REDcert

System scope and basic requirements

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1 Introduction

Climate change is a global concern which increasingly affects political and economic decisions.

The increase in greenhouse gas (GHG) emissions (carbon dioxide, methane and nitrous oxide) over the last few decades caused by the steady increase in traffic and industrialisation, both of which consume tremendous amounts of fossil fuels, is certainly one of the main reasons for this problem. Reducing GHG emissions is therefore a global challenge which was incorporated into the Kyoto protocol of the United Nations.

Different strategies have been pursued in recent years to lower GHG emissions: Investments in renewable sources of energy like wind and solar have been encouraged by financial incentives. Replacing fossil fuels with bioliquids and biofuels is also an important approach which has already became very popular in some countries (e.g. Brazil).

Unfortunately, the increase in the production of biomass for the production of bioliquids/biofuels, which is in part unchecked, has once again negatively impacted GHG emissions. Rising demand for palm oil has brought about the clearance of huge tracts of rainforest for new palm oil plantations which has become an absolute eco-nightmare in terms of sustainable biofuel strategies.

The European Community decided to impose further regulations on the sustainable and climate-friendly production of biomass and passed DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 April 2009 on the promotion of the use of energy from renewable sources and amended and subsequently repealed Directives 2001/77/EC and 2003/30/EC.

"It is in the interests of the Community to encourage the development of multilateral and bilateral agreements and <u>voluntary international or national schemes</u> that set standards for the production of sustainable biofuels and bioliquids, and that certify that the production of biofuels and bioliquids meets those standards. For that reason, provision should be made for such agreements or schemes to be recognised as providing reliable evidence and data, provided that they meet adequate standards of reliability, transparency and independent auditing" [1]

[1] See Directive 2009/28/EC Recital No. 79

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The REDcert system is this type of certification scheme approved by the European Commission as well as by the relevant authorities at national level in the member states (so far, this certification system is only in use in Germany). REDcert is an initiative of stakeholders (non-profit business associations) along the bioliquid/biofuel supply chain who want to actively demonstrate their willingness to take on responsibility by engaging in a cooperative and comprehensive certification system.

2 REDcert self-conception

Many of the key concerns of the economic groups affected have been taken into account in setting up the REDcert system. They, along with the relevant legal requirements, served as assumptions in the design of this system documentation. They include:

- **Competition**
  The global dimension of sustainability certification poses great challenges for certification systems and certification bodies. The prerequisites for sustainability certification are different depending on the type of biomass, what it is used for and the place it is produced or used. It is important for the economic groups affected to create adequate competition in the system environment and have different certification options to choose from depending on use.

- **Consistent 100% legal compliance**
  The REDcert system ensures legal compliance with certification requirements for the sustainable production of biomass according to the RED. In addition it imposes requirements concerning social criteria on biomass producers and processors. These are taken from several ILO conventions and laid down in REDcert requirements for the production of biomass, bioliquids and biofuels (3.4.9). This guarantees compatibility with all other officially approved certification systems in the acceptance and sale of biomass and prevents restrictions or even hindrances in the movement of goods.

- **Acknowledgement of accountability**
  By creating an industry-driven certification system, the economic groups affected by the new legislation are showing their willingness to take on individual responsibility and not just passively wait around for the ‘inevitable’ certification to be imposed on

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them. Instead, they are taking advantage of the opportunity afforded to them to design the system and actively encourage 'sustainability'.

- **Actively shaping the future**
  Launching a sustainability certification for biomass for energy use has the prospect of creating the framework for certification of all types of biomass no matter what it is used for at a later point in time – either through legislation or market influences.
  Because most companies, in addition to generating electricity from biomass, are already experimenting with different uses for biomass either with co-products or secondary products or the same 'output material', the companies will have enough time to set a new course.
- **The desire for synergies**
  The multiplicity of certification systems for the various forms of biomass used are taxing for companies not just organisationally speaking (documentation, verification, etc.) but also financially because each system usually has its own certification requirements, e.g. with regard to inspection intervals and inspector qualification.
  The goal here is, with the help of the REDcert system, to identify and capitalise on the potential synergies relating to disclosure and verification early on but also in the certification process itself (neutral inspections).

- **Encouraging ease of application in practice**
  By involving experts from all of the economic groups affected, particularly practitioners from companies situated along the production chain of biomass and biofuels/bioliquids, the aim is to ensure that the structure of the system is practically-oriented.

3 Scope

The REDcert system can be applied in all EU member states and selected third countries where the appropriate prerequisites are in place and the relevant information about specific regional and national conditions is available in relation to land classification, production, cultivation and social issues. This geographical scope is related to to the place where feedstocks are produced/collected. If economic operator who join the REDcert system import biomass from other countries outside the defined scope of the REDcert system they have to

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demonstrate compliance with the systems's requirements according to section 5.7 of this document.

The REDcert system can be applied in the following third countries:

- Ukraine
- Belarus

REDcert provides specific country schemes about these third countries, but also about the European member states for the certification bodies where appropriate information about specific regional and national conditions (e.g. national protected areas etc.) is documented. This country schemes have to be revised and updated continiously.

The REDcert certification system described below covers economic operator along the whole biomass chain (see definition in Fig. 5.4):

- farms producing biomass (agricultural feedstock)
- first gathering points
- collection points where waste and residues enter the processing chain
- all types of conversion plants
- supplier of biomass (feedstock and biofuels/bioliquids)

This biomass is supplied to economic operator who bring sustainable biofuels and bioliquids to the market and who need proof of sustainability, either for their own operation or for their operating sites, to reach their mandatory biofuel quota for renewable electricity production.

The system is intended to be used for biofuels and bioliquids produced from different types of biomass as defined in Annex V of the RED. This includes biomass derived from agricultural feedstock as well as biomass derived from waste and residues as far as the specific requirements set up in the article 17 (1) and (2) of the RED are met.

4 REDcert organisational structure

The REDcert certification system is operated by the *'REDcert Gesellschaft zur Zertifizierung nachhaltig erzeugter Biomasse mbH'* which is also the owner of the trademarked 'REDcert' brand.

The company's main focus is on the following processes:

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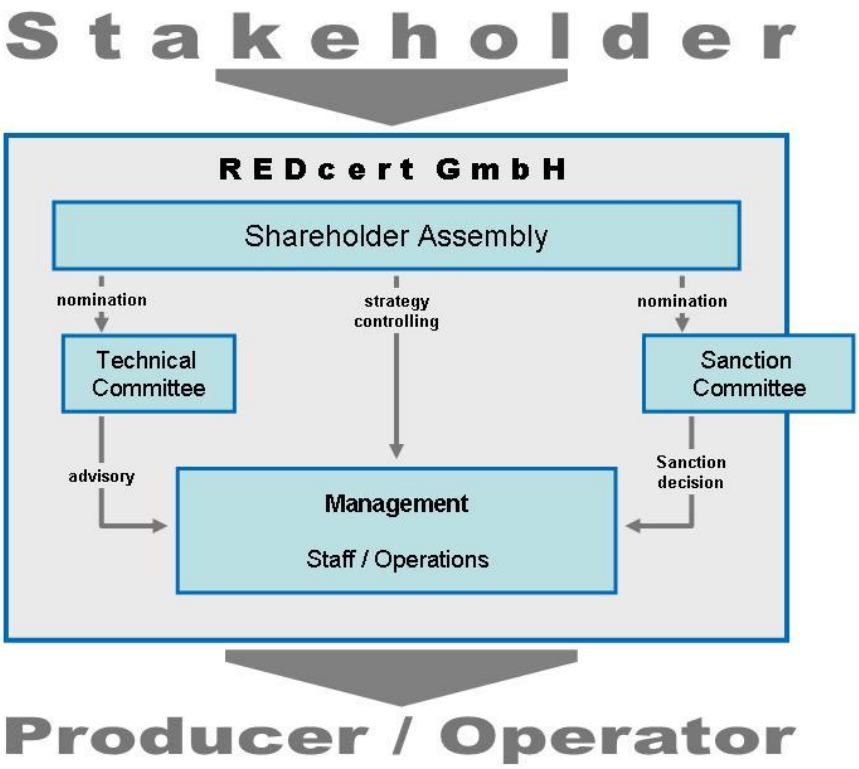
- developing, evaluating and modifying the system requirements to comply with legal and operational requirements
- managing operation of the certification system (registration of economic operator, certification bodies, certificates, etc.)
- imposing measures to prevent misuse and fraud
- supporting producers (farmer) and economic operator by implementing the system

An overview of the organisational structure is provided in the diagram below:



5 The REDcert certification system

The REDcert certification system was designed to satisfy the fundamental requirements of the Directive:

(1) Sustainability requirements for biomass production and cultivation

(2) Requirements for greenhouse gas emission savings and the calculation methodology

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(3) Requirements for traceability and mass balancing to provide end-to-end proof of the origin of the biomass.

It also defines requirements for the quality of the documentation as well as for the chain of custody.

These requirements are laid down in the system documentation which is subject to the European approval procedure and then submitted to the European Commission.

5.1 Sustainability requirements for biomass production and cultivation

If farmers produce 'sustainable biomass' as defined in the Directive, they must comply with RED's sustainability requirements for:

(1) The protection of areas with high biodiversity value

(2) The protection of areas with high carbon stock

(3) The protection of peat land

(4) Sustainable farm management

These requirements are described in detail in the REDcert document 'Requirements for the production of biomass, bioliquids and biofuels'.

5.2 Requirements for greenhouse gas emission savings and the calculation methodology

To comply with the requirements stipulated in the Directive, all biofules and bioliquids produced under the REDcert certification system have to prove greenhouse gas (GHG) emission savings of at least **35%** compared with the emissions of comparable fossil fuels. Each economic operator along the bioliquid/biofuel supply chain from the farmer to the final producer/conversion unit (which is equal to and usually named as 'last interface') has to provide the specific GHG emissions of the biomass he delivered/produced by

- using an actual value calculated in accordance with the methodology laid down in RED's Annex V (C) or
- using the disaggregated default values of the RED Annex V (D) or (E)

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The GHG emissions of transport and distribution have to be calculated by each economic operator receiving a consignment of biomass

- according to the formula laid down in REDcert document ‘Requirements for GHG calculation‘ (2.2.4) or
- by using disaggregated default values in part D or E of Annex V.

The last conversion unit (equal to ‘final producer’) has to determine the GHG emission saving by first calculating the total emissions from the production of biofuels/bioliquids based on data provided by its supply chain. This figure is then compared to the reference values for fossil fuels to arrive at the GHG emission saving (at least 35%). There are two ways for the last conversion unit to calculate the total emissions from the production of biofuels/bioliquids:

- where a default value for greenhouse gas emission saving for the production pathway is laid down in part A or B of Annex V and where the e_l value for those biofuels or bioliquids calculated in accordance with point 7 of part C of Annex V is equal to or less than zero, by using that default or
- by using a value calculated as the sum of the factors of the formula referred to in point 1 of part C of Annex V, where disaggregated default values in part D or E of Annex V may be used for some factors, and actual values, calculated in accordance with the methodology laid down in part C of Annex V, for all other factors

Emissions from distribution of the final product must also be taken into account and must be calculated according to the formula laid down in REDcert document ‘Requirements for GHG calculation‘ (2.2.4). The GHG emissions from the storage of finished materials as well as emissions from filling stations also have to be taken into account (see as well 2.2.4).

The final producer must determine these emissions and must state into which markets the product can be transported without falling below the minimum GHG savings.

Biofuels/bioliquids produced by installations that were in operation on 23 January 2008 are exempted from complying with the greenhouse gas saving criterion until 1 April 2013. Of course, these installations may fulfil the 35% GHG saving requirement before this date.

These requirements are described in detail in the REDcert document ‘Requirements for GHG calculation‘.

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5.3 Requirements for traceability and mass balancing to provide end-to-end proof of the origin of biomass

A tracking system needs to be set up at each step along the supply chain to provide end-to-end proof of the origin of biomass. Each consignment of biomass used for the production of sustainable bioliquids and biofuels therefore has to be

- clearly identified and labelled
- weighed or measured to determine the quantity
- qualified with respect to its individual GHG emission value or the respective disaggregated default value
- clearly identified as part of the REDcert certification system (or a different approved certification system when it enters the REDcert certification supply chain) by the certificate no. on the respective shipping document

This makes it possible to trace to origin of the sustainable biomass used to produce bioliquids and biofuels back through the different stages of distribution, production and supply all the way to its initial cultivation.

The traceability requirements are described in detail in the REDcert document ‘Requirements for mass balancing‘.

The RED system also requires a mass balance system which:

- allows consignments of raw material or biofuel with different sustainability characteristics to be mixed
- requires information about the sustainability characteristics of partial consignments to remain allocated to mixture
- provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture

More detailed requirements about the principles of a mass balance system are provided in section 2.2.3 of the Commission Communication No. 2010/C 160/01.
All of these requirements are described in detail in the REDcert document ‘Requirements for mass balancing’.

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5.4 Documentation requirements

The documentation requirements are laid down in the REDcert documents ‘Requirements for the production of biomass, bioliquids and biofuels‘, ‘Requirements for GHG calculation‘ and ‘Requirements for mass balancing‘.

Proper documentation is mandatory for compliance with the legal requirements relating to sustainable bioliquids and biofuels. The documentation in the mass balance system is particularly important are the results of the mass balance at the end of each permissible reporting period.

The documentation related to the production and traceability of sustainable biomass and bioliquids/biofuels has to be carefully reviewed as part of the certification process. Each producer and economic operator therefore has to provide his documentation when requested by the certification body. He also has to archive his documentation for at least 5 years as long as there are no other legal requirements that affect this time period. He must grant access to this documentation at any time regardless of the format or type of document (print-out, electronic).

5.5 System function

The REDcert certification system is approved by the European Commission.

The certification bodies recognised by REDcert have to be approved/accredited by the competent national authority or an accreditation authority depending on the particular legal requirement of the European member state where the certification service is performed.

To ensure that the certification system’s requirements are binding for economic operator as well as certification bodies, both are integrated in to the REDcert system through standard contracts that precisely define the rights and duties of both parties.

An overview of the structure and function of the certification system is provided in the diagram below

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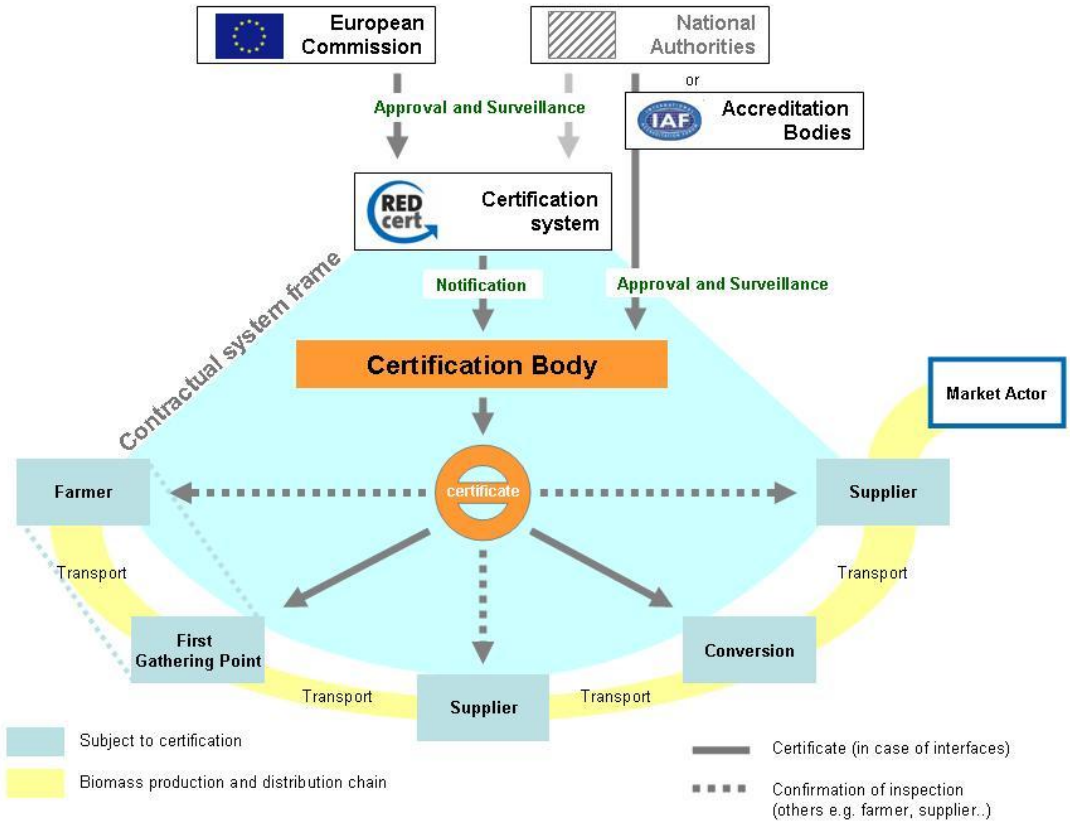

The different actors in the bioliquid/biofuel supply chain are:

Farmer

Farmers own and/or use arable agricultural land where biomass is produced and harvested as a raw material for the production of bioliquids/biofuels. They have to provide detailed information about the type, location and size of their fields used in the production of sustainable biomass and – if applicable – the status of the farm with reference to the requirements and standards under the provisions referred to under the heading 'Environment' in part A and in point 9 of Annex II to Council Regulation (EC) No 73/2009 of 19 January 2009 (cross compliance criteria). They have to grant access to all data and information related to the production and traceability of sustainable biomass for the purpose of certification.

Farmers/producers are given an 'inspection certificate' to certify that they fulfil system requirements.

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First gathering points

First gathering points receive biomass from the farmer/producer for the purpose of reselling or processing it. Even if the biomass is delivered from a farm directly to a warehouse or conversion plant on behalf of a first gathering point, this first gathering point is subject to certification as what is called an 'interface.'

The first gathering points are responsible for determining the origin, quality and amount of the sustainable biomass they receive. They are required to set up mass balancing system to record all consignments of sustainable biomass. First gathering points are inspected by a certification body once a year (12-month period). During the annual certification procedure, collection points or warehouses operated by the first gathering point are also subject to random inspections (see REDcert document 'Requirements for neutral inspections').

First gathering points (=interface) receive a 'certificate' to certify that they comply with system requirements.

Collection points

Collection points where waste/residues are collected for the purpose of further processing in the fuel chain have to start with the calculation of GHG emissions (collection and distribution process). They have to assure that the biomass they receive from other economic operator outside the 'chain of custody' as 'waste/residue' is defined correctly according to EU Commission Communication 2010/C 160/02 section 5.2

Supplier

Many economic operator along the supply chain are involved in trading or storing biomass or they act as brokers. These economic operator are considered 'suppliers' within the framework of the certification system. There are two types of suppliers in the supply chain:

- suppliers that come after a first gathering point who supply feedstock for further processing/conversion
- suppliers that come after a final conversion plant who supply bioliquids/biofuels to other suppliers or at least to final consumers of biofuels or bioliquids

Both may physically handle the sustainable biomass (storage, mixing) but do not perform any conversion of the biomass and bioliquids/biofuels. This definition also includes intermediaries who do not 'physically' handle the biomass.

Suppliers receive an 'inspection certificate' to certify that they fulfil system requirements.

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Conversion plants

Biomass is converted in oil mills, refineries, biodiesel and ethanol plants as well as other factories that process bioliquids or biofuels. They have to set up a mass balancing system where all consignments of sustainable biomass are recorded before and after the conversion process. They have to calculate their specific GHG emissions and, if they are what is known as the 'last interface' (the last conversion unit/final producer in the supply chain that processes bioliquids/biofuels at a quality level appropriate for it to be used as 'fuel'), they also have to calculate the GHG emission savings for the whole supply chain.

Every conversion plant (regardless of its legal status e.g. as a subsidiary or part of a corporate group) is subject to an annual certification process (12-month period).

Conversion plants (=interface) receive a 'certificate' to certify that they fulfil system requirements.

Transport companies

Transport services are not subject to certification. But they are asked to provide information about transport distances and fuel consumption upon request if an economic operator decides to calculate actual GHG emissions (this should be included in the transport order).

5.6 Registration and certification procedure

Economic operator who intend to use the REDcert certification system need to register on the REDcert website (http://www.redcert.org).

REDcert reviews the economic operator's data profile and then sends a system contract to him if the data is complete and clear. At the same time, he has to choose one of the certification bodies recognised by REDcert. The selected certification body has to confirm to REDcert that is has been commissioned by the respective company to perform certification.

After these steps have been carried out and REDcert and the economic operator have signed a system contract, the selected certification body performs an inspection to verify compliance with the requirements laid down in the system principles for neutral inspection in the REDcert system. After the inspection report is entered in the secure REDcert database, the certification body has to provide the certificate to the economic operator and publish it on REDcert's certificate platform (part of the public website).

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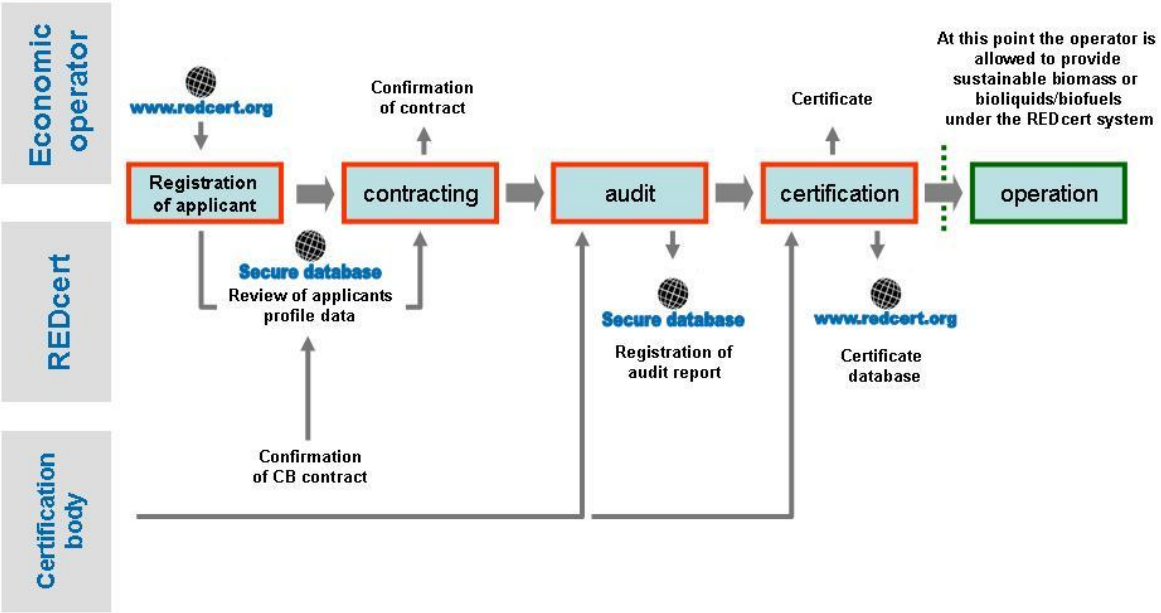
<u>Important</u>: Registering, signing a contract or passing an inspection does not authorise an economic operator to supply sustainable biomass under the REDcert system. The economic operator may only begin supplying sustainable biomass or bioliquids/biofuels once a valid certificate is available.

An overview of the registration and certification process is provided in the diagram below:



5.7 Other certification schemes

If economic operator want to 'import' biomass or bioliquids/biofuels from other certification schemes to further process or supply under the REDcert system, they must verify that the biomass or bioliquids/biofuels are certified under the <u>scope</u> (in terms of the criteria that scheme is recognised for) and the <u>version</u> of a voluntary certification scheme which have been recognised by the European Commission according to Directive 2009/28/EC.

Economic operator must ensure that these consignments of biomass or bioliquids/biofuels provide the same information about and proof of sustainability characteristics as consignments certified under the REDcert system.

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6 Measures for transparency and prevention of misuse and fraud

To satisfy the legislative requirements for transparency, REDcert follows various principles.

6.1 Transparency in system representation

REDcert informs the interested public (potential system users, media, associations and special interest groups) about the content and requirements of the certification system. All approved system documents required for implementation and monitoring the system are available at www.redcert.org. In addition, REDcert provides tools and informational materials to system participants and the certification bodies who work for them. Interested groups and government agencies thus have the opportunity to view these documents at any time.

6.2 Transparency in system membership

REDcert concludes written agreements both with the system participants (economic operator) as well as with the certification bodies working in the system. These contracts clearly stipulate the rights and obligations of the respective parties. These contracts ensure that the requirements of the certification system:

a) are binding in their application

b) can be verified and are transparent

c) can, when necessary, be enforced with legal means

The contracts are carefully designed standard documents. No individual agreements are made with respect to system requirements.

6.3 Transparency in system management

REDcert sets up a database to manage the certification system that documents all

- system participants including all of the dependent operational sites of each member registered
- all of the inspections conducted regardless of result
- all sanctions

The system management is always able to give authorised groups information about the status of the participants, inspections and sanctions.

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6.4 Prevention of misuse and fraud

The REDcert system cannot accept responsibility for ensuring that the system participants and the involved certification bodies act in compliance with laws. When a system contract is signed, it is assumed that the positive intention is to satisfy the system requirements.
At the same time, the contract system and, in particular, the hereby acknowledged sanction system of REDcert, have considerable built-in obstacles to prevent misuse of the system.
To prevent possible misrepresentations with respect to participation in the REDcert system that could lead third parties to assume that the biomass offered for sale/supplied by the supposed system participants has been sustainably produced, the term REDcert has been trademarked. This gives REDcert the ability at any time to take action against unauthorised service mark use, e.g. by non-system participants who claim to be part of the system, without requiring any further evidence of an actual misrepresentation.

7 Costs for participating companies

The system sponsor of the REDcert certification system represents the main economic groups affected by the sustainability certification through its shareholders - the business associations. It is absolutely in the interest of these shareholders not to initiate any unreasonable or unnecessary burdens for the member companies as a result of the certification system.

Accordingly, the fees charged for using the REDcert system are calculated on the basis of self-sustaining operation of the system. Generating profit is not the primary business objective of the system sponsor. Fees are set by the executive management in consultation with the Advisory Committee and the Shareholders Meeting.

The participant fees are shown transparently in a fee schedule that every interested company has acknowledged before joining the system.

The costs for the neutral inspection conducted by approved certification bodies are not defined by the REDcert system but are based on the principle of supply and demand in the competition between the certification bodies.

This means that REDcert satisfies the requirement contained in the Directive to prevent disproportionate costs for small farmers, producer organisations and agricultural

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cooperatives. In the REDcert system, small farms are operations whose productive land is more than 75% below the area farmed on average in the country and/or secondary farms that generate more than 50% of their operating/family income outside of agriculture. The costs of verification and, most importantly, inspection of the sustainability criteria in small and very small operations should not exceed the expected loss in revenue when the biomass produced by the farm as non-sustainable will likely have to be sold at lower revenues within the framework of the REDcert system.

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8 Relevant documents

The documentation structure of the REDcert system contains:

No.	Document	Issued / revised
1	System scope and basic requirements	V EU 3; 15.02.2012
2	Requirements for the production of biomass, bioliquids and biofuels	V EU 3; 15.02.2012
3	Requirements for GHG calculation	V EU 3; 15.02.2012
4	Requirements for mass balancing	V EU 3; 15.02.2012
5	Requirements for neutral inspections	V EU 3; 15.02.2012
6	Sanction system	V EU 3; 15.02.2012
7	Checklist for the inspection of interfaces, storage facilities and suppliers	V EU 3; 15.02.2012
8	Checklist for the inspection of farms	V EU 3; 15.02.2012

These documents describe the requirements and implementation of the European legislation and communication for sustainable biomass and bioliquids/biofuels:

No.	Document	Issued / revised
1	DIRECTIVE 2009/28/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC	23 April 2009
2	COMMISSION DECISION on guidelines for the calculation of land carbon stocks for the purpose of Annex V to Directive 2009/28/EC (notified under document C(2010) 3751) (2010/335/EU)	10 June 2010
3	Communication from the Commission on voluntary schemes and default values in the EU biofuels and bioliquids sustainability scheme (2010/C 160/01)	19 June 2010
4	Communication from the Commission on voluntary schemes and default values in the EU biofuels and bioliquids sustainability scheme (2010/C 160/02)	19 June 2010

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5	Council Regulation (EC) 73/2009	19 January 2009
6	ILOLEX Database http://www.ilo.org/ilolex/english/index.htm	

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