


System Certyfikacji




KZR INiG

KZR INiG System/4

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 2 of 26


**Land use for raw materials production –
lands with high carbon stock**

by The Oil and Gas Institute – National Research Institute

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 3 of 26

List of contents

1. Introduction	4
2. Normative references	5
3. Definitions	5
4. Description and requirements.....	5
4.1. Wetlands.....	5
4.2. Continuously forested areas and forested areas with 10-30% canopy cover	6
4.3. Peatlands.....	8
5. Criteria on Wastes and residues from agricultural land	8
6. Conformity check	11
6.1. Criteria.....	11
6.1.1. Wetlands.....	13
6.1.2. Continuously or weakly forested areas	14
6.1.3. Peatlands.....	14
6.1.4. Soil quality management.....	16
6.1.4.1. Soil Management Plan (SMP).....	21
7. Annexes list.....	22
8. Checklist.....	23
9. Changes compared to the previous edition	23
10. References	25

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 4 of 26

1. Introduction

The document describes the KZR INiG System's requirements related to land with high carbon stock. These requirements provide guidelines on sustainable ways to produce, process, transport and use biofuel, bioliquids and biomass fuels produced from agricultural biomass, raw materials and feedstocks.


KZR INiG System regulations prohibit the use of raw materials obtained from categories of land listed below, unless the status of these lands has not changed in comparison with their status in January 2008:

1. Lands with high carbon stock:
 - a) wetlands,
 - b) continuously forested areas,
 - c) weakly forested areas.

In the case of peatland, an exception is possible. Additional requirements are discussed later in this document.

If the land falls into to one of the three categories listed above, all of the criteria discussed below apply.

All of the requirements included in this document apply to agricultural producers participating in the KZR INiG System. Agricultural producers that receive direct payments pursuant to Regulation (EC) no. 73/2009 are obliged to meet Cross-Compliance requirements and therefore they must fulfill agricultural and environmental requirements and standards such as soil and water protection, Habitat and Birds Directives, good agricultural practice, and management, etc. (for more information see System KZR INiG/6/*Land for raw materials production – agricultural and environmental requirements and standards*). Whether or not farmers are covered by the direct support scheme, they are obliged to comply with sustainability criteria related to high carbon stock lands. Farmers within the EU who supply raw material for biofuels/ bioliquids production not covered by the EU control system or beyond the EU must meet all KZR INiG System requirements.

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 5 of 26

2. Normative references

The normative references, covering all aspects of the KZR INiG System, are the following linked documents, which should be read in conjunction.

KZR INiG System /1/ Description of the KZR INiG System – general rules

KZR INiG System /2/ Definitions

KZR INiG System /3/ Reference with national legislation

KZR INiG System /4/ Land use for raw materials production – lands with high carbon stock

KZR INiG System /5/ Land use for raw materials production – biodiversity

KZR INiG System /6/ Land use for raw materials production – agricultural and environmental requirements and standards

KZR INiG System /7/ Guidance for proper functioning of mass balance system

KZR INiG System /8/ Guidelines for the determination of the life cycle per unit values of GHG emissions for biofuels, biomass fuels and bioliquids

KZR INiG System /9/ Requirements for certification bodies

KZR INiG System /10/ Guidelines for auditor and conduct of audit

KZR INiG System /11/ Forest biomass

3. Definitions


KZR INiG System/2/ Definitions

4. Description and requirements

4.1. Wetlands

Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw materials obtained from land with high carbon stock, namely land that had wetland status in January 2008 and no longer has that status. Wetland is land covered by or saturated with water permanently or for a significant part of the year.

Designation of wetlands requires definition of the geographical boundaries of areas so designated. Wetlands boundaries are often not defined precisely; they are movable and can

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 6 of 26

change depending on climate and current precipitation conditions. This influences the precision of the land status classification. For instance, due to seasonal changes of wetland boundaries the requirements for assessments conducted on-site must be higher than for assessment of other types of agricultural land. This applies to all wetlands, not only those included in the Convention on Wetlands of International Importance.

In such cases it may be necessary to integrate data other than geospatial data with on-site assessment results.


System participants, especially agricultural producers, first gathering points and brokers (middlemen), are obliged to, among other things:

- prove that the land on which the raw material was cultivated and harvested did not have wetland status in January 2008 or, if it has such status in January 2008, during the harvest of the raw material, the land status did not change;
- define the status, boundaries and characteristics of wetlands defined as such in January 2008, and indicate the boundaries of nearby raw materials production, existing or planned.

4.2. Continuously forested areas and forested areas with 10-30% canopy cover

Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from land with high carbon stock, i.e., land that had one of the following statuses in January 2008 and no longer has that status:

- continuously forested areas, i.e., land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30 %, or trees able to reach those thresholds *in situ*;
- land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10 and 30% 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 A is applied, the greenhouse gas (GHG) threshold would still be fulfilled;
- forest according to respective national legal definition;
- continuously forested areas do not include land that is predominantly under agricultural or urban land use. In this context, agricultural land use 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.

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 7 of 26

This requirement shall not apply if, at the time the raw material was harvested, the land had the same status as it had in January 2008.

Therefore, raw materials for biofuel, biomass fuel or bioliquid production may be harvested from continuously forested areas and weakly forested areas on condition that before and after January 2008, the area had preserved its status of continuously or weakly forested area. For weakly forested areas, it is necessary to ensure fulfilment of the requirements on GHG emissions, in accordance with the rules of System KZR INiG/8/ *Guidelines for determination of life cycle per unit values of GHG emissions for biofuels and bioliquids*. If in January 2008 this terrain would have been characterized by the same status after raw material harvest, the raw materials obtained from the land fulfill the sustainability criteria. This also applies to continuously forested areas, as well as wetlands. **From other naturally forested areas the harvesting of raw materials is prohibited.**

Continuously forested areas and weakly forested areas are characterized by the following definitions:

a) continuously forested areas

area: > 1 ha

height: > 5 m

canopy cover: > 30 %

b) weakly forested areas


area: > 1 ha

height: > 5 m

canopy cover: 10-30 %

System participants, especially agricultural producers, first gathering points and brokers (middlemen), may comply with this criterion by:

- proving that the raw materials are obtained from areas which did not have the status of continuously forested land in or after January 2008 (e.g. the areas are agricultural lands);
- in the case of raw materials obtained from weakly forested areas, **providing evidence** of GHG emissions, including any changes since January 2008 in the carbon stock of the area concerned.

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 8 of 26

Additionally, the influence of land use on carbon stock level should be taken into account.

4.3. Peatlands

Biofuels, bioliquids and biomass fuels produced from agricultural biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 of the RED II, shall not be made from raw material obtained from land that was peatland in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.

The KZR INiG System prohibits, for biofuels, biomass fuel or bioliquids production, the use of raw materials obtained from land that was peatlands in January 2008, unless:

- the soil was completely drained in January 2008, or
- there has been no draining of the soil since January 2008.

Thus, 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.


Peat itself is not considered biomass.

5. Criteria on Wastes and residues from agricultural land

Article 29.2 of the RED II says that biofuels, bioliquids and biomass fuels produced from agricultural waste and residues land shall be taken into account for the national renewable targets only where operators or national authorities have monitoring or management plans in place in order to address the impacts on soil quality and soil carbon.

KZR INiG shall verify that the harvesting of agricultural waste and residues does not have a negative impact on soil quality and soil carbon stock. Such verification shall ensure that a relevant set of essential soil management and monitoring practices is applied on the land to promote soil carbon sequestration and soil quality, in accordance with Annex VI of the COMMISSION IMPLEMENTING REGULATION (EU) on rules to verify sustainability and greenhouse gas emissions saving criteria and low indirect land-use change-risk criteria.

According to KZR INiG the burden of proof of compliance of meeting this criterion is placed on the first gathering point. This would be intended to avoid all farmers being obliged to assess and validate their residue extraction. This reduces the burden on the individual supplying farm

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 9 of 26

to provide evidence of compliance, although each farm would nonetheless be required to have in place the management practices.

The implementation of “essential soil management practices” is deemed to protect soil quality and soil carbon on farm. Evidence of monitoring and management practices can be demonstrated either through rules set out in national legislation or, if not available, at the first gathering point (sourcing area level). Examples of monitoring practices for soil quality and carbon mitigation impacts are presented in the table 4.

In order to verify the implementation of soil management practice, two steps approach is required:

Tier 1 – The application of ‘essential soil management practices’ on all farms where agricultural residues are collected is required in the country of origin of feedstock supply, and that the implementation of these practises is monitored and enforced;


Or – if this is not the case in the country of origin,

Tier 2 – It must be demonstrated that ‘essential soil management practices’ are in place on the farms from which the agricultural residues are collected.

Tier 1 – Determine if the country of origin (Member State or third country) of agricultural residues requires the application of essential soil management practices that aim to address the potential impacts of harvesting such residues on soil quality and soil carbon and has in place mechanisms to monitor and enforce implementation of these practices. The approach can be on the basis that soil management plans are required under national law. FGP is obliged to indicate specific acts and regulation in this context.

It is required to check whether a country of origin of agricultural residues has established the essential soil management practices set out in Table 3. Evidence of establishment of such land management practices must be accompanied by evidence that their implementation on land where residues are collected for energy purposes is monitored and enforced.

Evidence of compliance would be determined through identification of relevant national laws and policies, for example through existing agriculture policy frameworks in the country of origin.

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 10 of 26

State institutions in EU and developed countries carry out, independently or in cooperation with research institutes or relevant industry organizations, monitoring compliance with individual agro-environmental-climatic aspects covered by the standards, and this information provides evidence of the implementation of essential soil management practices. The results of this monitoring are detailed periodic reports on various aspects of soil management (e.g. assessment of organic carbon resources, straw surplus balance), but also publicly available online maps (e.g. maps with an analysis of biomass supply/production potentials), which may indicate where the surplus biomass in the form of agricultural residues. Therefore, in countries where such rigorous application of “essential soil management practices” is required on all farms collecting agricultural residues, where these practices are regularly monitored and the implementation of these practices is enforced, we achieve Tier 1.


If Tier 1 is not met, demonstrating compliance at national level is not possible and an economic operator should proceed with demonstrating compliance in relation to the individual farm holdings that are supplying biomass. In this case guidance listed in Tier 2 apply. It is then necessary to confirm First Gathering Point's implementation of "essential soil management practices".

Tier 2 – Essential soil management practices must be demonstrated (monitored/seen to be implemented) to be in place on the farm holdings supplying the biomass.

Farms where agricultural residues are sold for energy must demonstrate that crops are being produced in line with the essential soil management practices set out in Table 3.

The first gathering point is required to collect self-declarations provided by the producers supplying the agricultural residues as proof of compliance. The declarations would be sent by each farm to the first gathering point annually in a standard format. See annex 1 to the document KZR INiG System/1.

The first gathering point is required to have in place an internal management system to check that the supplying farms are in compliance with the above-mentioned requirements. A fundamental component of such a system is an internal monitoring process, including implications for non-compliance of farms. Compliance of the sourcing area around the gathering point will be checked by KZR INiG certification bodies auditors. They will review the documentation provided by farms to the first gathering point and check for evidence that farms exist, that inputs and outputs of residual material tally (and apply rules for waste and residue management).

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 11 of 26

6. Conformity check

The KZR INiG System prohibits, for production of biofuels or bioliquids, obtaining raw materials from:

- a) wetlands,
- b) continuously forested areas
- c) weakly forested areas,
- d) peatlands [art. 29(5)],

- as long as the status of lands a-c has not changed from its status in January 2008. In the case of peatland (li. d), an exception is possible according to section 6.1.3.

NOTE

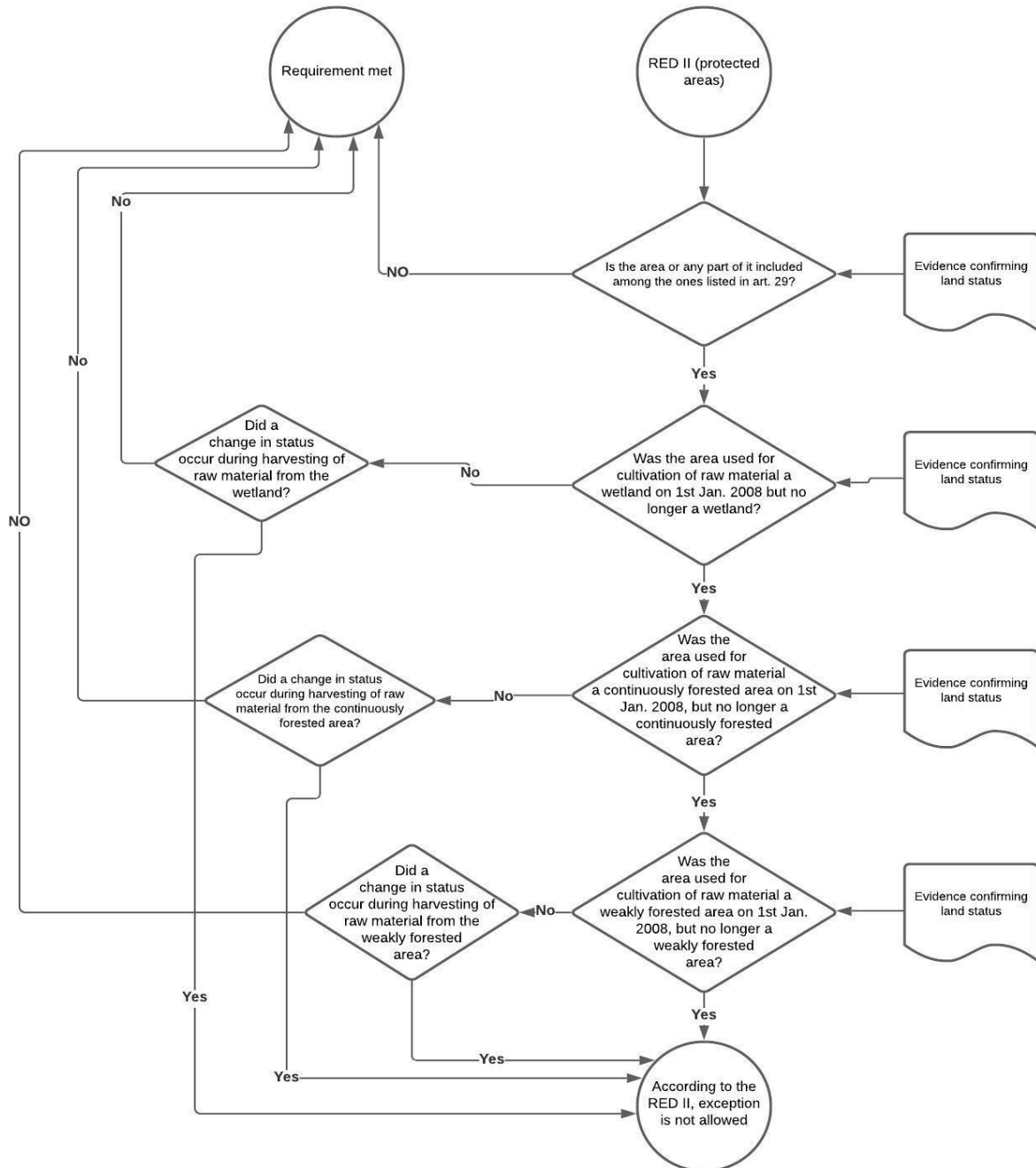
Proofs of compliance with land-related criteria are demonstrable in many different forms, including aerial photographs, satellite images, maps, land register entries/database, site surveys, and other reliable documents. The evidence can be 'positive' or 'negative'. Geospatial and/or non-geospatial data may not always be sufficient to allow a firm conclusion on the status of the land for the RED II. In those cases, on-site assessments (interviews with local experts or communities) could provide the necessary additional information. Additional guidelines concerning verification of land status are given in the KZR System/9 document.


6.1. Criteria

Figure 1 shows the evaluation path for lands with high carbon stock.



Figure 1 –Evaluation path for lands with high carbon stock



	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 13 of 26

6.1.1. Wetlands

Scenario 1 – the farm/plantation was established after January 2008

In this case, the participant must credibly prove that in January 2008 the land did not have wetland status, or it had wetland status on that date but production of the raw material on the land cannot result in a change of its status.

Scenario 2 – the farm was established before January 2008

In this case, the participant must credibly prove that in January 2008 the land did not have wetland status, or it had wetland status on that date but production of the raw material on the land cannot result in a change of its status.


Scenario 3 – establishing a new farm/plantation

In this case, the participant may choose to obtain information about the land where the farm/plantation is to be established, in order to check whether the land has wetland status at present, and/or had it in January 2008.

To demonstrate compliance with this criterion, the agricultural producer may provide:

- a) satellite images, aerial photograph, maps, or land-use plans. These means of verification may be considered as reliable sources on condition that they unequivocally show that the land was not a wetland area or indicating lack of existence of water reservoirs in comparison to January 2008 and after that date; **or**
- b) reports, lists of water and swamp areas with a description of, for example, land topography, **or**
- c) an excerpt and map extract from the water register. Based on this register, it may be checked whether or not defined wetland areas (e.g. intermediate peatland such as quagmire) occur in the given region in comparison to January 2008. Proof should be provided in the form of a document (a printout is acceptable) with an attached map, satellite image or map extract from the land register (containing information about land use), **or**
- d) other as defined in the document KZR INiG System/9.

Evidence of verification should reflect seasonal changes within a year.

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 14 of 26

6.1.2. Continuously or weakly forested areas

Claims that the land is not a continuously forested area (canopy cover exceeds 30 %) or a weakly forested area (canopy cover 10-30 %) are subject to evaluation of defined thresholds of canopy cover and the possibility of reaching those thresholds *in situ*. During the evaluation, changes in land use in comparison to January 2008 are taken into account.

To demonstrate compliance, the agricultural producer should provide:

- a) satellite images, aerial photographs, a map extract from the land register (containing information about land use) with borders marked, or other geospatial data. These means of verification may be considered reliable sources on condition that they unequivocally prove that the land was not a continuously forested area or a weakly forested area in comparison to January 2008 or after that date, **or**
- b) other as defined in the document KZR INiG System/9.

6.1.3. Peatlands

The KZR INiG System prohibits the use of raw materials obtained from land that was peatland in January 2008. For biofuels, biomass fuels and bioliquids produced from raw materials grown on land that was peatland in January 2008, an exception is possible if evidence is provided that the soil was completely drained before January 2008 or there has been no draining of the soil since January 2008. This means that for peatland that was partially drained before January 2008, a subsequent more profound drainage, affecting soil that was not already fully drained, would constitute a breach of the criterion.

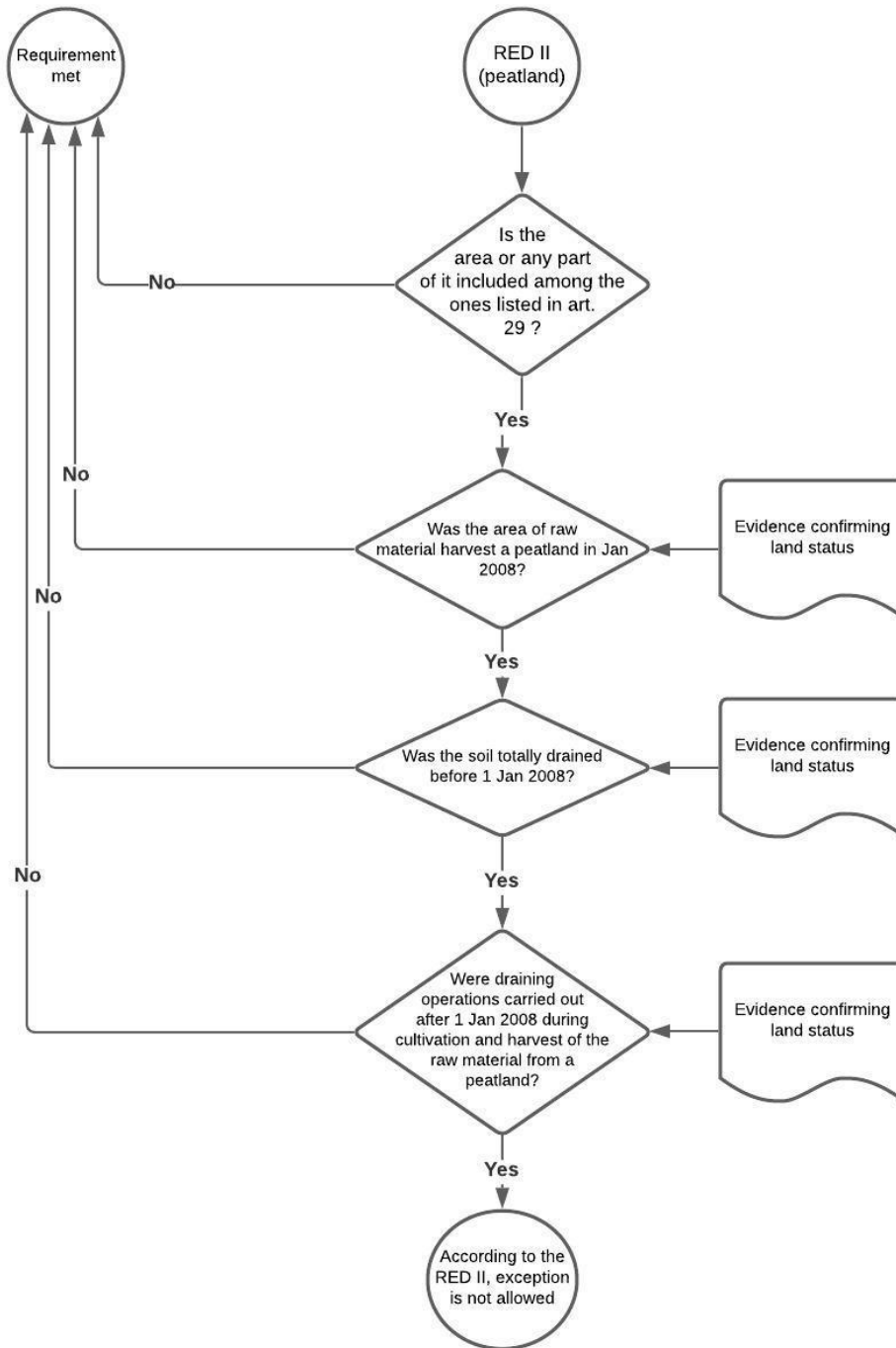
To demonstrate compliance, the agricultural producer may provide:


- a) satellite images, aerial photographs, a map with borders marked, or an excerpt and map extract from the register. These means of verification may be considered as reliable sources on condition that they unequivocally prove whether or not the land had peatland status in January 2008, **or**
- b) a document (e.g., drainage plans) indicating that after January 2008 the cultivation and harvesting of the raw material has not involved drainage of previously undrained soil, **or**
- c) other as defined in the KZR INiG/9.

Figure 2 shows the path for evaluating conformity with these requirements.



Figure 2 – Evaluation check path for peatlands



	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 16 of 26

6.1.4. Soil quality management

For the purposes of complying with the requirements of Article 29(2) of Directive (EU) 2018/2001, KZR INiG verifies that the harvesting of agricultural waste and residues does not have a negative impact on the soil quality and the soil carbon stock. Such verification ensures that a relevant set of essential soil management or monitoring practices is applied on the land to promote soil carbon sequestration and soil quality.

In order to demonstrate compliance with Article 29.2 of the RED II, following tools may be used.



	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 17 of 26

Table. 1 Tools for demonstrating compliance

Tiers	Requirement	Evidence	Management	Monitoring
1	<p>The country of origin of agricultural residues requires the application of essential soil management practices that aim to address the potential impacts of harvesting such residues on soil quality and soil carbon.</p> <p>This meets the requirements of Art. 29.2. of the REDII as follows:</p> <ul style="list-style-type: none"> The country mandates the list of essential soil management practices to mitigate the impacts of residue harvesting on soil quality and soil carbon as part of wider legislation to manage agricultural land; It requires monitoring of the application of rules set out to provide evidence that essential soil management practices are in place. 	<p>Legal requirement for the essential soil management practices to be put in place and monitoring to demonstrate that practices are being put in place.</p>	<p>A Member State potentially as part of its obligations under the future Common Agricultural Policy (CAP) may require that essential management practices are applied.</p> <p>For Third countries where there are schemes or mandated requirements to implement the list of essential management practices on farms.</p>	<p>For rules on crop rotation and cover crops, remote sensing tools should be able to provide evidence of evolutions in crop cover and crop patterns. If this is not available aerial photographs or on-site surveys will need to be relied on based on some form of systematic monitoring methodology. In the case of onsite surveys these would need to review a sample of farms and farm records for crop rotation evidence/infield photographic evidence. For bare soils a transect based methodology assessing the proportion of bare soil in a given area could be applied.</p> <p>For burning of arable stubble, there would need to be a mechanism of compliance to ensure stubble is not burnt and a mechanism to monitor infringements.</p> <p>Monitoring to assess types and level of agricultural residue use in the energy sector.</p>
2	<p>The entity acting as first gathering point or economic operator can demonstrate that the agricultural residues used to fulfil</p>	<p>The first gathering point/economic operator is required to demonstrate that residues used are produced on farms</p>	<p>On farm management of soils in line with the essential soil management</p>	<p>The KZR INiG certification bodies auditors to verify the self-declarations and audit on farm records to ensure</p>

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 18 of 26

	<p>the requirements of Article 29.2 are harvested from within sourcing areas or on farms where essential soil management practices are in place and have in place monitoring systems to demonstrate compliance.</p> <p>This meets the requirements of Art. 29.2 of the REDII as follows:</p> <ul style="list-style-type: none"> • It requires the first gathering point/economic operator to demonstrate that agricultural residues are sourced from areas/holdings where essential management practices are put in place to mitigate the impacts of residue harvesting on soil quality and soil carbon; • It requires third party verification of residue suppliers' reporting on the implementation of essential management practices on a sample of farms; • It requires monitoring of compliance along the chain of custody 	<p>that comply with the essential soil management practices. To do so there are a number of possible routes:</p> <ul style="list-style-type: none"> - For all farms supplying residues a self-declaration is provided by the producers annually setting out compliance with the essential soil management practices, this is accompanied by a management system in place that can record sourcing and compliance of residues from the different suppliers (details on material, volume, date of acceptance; data recording on overall residue inputs and residue use/further sale). - A sourcing area approach i.e. a form of group certification could be undertaken based on mapping compliance in the local area using remote sensing and other resources and demonstrating that all residues are sourced from farms that meeting the essential management practice requirements. Management system rules above would still apply 	<p>practices set out in Table 3</p> <p>Management systems in place at the gathering point to ensure effective compliance systems</p>	<p>there is evidence of compliance. Evidence could include remote sensing, aerial photographs, on farm images of cropping patterns, evidence of purchase of seed e.g. for legume crops, cover crops, photographic evidence infield of crops in situ, infield assessment of bare soil proportions accompanied by photographic evidence.</p> <p>Monitoring at gathering point level of types of residues being processed and passed to energy users, proportions of residues being passed down energy supply chains, mapped extent and coverage of their sourcing area/farms, collated data on farm type and crop types covered</p>
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	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 19 of 26


Table. 2 Soil management best practices for soil quality and carbon mitigation impacts

Best practice	Mitigation impact
Low or no-till	Improves soil function, soil organic matter, compaction, aggregates, and other important aspects of soil quality
Cover crops	Cover crops can reduce wind erosion
Conservation agriculture practices	Includes practices such as direct seeding or soil cover (mulch or cover crops) that maintain or improve soil quality, or the inclusion of manure or digestate (as a result of biogas production). Care needs to be taken to manage the amount of manure used to avoid negative consequences.
Soil management plan	A soil management plan outlines the strategies and is a preventative rather than reactive measure.
Crop rotation or intercropping	Can maintain and improve soil fertility and soil structure.

Non-exhaustive lists of examples of essential management and monitoring practices to promote and monitor soil carbon sequestration and soil quality.

Table 3. 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 crops 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	Improved soil structure, soil biodiversity,

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 20 of 26


are degraded and where acidification impacts crop productivity.	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

Table 4. 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 increasing soil organic matter.
Soil erosion assessment	Ensures that erosion is below a tolerable level, i.e. USDA Agricultural Research Service ‘t’ levels.
Nutrient management plan	A plan outlining nutrient strategy (focusing mostly on N, P, K) and fertiliser regimes can prevent nutrient imbalances.
Regular soil pH analysis	Monitoring pH helps identify imbalances in pH.

The application of these practices may be required and monitored either at national level or at the level of economic operators. At national level, KZR INiG auditors verify that the country of origin, whether it is a Member State or a third country, 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. Fulfilment is on the condition that there is a requirement for a Soil Management Plan (or an equivalent mechanism) setting out soil management or monitoring practices, to be developed in accordance with Annex VI of IR 2022/996, under national law. The verification of national level compliance may only be delegated to a certification body, provided they have the technical capacity to perform this role. KZR INiG will have oversight of national level certification as part of the internal monitoring.

If national level compliance cannot be proved to demonstrate compliance with the essential soil management or monitoring practice requirements, then economic operators are obliged to prepare and maintain a Soil Management Plan for its sites. Where group auditing is used, KZR

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 21 of 26

INiG verifies that those practices are applied by all the economic operators covered by the group audit.

6.1.4.1. Soil Management Plan (SMP)

The characteristics of the soil are primarily determined by carbon compounds, which are mainly included in the organic matter, determining its physical, chemical, and biological properties and determining its fertility. In recent decades, soil degradation is the result of unsustainable management of soil organic matter (e.g. selling straw, no use of manure, green fertilisers), cultivation of monocultures and soil degradation due to erosion.

Good soil management is essential to maintaining a productive and sustainable agricultural system. Poor soil structure leads to poor crop growth, poor drainage and can be a key factor in runoff and erosion that can cause serious damage to surface waters and other sensitive habitats.

Therefore, it is important to have an appropriate soil management plan in place to help manage and protect the soil for each field. Such a soil management plan can also help identify areas where special actions may be needed.


If it is not possible to verify the implementation of “essential soil management practices” at Tier 1 (see point 5) then the FGP is obliged to define sourcing area and to develop SMP for this area. Farmers delivering residue are obliged to sign self-declaration (see annex 4.2) and deliver evidence of confirming having in place soil quality management practices.

For the sourcing area, the risk of soil quality deterioration shall be assessed, e.g. protection of archaeological sites, runoff and erosion risk assessment for each field and farm shall be considered. It will be helpful to observe the soil during and after rain to identify areas of poor drainage and where there may be runoff or erosion, including e.g. roads and tracks. Once this is done, a map showing the risk class shall be prepared. The use of fields shall be adapted to the capacity of the land to minimize the risk of environmental damage.

It shall be considered what additional actions should be taken to improve the content of organic matter in the soil. For all aspects of the SMP (e.g. soil organic matter, fertility, biodiversity, fertilization, etc.), take a soil sample, look at its structure in each field or part of the field, perform physico-chemical tests (e.g. pH, organic carbon content in soil and others) to decide what needs to be done to maintain or improve soil condition.

The impact of management practices and resulting soil conditions (organic matter, drainage status, structure and pH) on crop establishment, yields and quality in different crop rotations including cereals, sugar beets, potatoes, horticultural crops and grasses shall be assessed.

The impact of management practices on weed and disease pressure for each crop in the rotation shall be assessed. The impact of applied management practices on key indicators of soil biological, physical and chemical status shall be assessed.

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 22 of 26

The links between soil biology, soil structure and crop productivity need to be explored. Samples shall be taken at least once a year. The results of the conducted tests shall be related to both the blank sample and samples after the planned period of time. Regular monitoring and test records shall be maintained for each management issue in the SMP. Samples must be taken according to a planned methodology and procedure to ensure representativeness. Various generally available indicators can be used to assess the soil (e.g. Indicators of soil quality – physical properties (SP1611) Final Report to Defra).

Any field-specific problems, such as areas of poor growth, runoff or erosion, shall also be noted throughout the year. This will then allow you to draw conclusions on what happened and where you shall consider changing your management plan when we review your management plan. The plan shall be reviewed annually and include a subsequent assessment of soil structure, paying particular attention to areas where problems have been identified.


In order to increase the content of organic matter in soils, a number of agricultural practices are recommended aimed at limiting the loss of carbon from the soil, and even its recapture from the atmosphere to the soil. Agricultural practices that contribute to this include, but are not limited to:

- crop rotation, cover crops, inclusion of crops intended for plowing in the rotation,
- no-tillage systems with mulching,
- maximizing the time, the soil is covered with plants or their remains,
- the use of animal excrements or other organic substances in cultivation, e.g. post-harvest residues,
- no stubble burning, unless it is for plant health,
- controlling run-off and erosion,
- precision nutrient management, maintaining a positive balance of soil nutrients,
- reduction of fuel consumption,
- water management, irrigation, water storage ponds,
- biodiversity.

These issues are not exhaustive, and it is up to the FGP to decide which aspects should be included in the SMP. SMP shall be prepared in accordance with Appendix KZR INiG System/4.1. This appendix describes information on how to complete a soil management plan. Examples of aspects that should be covered by the SMP and examples of soil management proposals are described.

7. Annexes list

1. Annex 4.1 – Guidelines for the preparation of the Soil Management Plan

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 23 of 26

2. Annex 4.2 - Self-declaration for agricultural waste/residue producer

8. Checklist

KZR INiG System/ 10/ Guidelines for auditors and conduct of audits.

9. Changes compared to the previous edition

Date	Section	Previous requirement	Current requirement
31/08/2022	4.2.	Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from [...]	Biofuels, bioliquids and biomass fuels produced from agricultural biomass shall not be made from raw material obtained from [...] continuously forested areas do not include land that is predominantly under agricultural or urban land use. In this context, agricultural land use 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.
31/08/2022	6.1.1.	To demonstrate compliance with this criterion, the agricultural producer may provide: [...]	To demonstrate compliance with this criterion, the agricultural producer may provide: [...] Evidence of verification should reflect seasonal changes within a year.
31/08/2022	6.1.4	-	For the purposes of complying with the requirements of Article 29(2) of Directive (EU) 2018/2001, KZR INiG verifies that the harvesting of agricultural waste and residues does not have a negative impact on the soil quality and the soil carbon stock. Such verification ensures that a relevant set of essential soil management or monitoring practices is applied on the land to promote soil carbon sequestration and soil quality.
31/08/2022	6.1.4.	-	Non-exhaustive lists of examples of essential management and monitoring practices to promote and monitor soil carbon sequestration and soil quality.
31/08/2022	6.1.4	-	Table 4. Examples of essential soil management practices to promote soil carbon sequestration (given the absence of residues) and promote soil quality
31/08/2022	6.1.4	-	Table 5. Examples of monitoring practices for soil quality and carbon mitigation impacts
31/08/2022	6.1.4	-	The application of these practices may be required and monitored either at national level or at the level of economic operators. At national level, KZR INiG verifies that the country of origin, whether it is a Member State or a third country, 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. At the level of economic operators, KZR INiG verifies that such management practices are effectively applied and



Certification system of sustainable biofuels, biomass fuels and bioliquids production


Issue: 3rd

Date: 19/12/2023

Land use for raw materials production – lands with high carbon stock

Page 24 of 26

			monitored at the level of the farm holdings supplying the biomass. Where group auditing is used, KZR INiG verifies that those practices are applied by all the economic operators covered by the group audit.
19/12/2023	4.2	Continuously forested areas do not include land that is predominantly under agricultural or urban land use, because land under agricultural use in this context refers to trees standing in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems (crops are grown under tree cover).	Removed
19/12/2023	4.4	Land use change [...] when the crop reaches maturity, whichever is the earlier.	Removed
19/12/2023	5	Table 1	Removed
19/12/2023	5.	Tier 1 – Determine if the country of origin (Member State or third country) of agricultural residues requires the application of essential soil management practices that aim to address the potential impacts of harvesting such residues on soil quality and soil carbon and has in place mechanisms to monitor and enforce implementation of these practices.	Tier 1 – Determine if the country of origin (Member State or third country) of agricultural residues requires the application of essential soil management practices that aim to address the potential impacts of harvesting such residues on soil quality and soil carbon and has in place mechanisms to monitor and enforce implementation of these practices. The approach can be on the basis that soil management plans are required under national law. FGP is obliged to indicate specific acts and regulation in this context;
19/12/2023	5.	-	Added: State institutions in EU and developed countries carry out, independently or in cooperation with research institutes or relevant industry organizations, monitoring compliance with individual agro-environmental-climatic aspects covered by the standards, and this information provides evidence of the implementation of essential soil management practices. The results of this monitoring are detailed periodic reports on various aspects of soil management (e.g. assessment of organic carbon resources, straw surplus balance), but also publicly available online maps (e.g. maps with an analysis of biomass supply/production potentials),

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 25 of 26

			which may indicate where the surplus biomass in the form of agricultural residues. Therefore, in countries where such rigorous application of “essential soil management practices” is required on all farms collecting agricultural residues, where these practices are regularly monitored and the implementation of these practices is enforced, we achieve Tier 1.
19/12/23	5.	If Tier 1 is not met, demonstrating compliance at national level is not possible and an economic operator should proceed with demonstrating compliance in relation to the individual farm holdings that are supplying biomass. In this case guidance listed in Tier 2 apply.	If Tier 1 is not met, demonstrating compliance at national level is not possible and an economic operator should proceed with demonstrating compliance in relation to the individual farm holdings that are supplying biomass. In this case guidance listed in Tier 2 apply. It is then necessary to confirm First Gathering Point's implementation of " essential soil management practices".

10. References

EN 16214-3 *Sustainably produced biomass for energy applications – Principles, criteria, indicators and verifiers for biofuels and bioliquids – Part 3: Biodiversity and environmental aspects.*

Convention on Wetlands of International Importance especially as waterfowl habitat (J. of Laws 1978 No. 7 item 24).

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).

Acts on shaping the agricultural structure of 11.04.2003 (J. of Laws 2003 No. 64 item 592 as amended).

Act on protection of agricultural and forest lands of 03.02.1995 (J. of Laws 1995 No. 16 item 78 as amended)


Acts of 25.07.2001 on national register of farms and farm animals, and on changes in some acts (J. of Laws z 2001 r. No. 125 item 1363)

Handbook on GHG inventory in land use change and forestry sector, Consultative Group of Experts On National Communications From Parties Not Included In Annex and To The Convention, published by UNFCC.

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 (2010/335/EU).

EN 16214-4 *Sustainably produced biomass for energy applications – Principles, criteria, indicators and verifiers for biofuels and bioliquids – Part 4: Calculation methods of the greenhouse gas emission balance using a life cycle analysis.*

Council Regulation (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for

	Certification system of sustainable biofuels, biomass fuels and bioliquids production	Issue: 3 rd
		Date: 19/12/2023
	Land use for raw materials production – lands with high carbon stock	Page 26 of 26

farmers, amending Regulations (EC) No 1290/2005, (EC) No 247/2006, (EC) No 378/2007 and repealing Regulation (EC) No 1782/2003 (J. of Laws L 30 z 31.01.2009, s. 16–99).

Council Regulation (EC) No 73/2009 of 19 January 2009 establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers, amending Regulations (EC) No 1290/2005, (EC) No 247/2006, (EC) No 378/2007 and repealing Regulation (EC) No 1782/2003 (J. of Laws L 30 z 31.01.2009, s. 16–99).

Cross-compliance rule – Minimum standards, Scope A and Scope B valid from 2011, information folder of Agencja Restrukturyzacji i Rozwoju Wsi, November 2010.

Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (J. of Laws WE L 230, z 19.8.1991 r.).

Cross-compliance rule – Minimum standards, Scope A and Scope B valid from 2011, information folder of Agencja Restrukturyzacji i Rozwoju Wsi, November 2010.