that these facilities have to be approved by the competent authority), they must be fulfilled.

The disposal, use or storage of these types of substances must comply with the applicable legal regulations.

#### 5.5.11 Water resources are protected, water management is documented

Water resources must be properly managed. In general, water must be protected against pollution and run-off to ensure that enough water is supplied to humans, livestock and crops (in this particular order) in line with their needs.

Erosion control strips must be installed along natural watercourses in which production is less intensive in terms of field tillage and the use of fertilisers and pesticides.

Where irrigation/sprinklers are required, a licence from the national or local authorities is required. Farmers must prove that they comply with irrigation regulations. Documentation showing the amount of water used and the time period of irrigation must be kept and be available at any time.

## 5.6 Calculation of greenhouse gas emissions

If agricultural biomass is used in electricity or heat production installations that are obliged to reduce greenhouse gas emissions or want to create a greenhouse gas balance on a voluntary basis, information on the greenhouse gas emissions associated with their production must already be provided at farm level. Greenhouse gas emissions from agricultural biomass may be determined using one of the following alternatives in accordance with Directive (EU) 2018/2001:

- ✓ on the basis of actual values calculated in accordance with the European regulations<sup>22</sup> of Directive (EU) 2018/2001,
- ✓ using disaggregated default values and
- ✓ using a combination of disaggregated and actual values

GHG emissions from the production of raw materials include GHG emissions from the cultivation and harvesting of raw materials, GHG emissions from the production of chemicals used in cultivation and other relevant substances, and are expressed in grams of CO<sub>2</sub> equivalent per kilogram dry matter of the raw material.

GHG emissions data must include accurate data on all relevant elements of the emission calculation formula (if relevant) under Directive (EU) 2018/2001.<sup>23</sup>

A detailed description of the requirements for calculating greenhouse gas emissions from the production of agricultural biomass can be found in the SURE document “Technical guidance for greenhouse gas calculation”.

## 6 Acceptance of other certification schemes for agricultural biomass

To import agricultural biomass or biomass fuels produced from it, SURE expressly reserves the right to explicitly recognise other individual certification schemes, provided that they meet the requirements defined by SURE at least equivalently. The accepted schemes will be published by SURE in the newsletter and on SURE’s website.

## 7 Relevant documents

With regard to the documentation (scheme documents) in the SURE-EU system, reference is made here to the document “Scope and basic scheme requirements”.

SURE reserves the right to create and publish additional supplementary scheme principles if necessary.

The legal EU regulations and provisions for sustainable biomass and biomass fuels including other relevant references that represent the basis of the SURE documentation are published separately on SURE’s website at [www.sure-system.org](http://www.sure-system.org). References to legal regulations always relate to the current version.

## 8 References

1

Heat or waste heat is also used to generate cooling with absorption chillers. “Heat” in this case therefore also encompasses “cooling” or “refrigeration”, regardless of whether the end use of the heat is actual heating or cooling via absorption machines.

2

pursuant to **EUROPEAN COMMISSION (2018)**: Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU.

3

**NOTE:** Because it is not possible to clearly assign the biomass area to the type of production that is ultimately used to produce biomass in accordance with Directive 2018/2001/EC at the time the biomass is grown or harvested (the seller decides whether the biomass is used for food, feed or energy), the agricultural biomass producer should specify all areas generally suitable for subsequent production. This ensures that the biomass processed in a subsequent production step actually originates from areas that comply with the requirements of Directive 2018/2001/EC. In addition, the farmer can be sure that – if the market situation allows – he can sell all of the biomass he produces in compliance with Directive 2018/2001/EC.

4

**NOTE:** Because it is not possible to clearly assign the biomass area to the type of production that is ultimately used to produce biomass in accordance with Directive 2018/2001/EC at the time the biomass is grown or harvested (the seller or processor decides whether it is used for food or animal feed or for energy production), the farmer should specify all areas generally suitable for subsequent production. This ensures that the biomass processed in a subsequent production step actually originates from areas that comply with the requirements of Directive 2018/2001/EC. In addition, the farmer can be sure that – if the market situation allows – he can sell all of the biomass he produces in compliance with Directive 2018/2001/EC.

5

pursuant to **EUROPEAN COMMISSION (2013)**: Regulation (EU) No. 1307/2013 of the European Parliament and of the Council of 17 December 2013 establishing rules for direct support schemes for farmers under support schemes for the common agricultural policy and repealing Council Regulation (EC) No. 637/2008 and Council Regulation (EC) No. 73/2009.

6

pursuant to **EUROPEAN COMMISSION (2013)**: Regulation (EC) No. 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) Article 17 (1) d, Article 21, Article 28, Article 30, Article 31, Article 33 and Article 34.

7

**NOTE:** SURE recommends documenting the status of land as of the cut-off date already in purchasing, leasing or management contracts by referencing suitable documents (see above). Simply stating the status in the contract is not sufficient as proof.

8

An overview of all standards adopted by the ILO is available on its website <https://www.ilo.org/global/standards/lang--en/index.htm> (last accessed on 06.04.2020).

9

An overview of the countries that have ratified the ILO Core Labour Standards can be found at: [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:10011:0::NO::P10011\\_DISPLAY\\_BY,P10011\\_CONVENTION\\_TYPE\\_CODE:2,F](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:10011:0::NO::P10011_DISPLAY_BY,P10011_CONVENTION_TYPE_CODE:2,F) (last accessed on 06.04.2020).

10

An overview of the countries that have ratified the ILO Core Labour Standards can be found at [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:10011:0::NO::P10011\\_DILAY\\_BY,P10011\\_CONVENTION\\_TYPE\\_CODE:2,F](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:10011:0::NO::P10011_DILAY_BY,P10011_CONVENTION_TYPE_CODE:2,F) (last accessed on 14.04.2020).

11

**CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES ON WILD FAUNA AND FLORA (CITES) (2019):** The CITES appendices I, II, III. Available at: <https://www.cites.org/eng/app/appendices.php> (last accessed on 06.04.2020).

12

see **EUROPEAN COMMISSION (2018):** Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU. Article 29 (3 )of Directive 2018/2001/EC.

13

In order to establish a common understanding of the terms and definitions used in these scheme principles, reference is made to the SURE document “Definitions in the SURE system”. All SURE scheme principles relate to this document.

14

**EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR ENERGY (DG ENER) (2015):** Letter to the voluntary schemes that have been recognised by the Commission for demonstrating compliance with the sustainability criteria for biofuels (29.01.2015) Available at: <https://ec.europa.eu/energy/sites/ener/files/documents/PAM%20to%20vs%20on%20HBG.pdf> (last accessed on 06.04.2020).

15

**NOTE:** The requirements for calculating greenhouse gas emissions as a result of land-use changes (e<sub>i</sub>) must be taken into account. The requirements for calculating the greenhouse gas emissions as a result of land-use changes are described in the SURE document “Technical guidance for greenhouse gas calculation”.

16

**EUROPEAN COMMISSION (2018):** Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU. Article 29 (4).

17

**EUROPEAN COMMISSION (2018):** Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU. Article 29 (4)(a).

18

“Land under agricultural use” in this context refers to tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems when crops are grown under tree cover (Communication of the Commission 2010/C 160/02).

19

**EUROPEAN COMMISSION (2018):** Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU. Article 29 (5).

20

**EUROPEAN COMMISSION (2010):** Communication from the Commission on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels (2010/C 160/02).

21

**EUROPEAN COMMISSION (2014):** Commission Directive 2014/80/EC of 20 June 2014 amending Annex II to Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration.

22

- I **EUROPEAN COMMISSION (2018):** Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU. Article 31 (1) to (31)(3) and Annex VI.
- II **EUROPEAN COMMISSION (2010):** 2010/335/: Commission Decision of 10 June 2010 on guidelines for the calculation of land carbon stocks for the purpose of Annex V to Directive 2009/28/EC. Annex II.
- III **EUROPEAN COMMISSION (2010):** Communication from the Commission on the practical implementation of the EU biofuels and bioliquids sustainability scheme and on counting rules for biofuels (2010/C 160/02), Annex II.
- IV **EUROPEAN COMMISSION (2017):** Communication from the Commission “Note on the conducting and verifying of actual calculations of the GHG emission saving”. Available at: [https://ec.europa.eu/energy/sites/ener/files/documents/note\\_on\\_ghg\\_final\\_update\\_v2\\_0.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/note_on_ghg_final_update_v2_0.pdf) (last accessed on 06.04.2020). The provisions listed here for biofuels apply to biomass fuels as well.

23

**EUROPEAN COMMISSION (2018):** Directive 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 (new version) to recast and repeal Directives 2009/28/EC, 2013/18/EU and 2015/1513/EU. Annex VI, Part B, No. 1.

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