



ISCC 201 System Basics

System Basics

**for the certification of sustainable biomass and
bioenergy**

***ISCC 11-03-15
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System Basics for the certification of sustainable biomass and bioenergy

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1 Introduction

In the recent past, the production of energy from biomass has often been associated with land-use competition, increasing commodity prices and deforestation of rainforest. Until today, the international markets for agricultural commodities and bioenergy have not come up with a label for food, liquid biomass or biofuels from sustainable production. Thus, buyers do not have the possibility to choose between sustainable and non-sustainable products. The price is what makes a product successful. The market offers no incentives for sustainable producing farmers and bioenergy producers.

To overcome this deficit, policy has launched initiatives to avoid unwanted ecological and social side effects of the expanding biomass production. Certification is an instrument to distinguish sustainable products from non-sustainable ones on the market. It puts buyers in the position to opt deliberately for sustainability and greenhouse gas reduction. Hence, certification supports responsible farms and processing companies and reduces the risk of unsustainable production.

ISCC is such a certification system allowing a differentiation of sustainable products from non-sustainable ones including information on the greenhouse gas emissions at the different stages of the supply chain.

The certification of sustainable biomass for energetic use is a complex procedure. The ISCC certification system describes procedures and standards in its reference documents that allow an easy handling for the users. ISCC is based on the requirements set in the Renewable Energy Directive (2009/28/EC).

Sustainable production is a precondition for the further expansion of bioenergy use. The use of biomass for fuel, heat or electricity bears a big potential for climate protection and can reduce the dependency on energy imports. It is also expected that sustainability standards will be introduced on a voluntary or legal basis for the traditional markets as well as in the chemical / technical industries.

Independence, transparency and international scope are the characteristics of ISCC. The ISCC logo reliably distinguishes sustainable biomass and bioenergy from non-sustainable ones. ISCC provides a platform for the necessary dialogue. The essential characteristics of the ISCC system are:

- Globally applicable certification system for sustainability and the reduction of greenhouse gas emissions
- Not restricted to certain types of biomass only; covering all relevant raw materials
- Multi-stakeholder approach (farmers, processors, trade, industry, NGOs, associations, research institutions, authorities)
- Audits by independent 3rd party auditors, free from conflict of interest and competent
- Specific control points for sustainability audits
- Traceability based on mass balances
- Registry and Internet-publication of certificates issued
- Greenhouse gas accounting
- Cooperation with other recognized certification systems

- Learning system, based on the concept study and subsequent pilot projects of the years 2006 to 2009.

2 Scope

The system basics described hereafter are effective for the ISCC certification system for the certification of biomass, bioliquids and biofuels.

ISCC can be applied globally. In order to take the specific regional and national circumstances into account ISCC adds continuously information on area classification, production, cultivation and social issues. This will support the auditor in conducting the risk assessment and audit.

The requirements described in the system basics and in further documents of the certification system refer to all enterprises of the supply chain for biomass. This supply chain starts with farms delivering to the first gathering points which receive biomass from farms and transport or further process it and ends with economic operators which brings sustainable biofuels or bioliquids into the market, e.g. cogeneration plants, mineral oil companies etc.

The documentation structure of the ISCC system is shown in the following table.

	Nr.	Name	Content
Governance documents	101	ISCC Statutes	The statutes govern the basic organisation and decision making processes of the association ISCC e.V.
	102	National and Regional Initiatives	Rules for the implementation of National and Regional Initiatives
	103	Quality Management	Description of the quality management of the ISCC system
Technical documents	201	System Basics	This document describes the basic functions and processes of the ISCC system. A more detailed description of the contents can be found in further documents
	202	Sustainability Requirements – Requirements for the Production of Biomass	The sustainability requirements specify the standards for sustainable crop cultivation
	202-01	Checklist for the Control of Sustainability Requirements for the Production of Biomass	The Checklist supplements document ISCC 202 and gives further guidelines to the certification bodies on how to verify the

	Nr.	Name	Content
			requirements according to ISCC 202
	203	Requirements for Traceability	The listed requirements allow the traceability of biomass along supply chains, even complex and non stable supply chains. Data declarations at the individual stages of the supply chain is defined
	204	Mass Balance Calculation Methodology	The Chain of custody, is based on a mass balance methodology which is applied throughout the supply chain. Segregation is also allowed
	205	GHG Emission Calculation Methodology and GHG Audit	This document describes the detailed calculation methodology for GHG emissions and defines how certification bodies should audit the calculation
	207	Risk Management	Definition and requirements for the risk assessment and the consequences which are derived from it
	251	Requirements for Certification Bodies	Certification bodies audit the compliance with the ISCC standards. The document describes the requirements for certification bodies and which tasks they have to fulfil
	252	Regulations to carry out Audits	This document defines which audits the certification bodies have to conduct and which contents they have to consider
	253	Complaints, Appeals and Arbitration	In case of conflicts affecting ISCC this document provides procedures for arbitration
	256	Group Certification	Requirements for group certifications, in particular for small-holder farmers, producer organisations and cooperatives

	Nr.	Name	Content
Reference documents	401	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 amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC	This Directive describes the legal framework and the requirements with respect to a sustainable production of biofuels and bioliquids
	406	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)	Communication sets out how member states and economic operators can implement the sustainability criteria and the Renewable Energy Directive's counting rules for biofuels in practice (non binding)
	407	Communication from the Commission on voluntary schemes and default values in the EU biofuels and bioliquids sustainability scheme (2010/C 160/01)	Communication on guidelines for the practical implementation of sustainability schemes, default values and for the calculation of land carbon stocks based on the Renewable Energy Directive (non binding)

Table 1: Structure of the ISCC documentation

3 Normative references

All documents listed in the previous paragraph 2 are considered relevant references.

4 The ISCC certification system

4.1 Organisation

4.1.1 International level

The legally registered ISCC association is the responsible body for the ISCC system. Whoever is involved in the production, the processing and use of sustainable biomass can become member of this association; also other stakeholders interested in the ISCC certification system can become members, NGOs or scientific institutions, for instance. The day to day operation of the system is assigned to the ISCC System GmbH (ISCC limited liability corporation).

The General Assembly of the ISCC association incorporates all stakeholders and interested parties. The Board is constituted by members of the General Assembly. It represents the different groups participating in ISCC. The Board again may delegate the competencies to an Executive Board, which is necessary for an effective and stakeholder orientated management of the organisation. Technical Committees may be appointed by the Board as to support them in the handling of certain topics.

The structure of the organisation as well as the rights and duties of the involved actors are defined in document ISCC 101 ISCC Statutes.

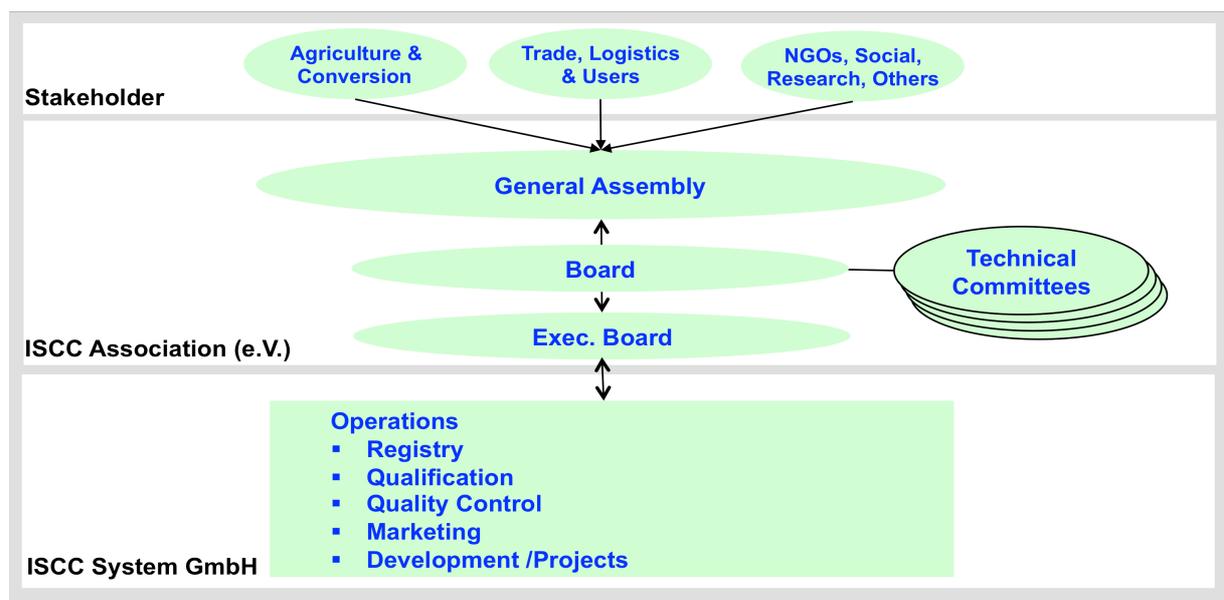


Figure 1: Interaction between Stakeholders, ISCC Association (e.V.) and ISCC System GmbH

4.1.2 National and regional level

Initiatives to promote and support the ISCC system can be formed under the umbrella of ISCC at national and regional level. Depending on the intensity of its activities, such initiatives can be an ISCC Contact Point, a National or Regional Technical Working Group or an ISCC Office.

The initiatives work and function according to the ISCC association's regulations. They are approved by and committed to ISCC through contracts.

The national or regional initiatives play an important role when an adjustment of ISCC international standard is needed due to specific national or regional circumstances. Such adjustments must always be recognized by the European Commission and / or the national public authority and if relevant by the accreditation body. However, there are no adjustments allowed regarding the requirements set in the Directive.

The initiatives must act in a way to take into account the respective stakeholder interests of the countries under the terms of the General Assembly.

Detailed procedures can be found in document ISCC 102 National and Regional Initiatives.

4.2 The processes of the certification system at a glance

Processes and procedures of the ISCC System and the related terminology are based on the binding requirements of the Directive 2009/28/EC (RED) of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

At the same time the organisation of the certification systems should enable an implementation as easy as possible for the participating elements of the supply chain.

The terminology and procedures in the system reflect the focus on a global application of the system. Specifics respectively special terminologies occurring from the implementation of the ordinances are pointed out where reasonable or necessary.

The subsequent figure 2 shows an overview of the processes in the ISCC System. ISCC has considered the requirements of ISAE 3000 in its system set up especially with respect to quality control, risk management by ISCC and the auditor, planning and performing of audits, sampling processes and reporting.

Certificates will be issued by an independent certification body after conducting a successful audit. Certificates are documents which confirm that the owner complies with the requirements of the RED. Certificates can be issued by the certification bodies for all relevant elements of the supply chain. A precondition for this issuance of certificates is the application for certification by the relevant elements of the supply chain and the positive participation in an audit which is conducted by this independent certification body, recognized by a national public authority or an accreditation body and cooperating with ISCC.

Certificates can be received by farms/plantations, first gathering points, conversion units, traders/warehouses. Every first gathering point and conversion unit needs to be audited in order to receive a certificate. Farms and plantations have two options. They can be audited individually or as part of a group (see also ISCC 256, group certification). Group auditing for compliance with the scheme's land related criteria is only acceptable when the areas concerned are near each other and have similar characteristics. Group auditing for the purpose of calculating greenhouse gas savings is only acceptable when the units have similar production systems and products. Warehouses can be audited as a single entity, as warehouses/collecting points belonging to a first gathering point or as part of a company's logistics network. In the latter case the logistic centre plus a sample of associated warehouses must be audited (see also ISCC 252 Regulations to carry out Audits and ISCC 207 Risk

Management). Relevant market players (economic operator which brings sustainable bio-liquids/biofuels into the market) can receive a certificate on a voluntary basis. Transport does not need to register with ISCC and does not need to receive a certificate.

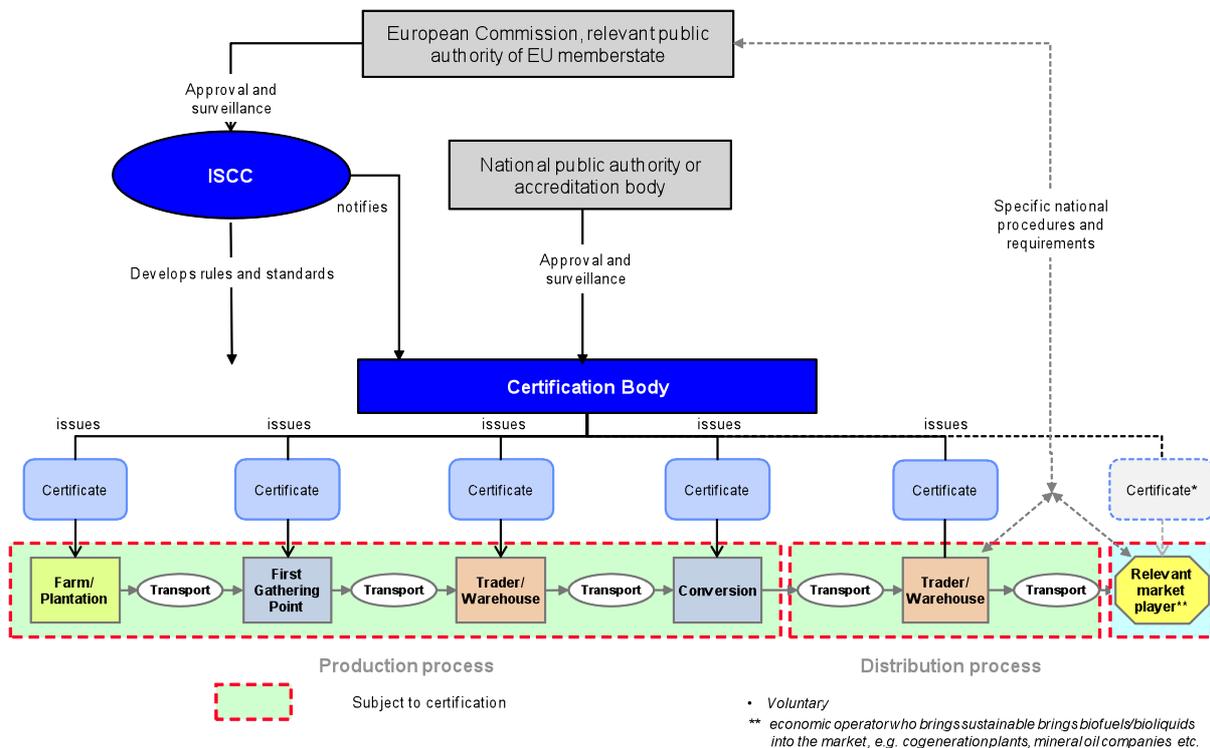


Figure 2: The processes of the certification system at a glance

The requirements for certification bodies are described in document ISCC 251 Requirements for Certification Bodies. Independence, free from conflict of interest and competence are important preconditions to be met by the third party auditors. Details of audit procedures are specified in ISCC 252 Regulations to carry out Audits. Audits must be properly planned, conducted and reported on, based on the procedures and requirements set in the system.

4.3 Certification criteria

4.3.1 Fundamentals

Compliance with three categories of certification criteria is mandatory in order to participate in the ISCC certification system:

- (1) Sustainability requirements for biomass production and cultivation
- (2) Requirements for greenhouse gas emission savings and the calculation methodology
- (3) Requirements for traceability and mass balance in order to provide consistent evidence of the origin of the biomass.

Within the ISCC documents these certification criteria and respective processes are defined as a globally valid standard.

In countries where the ISCC standard is applied can be specified by national or regional initiatives and described more precisely and adapted to the particular country situation. National or regional specifications will be subject to the recognition by the European Commission. No change of the requirements set in the Directive is allowed.

4.3.2 Sustainability requirements

Farms and plantations which produce sustainable biomass must comply with sustainability requirements. These requirements (see also ISCC 202 Sustainability Requirements for the Production of Biomass) are:

- (1) Protection of areas with high biodiversity value
- (2) Protection of areas with high carbon stock
- (3) Protection of peat land
- (4) Sustainable management of the farm.

4.3.3 Requirements concerning the greenhouse gas emission savings

To qualify for this certification system, the produced bioliquids and biofuels must grant greenhouse gas emission savings of at least 35 percent. To prove this, elements of the supply chain can either calculate their greenhouse gas emissions or use disaggregated default values. The last conversion unit in the chain (last interface) must finally calculate the greenhouse gas emission savings compared to the fossil reference for bioliquids and biofuels.

In the case of biofuels and bioliquids produced by any installation (includes any processing installation used in the production process, as long as it has not been intentionally added to the supply chain only to qualify for the exemption) that was in operation on 23 January 2008, the 35% greenhouse gas saving threshold needs to apply from April 1st 2013, and may also apply before that date (s.a. ISCC 203, 5 Special Provisions).

Greenhouse gas emissions from any land use change that has occurred since January 2008 shall be taken into account in the greenhouse gas calculation. Requirements for the calculation and verification of the greenhouse gas emissions and emission savings are specified in document ISCC 205 GHG Emissions Calculation Methodology and GHG Audit.

4.3.4 Requirements concerning the traceability

Traceability does not only cover the basic requirements that products can be traced back and forth throughout the supply chain from origin to the point of final delivery but also the possibility to specify what their properties are, e.g. what they are made from and how they have been processed. The properties of relevance are the sustainability characteristics which are an important element of a mass balance and traceability system and are assigned to consignments of sustainable products.

The origin of the sustainable biomass used to produce bioliquids and biofuels must be traceable through the different stages of distribution, production and supply right up to the biomass cultivation. This is achieved within ISCC by a traceability and mass balance system (chain of custody) where delivery notes ensure that origin, quantity and related greenhouse gas emissions can be clearly identified at each stage of the supply chain.

The mass balance system

- (a) allows consignments of raw material or biofuel with differing sustainability characteristics to be mixed;
- (b) requires information about the sustainability characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture; and
- (c) 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.

The specific requirements for the chain of custody are documented in documents ISCC 203 Requirements for Traceability and ISCC 204 Mass Balance Calculation Methodology.

4.4 Certification procedure

The workflow of the certification process complies with the requirements of ISO Guide 65 (ISO 45 011). The applied audit procedures comply with the requirements of ISO 19011.

4.4.1 Participants in the certification system (relevant elements)

Enterprises of the supply chain of liquid biomass and biofuels can be participants in the ISCC certification system (see figure 3).

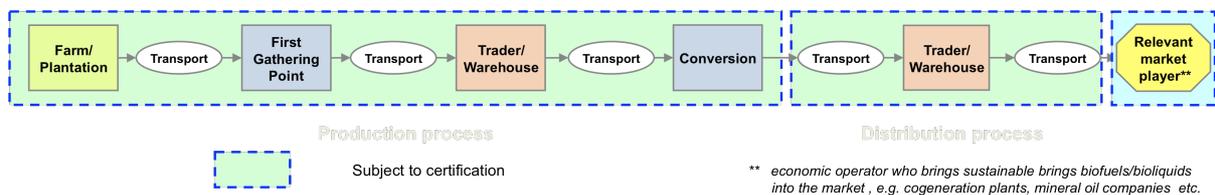


Figure 3: Different elements and sections of the supply chain

The relevant elements of the supply chain are:

- (1) **Farms/ plantation:** Farms/ plantations are companies or sites which either own or have leased one or multiple fields. Subject to certification is always the entire land (agricultural land, pasture, forest, any other land) of the farm/ plantation. Selection of fields (cherry picking) is not allowed under the ISCC standard. Within ISCC farms/plantations have two options: They can either apply for individual certification or they receive a certificate as part of a group. Farms/ plantations will be audited with respect to the sustainability requirements as stated in ISCC 202. If farms/plantations intend to calculate their individual greenhouse gas emissions the GHG calculation needs to be included into the audit as well.
- (2) **First gathering points:** First gathering points are economic operators that first receive the biomass needed for the production of bioliquids and biofuels from companies and sites that grow and harvest this biomass. First gathering points either trade or further process this raw material. An important characteristic of a first gathering point is the fact that it determines the incoming biomass exactly according to quality and amount and that it documents this information and returns it to its suppli-

ers. First gathering points must be physically visited for an audit. Collecting points of several farms which are for example equipped with a mobile weighbridge during harvest are not regarded as a first gathering point. The same applies for warehouses which do not trade in and/or sell biomass or raw material, but act on demand of a first gathering point.

- (3) **Traders/warehouses:** Traders/warehouses after the first gathering point storing sustainable products (i.e. biomass, bioliquids or biofuels) will be audited regarding traceability and mass balance.
- (4) **Conversion units:** Oil mills, refineries, biodiesel and ethanol plants as well as other factories processing bioliquids or biofuels will be audited with respect to traceability, mass balance and (if default values are not applied) respective greenhouse gas calculation.
- (5) **Transport:** Enterprises transporting the biomass between the above mentioned elements of the supply chain are not subject to an audit unless they actively apply for it.
- (6) **Relevant market player:** These are economic operators who bring sustainable biofuels or bioliquids into the market (e.g. cogeneration plants, mineral oil companies etc) which may participate in the certification system on voluntary bases.

4.4.2 Application for certification

The elements of the supply chain that want to participate in the ISCC system will have to select first a certification body cooperating with ISCC. After selecting the certification body the respective company shall register with ISCC (ISCC webpage http://www.iscc-system.org/iscc_certification_guidance/registration/index_eng.html). Once the required data is processed and the company has received a registration number the selected certification body can start the audit process (see ISCC 252 Regulations to carry out Audits).

Most important for farms are the requirements of documents ISCC 202 Sustainability Requirements for the Production of Biomass, ISCC 207 Risk Management and in the case that group certification is chosen document ISCC 256 Group Certification. Other elements of the supply chain have to take the documents ISCC 203 Requirements for Traceability, ISCC 204 Mass Balance Calculation Methodology, ISCC 205 GHG Emission Calculation Methodology and GHG Audit and ISCC 207 Risk Management into account.

The requirements for certification bodies are specified in document ISCC 251 Requirements for Certification Bodies.

4.4.3 Conducting audits

All elements in the supply chain that register with ISCC and want to receive a certificate are subject to an audit before participating in the scheme. Certification bodies carry out certification audits as well as surveillance audits at all relevant elements of the supply chain. They audit the compliance with the requirements specified for the respective elements. The results of these audits must be documented in audit reports.

Auditors should comply with the requirements of the ISAE 3000 when performing an ISCC audit. The regulations specifying how to carry out audits are fixed in document ISCC 252 Regulations to carry out audits.

4.4.4 Issuance of certificates

4.4.4.1 Issuance and publication of certificates

Upon positive evaluation of the audit results, the certification body issues certificates to the relevant elements of the supply chain.

ISCC publishes its certificates on its websites.

4.4.4.2 Content of certificates

Certificates must at least include the following information:

- (1) A unique certification code number composed of the registration code of the certification system, the certificate number and the number of the certification body,
- (2) Name and address of the audited company
- (3) Name and address of the certification body
- (4) the name and address of the certification system
- (5) date of issue of the certificate

4.4.4.3 Validity

Certificates are valid over a period of twelve months from the date of issuance.

4.4.4.4 Resignation

The certificate holder can resign from participation in the ISCC system any time by giving notice to the certification body.

4.4.4.5 Withdrawal

In case of serious violation against the ISCC specifications, the certification body may withdraw the certificate.

4.5 Risk management

On different application levels, the ISCC system uses an adapted risk management to guarantee compliance with the requirements. The overall requirements are listed in document ISCC 207 Risk Management. Specific requirements are listed within the respective documents.

4.6 Logo use

After a positive outcome of the certification procedure, the relevant elements can apply for the use of the ISCC logo. The ISCC logo labels the provenance of the biomass, biofuels and bioliquids from sustainable production.

4.7 Arbitration procedure

An arbitration body is set up by the Board in case of complaints regarding the standard development process and in case of disagreement regarding the interpretation of the ISCC certification requirements.

The arbitration procedure is regulated in document ISCC 253 Complaints, Appeals and Arbitration.