NL Agency
Ministry of Economic Affairs, Agriculture and Innovation

Sustain-able Bio-mass

How to select a biomass certification scheme?

>> Focus on energy and climate change

Colofon

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Although this report has been put together with the greatest possible care, NL Agency does not accept liability for possible errors.

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Guidance for the reader

This document aims to provide guidance to organisations and projects involved in the production of biofuels and biomass for energy purposes to select a sustainability certification scheme.

This study has been carried out for NL Agency in the period November 2010 to May 2011.

In Chapter 1 'Introduction', the background, objective and approach of this study are presented. Chapter 2 'Biomass certification: overview and backgrounds' describes the relevant legislative developments, a first introduction to certification schemes in general and to the 18 certification schemes discussed in more detail in this report. Chapter 3 'Biomass certification: how to select a scheme' aims to guide organisations in their selection process towards a sustainable biomass certification scheme.

This report expresses the opinion of the authors, and not necessarily NL Agency's views.

The information for this report was compiled with the utmost care. Comments or suggestions on the information presented in this report are highly welcomed: please contact the authors to share your views. The authors cannot be held responsible for the consequences of any errors or mistakes in the report.

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Definitions and abbreviations

2BSvs	To Be Sustainable voluntary scheme
AGNL	Agentschap NL (NL Agency)
Accreditation	Accreditation is the recognition, by an independent accreditation body, of the competence of a Certification Body. An accreditation body assesses both the management system and the technical competency of the Certification Body. In addition the accreditation body exercises supervision to guarantee the impartiality and expertise of the Certification Body.
Assessment methodology	Methodology of the criteria framework or certification scheme that is used to assess the biomass against sustainability criteria.
Assessment scheme	Standard or framework within which biomass is assessed against sustainability criteria (we use it as a synonym for criteria framework).
BLE	German Government Agency for Agriculture and Food
BSI	Bonsucro / Better Sugarcane Initiative
CB	Certification Body
CEN	European Committee of Standardization
Certification	Certification is intended to put a "seal" of credibility on a product, process, system or service. Being certified means that a certain standard has been satisfied. The certification procedure, usually done by a third party is the procedure which ensures that a product, process, system or service conforms to the standards. The organization performing the certification is called a certification body or certifier. The certification body might do the actual inspection, or contract the inspection out to an inspector or inspection body. The certification decision, i.e. the granting of the "certificate", is based on the inspection or verification report, possibly complemented by other information sources. Certification of a code encompasses verification and validation, but also can include such things as documentation, quality assurance, and version control.
Certification scheme	Standard or established framework within which biomass is assessed against sustainability criteria, and in which an accredited certification body certifies that a particular operation is in compliance with the standard or framework.
CoC	Chain of custody. This is an audit process that reviews the path taken by raw materials, beginning with a certified source and continuing through processing, manufacturing, distribution and print, until the material becomes a final product ready for sale to the end-use consumer. The chronological documentation or paper trail, showing the seizure, custody, control, transfer, analysis, and disposition of evidence, physical or electronic.
Criteria framework	Standard or framework within which biomass is assessed against sustainability criteria (we use it as a synonym for assessment scheme).
Criterion	Normative requirement that forms the second highest level of criteria frameworks and certification schemes.
CSR	Corporate Social Responsibility
EC	European Commission
EEG	German Renewable Energy Sources Act
EIA	Environmental Impact Assessment

EISA	US Energy Independence and Security Act of 2007
EPA	US Environmental Protection Agency
EPFL	École Polytechnique Fédérale de Lausanne
EU	European Union
EU-27	European Union having 27 Member States
FLEGT	EU Action Plan for Forest Law Enforcement, Governance and Trade
FQD	Fuel Quality Directive (EU Directive)
FSC	Forest Stewardship Council
GGL	Green Gold Label (Essent/RWE label)
GHG	Greenhouse gas
GAP	Good Agricultural Practices
GSBF	Global Sustainable Biomass Fund
IAF	International Accreditation Forum
Illegal logging	The harvesting of timber in contravention of the laws and regulations of the country of harvest
iLUC	indirect Land Use Change
Indicator	Compliance indicator used by the auditors to check whether a requirement of a standard is fulfilled.
ISEAL	ISEAL Alliance is the global association for social and environmental standards
ISCC	International Sustainability Carbon Certification system
ISO	International Organization for Standardization
ISO 17011	Requirements for accreditation bodies assessing and accrediting conformity assessment bodies
ISO 17021	Requirements for bodies providing audit and certification of management systems
ISO 19011	Guidelines for quality and/or environmental management systems auditing
ISO/guide 65	Requirements for third-party operating a product certification system
Lacey Act	The 2008 Farm Bill (the Food, Conservation, and Energy Act of 2008), effective May 22, 2008, amended the Lacey Act combats trafficking in "illegal" wildlife, fish, and plants.
LEAF	Linking Environment And Farming
NTA	Nederlandse Technische Afspraak (Netherlands Technical Agreement)
PEFC	Programme for the Endorsement of Forest Certification
Principle	Normative requirement that forms the highest level of criteria frameworks and certification schemes.
P&C	Principles & Criteria
RA	Rainforest Alliance
RBSA	Abengoa RED Bioenergy Sustainability Assurance standard
RED	Renewable Energy Directive: Directive 2009/28/EC on the promotion of the use of energy from renewable sources
RESA	Rapid Environmental and Social Assessment
RFA	Renewable Fuels Agency (UK)
RFS	Renewable Fuel Standard
RSB	Roundtable on Sustainable Bio-fuels
RSPO	Roundtable on Sustainable Palm Oil
RTFO	Renewable Transport Fuel Obligation

RTRS	Round Table on Responsible Soy
SAN	Sustainable Agriculture Network
SBI	Sustainable Biomass Import programme
SIA	Social Impact Assessment
Standard	According to the British Standards Institution (BSI), the oldest standards body in the world, a standard is: 'a published specification that establishes a common language, and contains a technical specification or other precise criteria and is designed to be used consistently, as a rule, a guideline, or a definition'.
ToR	Terms of reference
Validation	The process of determining the degree to which a product, process, system or service is an accurate representation of the intended result.
Verification	The process of determining (visual checking, measurement, laboratory tests, or examination of documents) that a product, process, system or service complies with the criteria as defined by a standard. This process can be conducted within the certification pathway as part of the auditing process or prior to the certification. In the latter case, verification services, usually offered by third parties (inspectors or verifiers) do not imply certification, and it does not allow the use of certification system trademarks or claims. However, it does provide the company with a third-party documentation which may be forwarded business-to-business or used to facilitate communication with stakeholders.

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Executive summary

Certification of biomass: a high number of possible schemes
In the last decades, certification – an independent seal showing that a product, process, system or service satisfies a certain standard – has become an important tool for governments and companies to show their sustainability performance. Currently there are certification schemes available for almost every product and service.

A variety of voluntary certification schemes has become operational for the production, processing and trade of biomass and agricultural products since the early 1990s. The most prominent ones are FSC in the field of forest certification, and the Fairtrade standards, GlobalGAP and SAN in the agricultural sector.

Since approximately 2005 work on sustainability standards for biofuels and biomass-for-energy purposes intensified. Various organizations started developing sustainability standards, principles and criteria further to the potential of biomass-for-energy and the concerns about its sustainability aspects. The first private standards occurred, for example the schemes of Electrabel Belgium (Laborelec) and Essent Netherlands (GGL). Crop-specific standards came up, developed by multi-stakeholder initiatives, such as the RSPO standard for palm oil, the RTRS for soy and Bonsucro/BSI for sugarcane. The development of more generic biomass standards such as ISCC, NTA8080 and RSB started. In 2010 a number of new schemes entered the market place with the aim to facilitate compliance with the EU Renewable Energy Directive.

NL Agency signals difficulties to select appropriate certification schemes
NL Agency, the implementing agency of the Dutch Ministry of Economic Affairs, Agriculture and Innovation on issues as sustainability, innovation, international business and cooperation, implements a support programme to develop more sustainable biomass production chains. It appeared that the biomass actors in this programme were having difficulties to select an appropriate biomass certification standard. NL Agency hence took the initiative to develop dedicated guidance.

This report: provide guidance on selection of certification schemes
The aim of this report is to provide biomass actors developing more sustainable biomass production chains, with:
1. Information about important biomass sustainability certification schemes;
2. Guidance to make a well-substantiated decision on the choice for a specific biomass sustainability certification scheme.

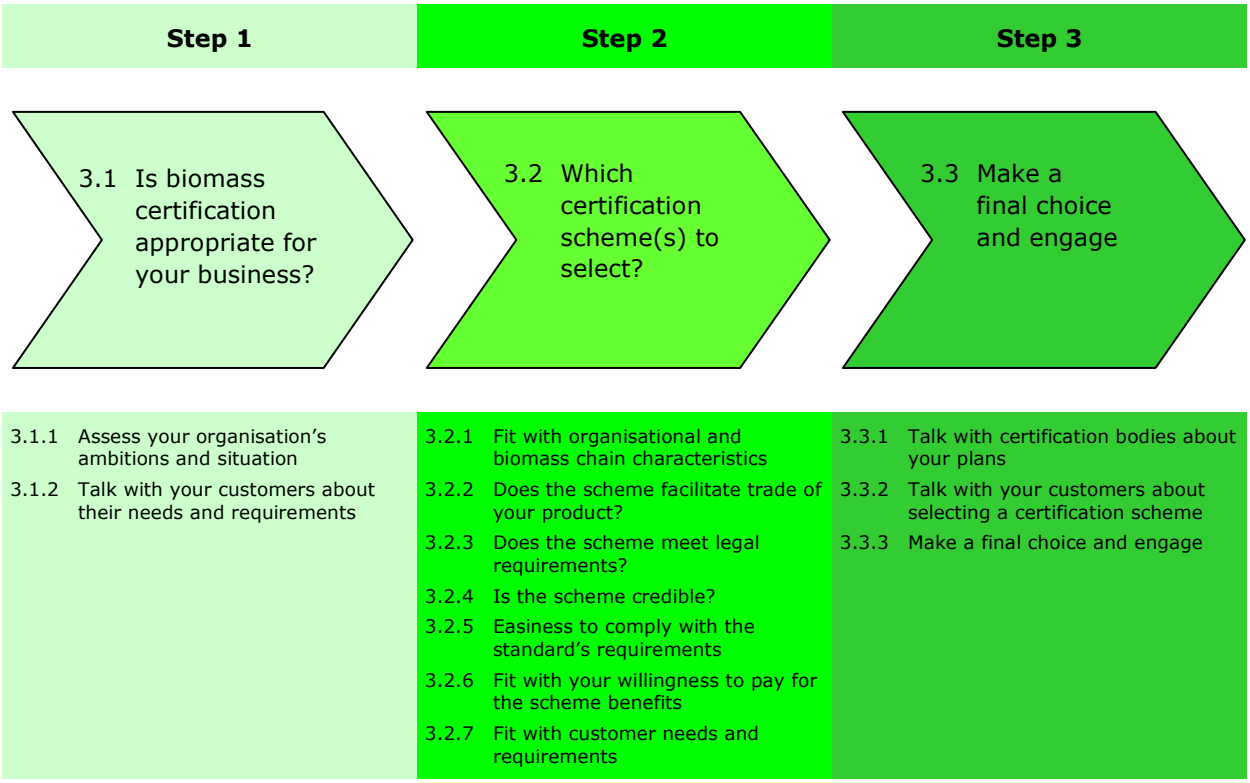
This report: tools and information that facilitate scheme selection
The present report contains a number of tools and information that facilitate the selection of a certification scheme:
1. A comparison table of 18 certification schemes that are considered most relevant for biofuels and biomass for energy purposes (Figure 3 in section 2.3);
2. A selection model for biomass certification schemes following three main questions and a number of sub questions (see the Figure 0 below);
3. A self assessment form that can be used for the process of selecting a certification scheme (Appendix A);

4. Detailed factsheets on the 5 most relevant certification schemes in Appendix B (FSC, ISCC, NTA8080, REDcert and RSB). These factsheets were validated by the scheme owners;
5. Brief information on 13 other relevant certification schemes in Appendix C (2BSvs, Abengoa RBSA, BioGrace, Bonsucro BSI, Greenergy, GGL, GlobalGAP, Laborelec, Neste Oil, Red Tractor, RSPO, RTRS and SAN).

The project information was collected by means of interviews with scheme owners and certification bodies, interaction with a high number of biomass actors, and analysis of literature and scheme documentation.

For more information on the selection process, we refer to the report itself. In Chapter 1 'Introduction', the background, objective and approach of this study are presented. Chapter 2 'Biomass certification: overview and backgrounds' describes the relevant legislative developments, a first introduction to certification schemes in general and to the 18 certification schemes discussed in more detail in this report. Chapter 3 'Biomass certification: how to select a scheme' aims to guide organisations in their selection process towards a sustainable biomass certification scheme.

Figure 0: The process of selecting a certification scheme



1 Introduction

1.1 Background

The demand for energy is increasing globally; fossil fuel stocks are diminishing. Diversification of energy sources is necessary in order to provide for this increasing demand.

Through various regulations and programmes NL Agency facilitates and stimulates projects and supplementary research in order to gain experience in the production and certification of sustainable biomass:

- The Sustainable Biomass Import programme (by order of the Ministry of Economic Affairs, Agriculture and Innovation).
- The Global Sustainable Biomass programme (by order of the Ministry of Foreign Affairs).

Biomass projects are also included in several other programmes of NL Agency, such as the Daey Ouwens Fund for small-scale renewable energy projects in developing countries (by order of the Ministry of Foreign Affairs).

The Netherlands Programmes for Sustainable Biomass bundles the knowledge from the biomass project portfolio of NL Agency and fills the knowledge gaps with supplementary research. The biomass project portfolio consists of some 41 projects[1] in which market actors and knowledge institutes are developing more sustainable biomass production chains in developing countries and more sustainable import of biomass to the Netherlands. The focus of these projects is on the production of biofuels and biomass for energy purposes.

This report aims to support the 41 projects but can also be used by other actors involved in developing sustainable biomass chains. The report targets all chain actors: biomass producers, biomass processors, biofuel blenders, fuel distributors.

1.2 Objective

The aim of this report is to provide the actors of the NL Agency biomass project portfolio (and of other projects aimed at developing more sustainable biomass production chains) with:

1. Information about important biomass sustainability certification schemes;
2. Guidance to be able to make a well-substantiated decision on the choice for a specific biomass sustainability certification scheme.

1.3 Project approach

The project's approach was based on the following activities:

1. selection of 5 certifications schemes for sustainable biomass;
2. detailed analysis of these 5 schemes and drafting of a factsheet per scheme;
3. interviews with scheme owners and certification bodies;
4. review of factsheets by scheme owners;
5. selection of 13 additional biomass certification schemes and characterisation based on existing literature.

1 An overview of all biomass projects that are funded by NL Agency in the framework of the Netherlands Programmes for Sustainable Biomass can be found at http://www.agentschapnl.nl/biomass, under 'Projects'

2 Biomass certification: overview and backgrounds

2.1 Regulatory requirements

Recent regulatory developments, especially in the EU and US, have addressed the sustainability of biomass. This is highlighted hereafter.

2.1.1 European legislation for biofuels

The EU introduced, in 2009, binding sustainability criteria for biofuels and bioliquids under the Renewable Energy Directive (RED)[2] and the Fuel Quality Directive[3]. These criteria apply to biofuels and bioliquids both produced in the EU and imported to the EU. EU Member States are responsible for ensuring that the sustainability criteria are met by economic operators. In order to reduce the administrative burden for economic operators, they can use recognised 'voluntary schemes' to show compliance with some or all of the sustainability criteria. The European Commission (EC) has established a procedure[4] to assess whether a voluntary scheme fulfils the requirements and is currently assessing a number of schemes.

For solid and gaseous biomass used in electricity, heating and cooling, there are no binding criteria at EU level. Further to the concern that increasing imports from third countries may lead to the unsustainable production of biomass, the main importing countries of biomass started to develop national sustainability requirements for bio-energy[5]. This has led to various national and sometimes regional certification schemes (voluntary and mandatory) in the agriculture, forestry and energy sectors. In 2010 the EC has made recommendations to EU Member States on the development of these sustainability schemes. The EC will report by 31 December 2011 on whether the national schemes have sufficiently and appropriately addressed the sustainability criteria, and whether these schemes have led to barriers to trade and to the development of the bio-energy sector. It will, *inter alia*, consider if additional measures such as common sustainability criteria at EU level would be appropriate.

2.1.2 US legislation for biofuels

The US Renewable Fuel Standard (RFS)[6] uses a different approach: the RFS requires that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces, and sets restrictions on the type of feedstock used and the types of land that can be used to grow and harvest the feedstock. US renewable fuel producers have reporting obligations based on default values established per feedstock. For feedstock not produced in the US, producers need to comply with specific recordkeeping and reporting requirements showing that the feedstock complies with the requirements. State-level legislation in the US, such as the California's Low Carbon Fuel Standard, is also largely based upon reporting requirements using default carbon intensity values established per type of biofuel.

2 Directive 2009/28/EC
3 Directive 98/70/EC as amended by Directive 2009/30/EC
4 Communication from the Commission (2010/C 160/01)
5 Source: report from the Commission on sustainability requirements for the use of solid and gaseous biomass sources in electricity, heating and cooling (COM(2010)11)
6 2011 Renewable Fuel Standards, Federal Register / Vol. 75, No. 236, 09 December 2010

The US has hence adopted a direct legislative approach not relying on voluntary certification schemes. At the same time, US legislation confirms the global trend of increasing importance of sustainability in the biofuel market.

2.1.3 Legislation for illegal logging

Both in the US and in Europe new legislation for woody biomass is in force, or will become in force, addressing illegal logging. Illegal logging is directly related with sustainability of biomass. In economic terms, illegal logging results in lost revenues and other foregone benefits. In environmental terms, illegal logging is associated with deforestation, climate change and a loss of biodiversity. In social terms, illegal logging can be linked to conflicts over land and resources, the disempowerment of local and indigenous communities, corruption and armed conflicts.

As of 1 October 2010, the amended US Lacey Act is in force for all plants and their products — including timber, wood, and paper products. The purpose of the Act is:
1. To prevent trade in illegally harvested lumber.
2. To prevent trade in wood products made from illegally harvested lumber.

The Lacey Act bans commerce in illegally sourced plants and their products. It is each company's responsibility to exercise "due care" and understand the origin of its forest products, keeping in mind that a Lacey Act violation can occur at almost any point in a forest product supply chain.

The EU policy to fight illegal logging and associated trade was defined back in 2003 with the Forest Law Enforcement Governance and Trade (FLEGT) Action Plan. This Action Plan has led to two key pieces of legislation:
1. FLEGT Regulation adopted in 2005, allowing for the control of the entry of timber to the EU from countries entering into bilateral FLEGT Voluntary Partnership Agreements with the EU;
2. EU Timber Regulation, adopted in October 2010, as an overarching measure to prohibit placing of illegal timber and timber products on the EU market.

FLEGT aims to improve governance and reduce illegal logging by strengthening sustainable and legal forest management, improving governance and promoting trade in legally produced timber. A key element of the FLEGT Action Plan is a voluntary scheme to ensure that only legally harvested timber is imported into the EU from countries agreeing to take part in this scheme. Once agreed, the voluntary scheme will include commitments and action from both parties to halt trade in illegal timber, notably with a license scheme to verify the legality of timber exported to the EU.

As of 3 March 2013, the EU Timber Regulation will prohibit the first placing of illegally produced wood products on the EU market. This Regulation defines the obligations of operators who place timber and timber products on the EU market.

The US Lacey Act, the EU FLEGT Regulation and the EU Timber Regulation do not impose additional sustainability requirements on woody biomass but merely additional reporting requirements. They all confirm the growing attention towards biomass and sustainability issues. In many circumstances, companies involved in the trade of woody biomass and their products, will use voluntary certification schemes to proof their compliance with illegal logging legislation.

2.2 Introduction to certification schemes

In the last decades, certification – an independent seal showing that a product, process, system or service satisfies a certain standard – has become an important tool for governments and companies to show their sustainability performance. Currently there are certification schemes available for almost every product and service (e.g. forest, food, fair trade, agriculture and energy).

Certification initiatives that ensure the sustainable performance of farms and firms are increasingly popular. For example, in the EU27 about 70 million ha of forest area (about 45% of the total) has been certified[7]. Another example: Fairtrade certified products are sold in 70 countries around the world. In some national markets, Fairtrade accounts for between 20 to 50% of the market share in certain products[8].

Regarding national standard setting initiatives in the biomass sector, the UK was the first country in the EU to implement a mandatory reporting standard (RTFO, in 2008) to ensure that biofuels targets are met in a sustainable way. Subsequently, in 2009, the EU RED set mandatory standards for sustainability of biomass used for liquid biofuels (at least 35% reduction of emissions of greenhouse gases (GHG), conservation of biodiversity areas and of areas with high carbon stocks).

A variety of voluntary sustainability standards has become operational for the production, processing and trade of biomass and agricultural products since the early 1990s. In the field of forest certification, the most prominent standards are FSC and PEFC. The main examples of general standards in the agricultural sector are the Fairtrade standards, GlobalGAP and SAN. Also crop-specific standards came up, developed by multi-stakeholder initiatives, such as the RSPO standard for palm oil, the RTRS for soy and Bonsucro/BSI for sugarcane. Driven by forthcoming legislation and customers demand, private firms have also developed their own standards for green electricity. Some of them include biomass, for example the schemes of Electrabel (Belgium - Laborelec) and Essent (Netherlands - GGL).

Since approximately 2005 work on sustainability standards for biomass-for-energy purposes intensified. Various organizations started developing sustainability standards, principles and criteria. From 2008 existing schemes started adapting to the draft EU RED, while in 2010 a series of new schemes arose with the objective to facilitate compliance with the EU RED.

The most relevant schemes for biomass for energy are presented in section 2.3. The majority of schemes are certification schemes (e.g. NTA8080 and REDcert); some are verification schemes (e.g. Laborelec).

These sustainability schemes allow producers to comply with regulations and enable the end user to differentiate among raw materials and services based on their environmental and social attributes. This facilitates price premiums for certified products, and these premiums, in turn, create financial incentives for farms and firms to meet certification standards. However, differences exist in the scopes, strictness and level of detail of these standards, due to various interests and priorities.

7 COWI (2009)
8 www.fairtrade.net, Fairtrade Labelling Organisation website, section 'Facts&Figures'

With the increasing number and use of sustainability standards, the reputation and credibility of a standard has become a key criterion for success. The ISEAL Alliance, the global association for social and environmental standards, has defined requirements for ensuring credibility[9], for example that standards are developed through a multi-stakeholder process, that they measurably contribute to sustainability objectives, and that they ensure that producers and supply chain of the final product are regularly audited for compliance.

2.3 Characterisation of most relevant biomass certification schemes

We have used the following definition to select the most relevant certification schemes for the biomass to energy sector: "*International oriented certification and verification schemes that focus on biomass for energy purposes, or on biomass in general but with a clear orientation towards energy purposes".*

Figure 1: List of the most relevant biomass certification schemes and standards

Short name	Full name
2BSvs	*To Be Sustainable voluntary scheme*
Abengoa RBSA	*Abengoa RED Bioenergy Sustainability Assurance (RBSA standard)*
BioGrace	BioGrace voluntary scheme for calculating actual GHG values
Bonsucro BSI	*Bonsucro - Better Sugarcane Initiative*
FSC	**Forest Stewardship Council**
Greenergy	*Greenergy Oil Company voluntary scheme*
GGL	Green Gold Label
Global GAP	Global Good Agricultural Practices
ISCC	***International Sustainability and Carbon Certification***
Laborelec	Laborelec label
Neste Oil	*Neste Oil voluntary scheme*
NTA 8080	***NTA 8080 certification system***
REDcert	***REDcert certification system***
Red Tractor	*Red Tractor Farm Assurance Combinable Crops & Sugar Beet scheme*
RSB	***Roundtable on Sustainable Biofuels***
RSPO	*Roundtable on Sustainable Palm Oil*
RTRS	*Roundtable on Responsible Soy Association*
SAN	Sustainable Agriculture Network (SAN) standards

The table (Figure 1) presents the schemes that we considered most relevant. The list is composed of the twelve voluntary schemes submitted to the EC for RED recognition[10], presented in *italics*, and of six additional schemes that were selected because of their potential use by biomass to energy actors. For the schemes presented in **bold**, detailed factsheets are included in Appendix B while the other schemes are presented in Appendix C. A number of additional initiatives and schemes exist but were considered less relevant for the sector[11].

9 See ISEAL's Codes of Good Practice on www.isealalliance.org

10 Source: Neeft (2011)

11 Several overviews of schemes exist in literature. We refer for example to BTG (2008), GBEP (2008), COWI (2009), Englund (2010), FAO (2010, Imperial College (2010), Van Dam (2010) and Partners for Innovation (2010).

Figure 2 : Overview of biomass sustainability schemes and standards

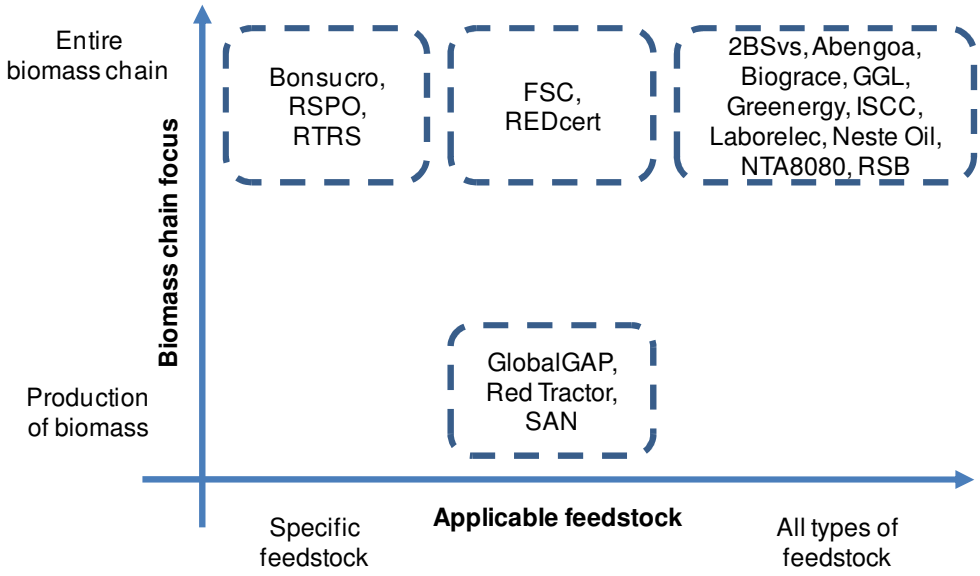


Figure 2 shows two of the many differences between these sustainability schemes: the horizontal axe indicates if a scheme is feedstock specific or not and the vertical axe indicates to which extent they cover the entire biomass chain.

Most of the schemes cover the entire biomass chain of production, conversion, trade and end-use, with exceptions of GlobalGAP, Red Tractor and SAN that focus on agricultural processes and hence on the first step of the biomass value chain.

There are a number of schemes that are feedstock specific (Bonsucro sugarcane, RSPO palm oil and RTRS soy). Another batch of schemes have a larger scope but do not accept all types of feedstock (FSC wood and wood products, GlobalGAP, Red Tractor and SAN agricultural products, REDcert biomass produced in EU-27). The other schemes are open for all types of feedstock.

Figure 3 (page 19) presents a more detailed characterization of the schemes and includes information on when schemes became operational, coverage of criteria to guarantee the sustainability, and geographic scope.

Figure 3 Characteristics of 18 most relevant biomass certification schemes and standards

Name	Operational since	Chain coverage	RED applicant	Sustainability criteria				Scope and coverage	
				Biodiv	GHG	Env	Social	Feedstock	Geographic focus
2BSvs	2010	All stages	Yes	Yes	Yes	No	No	All biomass	Global
Abengoa	2010	All stages	Yes	Yes	Yes	No	No	All biomass	Global (for Abengoa supply)
Biograce	2011	All stages	Foreseen	No	Yes	No	No	All biomass	Global
BSI	2010	All stages	Yes	Yes	Yes	Yes	Yes	Sugarcane	Global (focus on sugarcane regions)
FSC	1993	All stages	No	Yes	No	Yes	Yes	Forestry biomass	Global
GGL	2002	All stages	No	Yes	Yes	Yes	Yes	All biomass	Global (for Essent supply)
Global GAP	1997	Biomass production	No	Yes	No	Yes	Yes	Agricultural biomass	Global
Greenergy	2008	All stages	Yes	Yes	Yes	Yes	Yes	All biomass	Global (for Greenergy supply)
ISCC	2010	All stages	Yes	Yes	Yes	Yes	Yes	All biomass	Global
Laborelec	2006	All stages	No	Yes	Yes	Yes	Yes	All biomass	Global (for Belgium Supply)
Neste Oil	2009	All stages	Yes	Yes	Yes	Yes	Yes	All biomass	Global (for Neste Oil supply)
NTA8080	2011	All stages	Yes	Yes	Yes	Yes	Yes	All biomass	Global
REDcert	2010	All stages	Yes	Yes	Yes	No	No	EU-27 biomass	EU-27
Red Tractor	2010	Biomass production	Yes	Yes	Yes	Yes	Yes	Agricultural biomass	EU-27 / UK
RSB	2011	All stages	Yes	Yes	Yes	Yes	Yes	All biomass	Global
RSPO	2007	All stages	Yes	Yes	No	Yes	Yes	Palm oil	Global (focus on palm oil regions)
RTRS	2010	All stages	Yes	Yes	Yes	Yes	Yes	Soy	Global (focus on soy regions)
SAN	1992	Biomass production	No	Yes	Option	Yes	Yes	Agricultural biomass	Global

Biodiv: rated 'yes' if a standard includes biodiversity requirements.

GHG: rated 'yes' if a standard includes GHG requirements.

Env: rated 'yes' if a standard includes requirements regarding air pollution, chemical use, water management or waste management.

Social: rated 'yes' if a standards includes requirements regarding workers rights or human rights.

Sources: scheme websites, FAO (2010), Partners for Innovation (2010)

Column two of Figure 3 highlights when schemes became operational. Three schemes, focusing on forestry and agricultural products, became operational in the nineties and have thousands of hectares certified (FSC, GlobalGAP and SAN). The first energy-related standard became operational in 2002 (GGL). The other standards became operational after 2006. Ten out of 18 schemes became open for business in 2010 or 2011. These schemes hence are in a start-up phase characterised by growing operational experience and a relatively high number of optimisation changes to fit the reality on the ground and to adapt to the latest developments of the EU RED implementation.

Regarding biodiversity aspects (column 5), all schemes except Biograce recognize the importance of conserving areas of high biodiversity and have formulated criteria to protect nature conservation areas. Some schemes align to RED and define no-go areas; others go beyond RED and have more comprehensive requirements.

Fourteen schemes include compulsory criteria regarding GHG emissions (column 6). Operators involved in the production and supply chain are required to provide calculated values or to use default values, prior to or upon delivery of the biomass. Operators estimate direct GHG impacts of the biomass production and of land use change. Some of the schemes that have not yet incorporated GHG requirements, have established working groups to study the introduction of criteria on GHG emissions (FSC, RSPO) or have developed optional criteria (SAN). BioGrace only addresses the EU RED GHG requirement.

Environmental and social criteria are well covered (columns 7 and 8). Fourteen schemes explicitly include mandatory requirements to reduce the impacts on natural resources (soil, water, air, use of chemicals) and to address human and workers rights. The only exceptions are the schemes that align to RED implementation (2BSvs, Abengoa, BioGrace and REDcert). For biomass produced in the EU, the RED refers to existing EU rules[12] for farmers establishing minimum requirements for good agricultural and environmental condition.

Biomass supply chains are diverse and differ, depending on for example the type and source of feedstock, the scale of production, and local geographical and economic conditions. All schemes are able to certify biomass coming from all over the world, except REDcert, that only involves biomass produced in the EU27. The company schemes typically have a global focus but the biomass is meant for supply of the company scheme owner (Abengoa, GGL/Essent Netherlands, Greenergy, Laborelec/Electrabel Belgium, Neste Oil).

12 Council Regulation (EC) No 73/2009

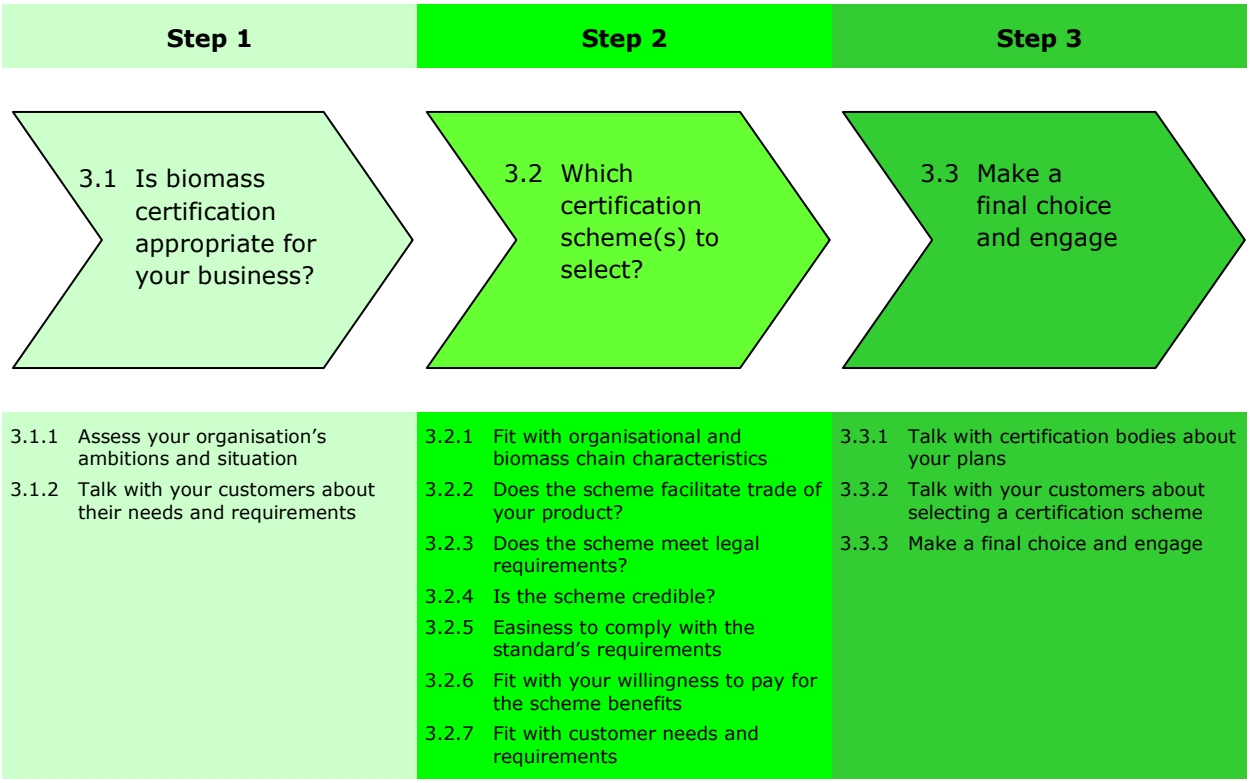
3 Biomass certification: how to select a scheme

The present chapter aims to guide organisations, involved in the production of sustainable biofuels and biomass for energy purposes, in their selection process towards a sustainable biomass certification scheme.
In this chapter the following topics will be addressed:

1. Is biomass certification appropriate for your business? paragraph 3.1;
2. Which certification scheme(s) to select? paragraph 3.2;
3. Make a final choice and engage paragraph 3.3.

Figure 4 explains the process of selecting a certification scheme in more detail with reference to the different paragraphs and sections in this chapter.

Figure 4: The process of selecting a certification scheme



The present report contains a number of tools and information that facilitate the selection of a certification scheme. These are:

1. A self assessment form that can be used for the process of selecting a certification scheme (Appendix A, page 34). The self assessment form is a practical tool that will help you ask yourself the relevant questions. It is nothing more and nothing less than a questionnaire with all the questions and issues raised in this report, collected in a structured form;
2. The comparison table of the 18 most appropriate certification schemes for biofuels and biomass for energy purposes (Figure 3, page 19);

3. Detailed factsheets on 5 certification schemes (FSC, ISCC, NTA8080, REDcert and RSB: Appendices B1–B5, starting at page 37). These factsheets were validated by the scheme owners;
4. Brief information on 13 other certification schemes (Appendix C, page 78).

3.1 Is biomass certification appropriate for your business?

Obtaining a sustainable biomass certificate is not always easy, and often increases your operational costs, at least in the short term. At the same time, there may be advantages such as higher revenues, reduced risks and lower costs in the long run through improved operational efficiency, as well as other advantages as a result of a proactive attitude towards possible future regulatory requirements.

So, before selecting a certification scheme, an organisation should evaluate whether the advantages outweigh the costs. The following paragraphs provide the elements to do so and are structured along the following issues:
1. your organisation's ambitions and situation (section 3.1.1);
2. your customer's needs and requirements (section 3.1.2).

3.1.1 Assess your organisation's ambitions and situation

3.1.1.1 Revenues and market opportunities

As a result of the many policies in force to stimulate sustainable biomass, especially in Europe and the US, there is a general consensus that the market for sustainably produced biomass will increase. The fact that many European energy companies are involved in bioenergy and sustainability criteria for biomass, will also drive the market for certified sustainable biomass, and may increase revenues for this type of biomass compared to non-sustainable biomass. For the moment, however, it is still unclear how big the revenue and market opportunities will be, in both the short and the long term.

3.1.1.2 Regulatory requirements

All around the world there is a vivid discussion about the sustainability of biomass. In the EU and the US a regulatory framework has already been introduced for biomass for energy purposes. To be able to adapt to changing or new regulatory requirements, it is crucial to keep track of the developments of the regulatory requirements regarding sustainable biomass, especially in the country where the biomass is being produced and in the country where it is used.

3.1.1.3 Operational risks

Not taking sufficiently care of the environmental, social and economical aspects of an operation, may put a company at risk, in the near or more distant future. As said before, there is a growing attention to sustainability aspects which is partly already translated into regulatory requirements. To be able to show that your company fulfils the sustainability requirements, by complying with a sustainability standard, reduces these risks and may also increase the value of your company.

3.1.1.4 Corporate social responsibility

Corporate Social Responsibility (CSR) is the term that is used when referring to the intrinsic motivation of a company, and the people working within the company, to do business in an ethical and responsible way and to address environmental, social and economical issues in a balanced way. More and more businesses recognise the added value of CSR, both business and human wise. Business wise

since it addresses the above-mentioned developments on regulatory requirements and market changes. Human wise because it appears much more rewarding and appealing to work for responsible businesses. Sustainability certification can provide your company with the independent assessment of CSR.

3.1.1.5 Operational costs

When choosing for certification of your biomass, your operational costs will increase, due to costs for auditing, for the certificates themselves and for compliance i.e. costs for organisational and technical measures. Certainly in the short term, but possibly also in the medium and long term. These costs depend upon factors such as size and location of the property, but also on the organisational and technical measures already taken by the organisation. In the long term the operational costs might decrease due to increased efficiency of the operation as a result of the in-depth analysis of the organisation and operational activities, and anticipation to potential risks.

3.1.2 Talk with your customers about their needs and requirements

When talking with your customers there are typically two situations possible:

1. Your customer requests that your product is certified. Based on the assessment of your own organisation's situation and ambitions (paragraph 3.1.1) you can either choose to respond to this request or look for other customers;
2. Your customer does not (yet) impose certification requirements on your product. In this case you should discuss whether this is likely to be the case in the near future.

Examples of issues to discuss with your customers are:

- (New) regulatory and consumer requirements, and potential impacts on your product;
- Expectations on market and price development;
- Willingness to engage in biomass certification.

You may wish to talk to the customer(s) behind your direct customer i.e. the next actor(s) in the biomass chain (see Figure 5). This allows you to detect and anticipate the forthcoming requirements in an early stage.

Figure 5: Schematic overview of the biomass chain

3.2 Which certification scheme(s) to select?

After having addressed whether biomass certification is appropriate for your business or not, in paragraph 3.1, we focus in this paragraph on how to select a certification scheme. From our discussions with biomass producers, certification bodies and certification schemes, as well as from desk research, we consider that the following seven questions should be answered when selecting a certification scheme:

1. Does the scheme fit with your organisational and biomass chain characteristics?
2. Does the scheme facilitate trade of your product?
3. Does the scheme meet legal requirements?
4. Is the scheme credible?
5. How easy is it to comply with the scheme's requirements?
6. What are the scheme and compliance costs?
7. Does the scheme fit with your customer needs and requirements?

These questions are discussed in the sections hereafter (sections 3.2.1 to 3.2.7). To highlight how the schemes fit with each of these questions, we have included tables referring to the 5 schemes presented in Appendix B. Where appropriate, we also refer to the 13 schemes presented in Appendix C.

3.2.1 Fit with organisational and biomass chain characteristics

The first question is about the fit with the characteristics of your organisation and of the biomass value chain. The scope of the scheme should match these characteristics. The essential questions are:

- Does a scheme support the feedstock(s) used?
- Does a scheme cover your location(s) of operation(s)?
- Does a scheme cover the biomass chains under consideration?

Figure 6 provides detailed answers regarding these questions for the five schemes. For the eighteen schemes these questions are addressed in Figure 3 (section 2.3).

Figure 6: Feedstock, geographic coverage and chain coverage

	FSC	ISCC	NTA8080	REDcert	RSB
Type of biomass covered	Solid biomass	All types of biomass	All types of biomass	Biofuels and bioliquids	Liquid biofuels
Feedstock	Forestry, including clearance products	All types of biomass	All types of biomass	EU-27 biomass	All types of biomass
Geographic coverage	Global	Global	Global	EU-27	Global
Chain coverage	All stages of the supply chain	All stages of the supply chain	All stages of the supply chain	All stages of the supply chain	All stages of the supply chain

Regarding the type of biomass and feedstock covered (rows 1 and 2 in Figure 6), three schemes have restrictions: REDcert only applies to biofuels and bioliquids[13], RSB only applies to liquid biofuels, and FSC only applies to wood and wood fibre products. ISCC and NTA8080, on the contrary, address all types of biomass and hence allow more flexibility to operators wishing to be involved in various types of certified biomass. RSB has the objective to cover all types of biomass in the long term.

Regarding the geographic coverage (row 3 of Figure 6), four standards have a global coverage while REDcert is the exception: REDcert is limited to biomass

13 Following the RED definition (article 2): Biofuels: liquid or gaseous fuel for transport produced from biomass. Bioliquids: liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass.

produced in the EU-27. REDcert is therefore not usable for biomass with an origin outside Europe.

Regarding chain coverage (row 4 of Figure 6), all standards cover the complete biomass value chain i.e. biomass production, processing, trading and end-use.

3.2.2 Does the scheme facilitate trade of your product?

From our discussions with biomass chain actors, we understand that certified biomass forms, at the time of this report, a plus for some of them, and a requirement for others, following internal policies or market requirements such as created by the RED in the EU. They also indicate that certified biomass does not necessarily lead to premium prices, at this moment.

At the same time, however, it is clear that the market for certified biomass is growing and is expected to continue to do so. The number of certificates issued in this market is hence growing quickly. This is well demonstrated by the high numbers of certificates that were issued by ISCC and REDcert after only one year of operation: 283 and 782 respectively. In future this may increase revenues for this type of biomass compared to non-sustainable biomass. It is however largely unclear how big the market and revenues will be, in both the short and the long term. As an example, Text box 7 below highlights how the market for sustainable palm oil increased in 2010.

Textbox 7: Sustainable palm oil market

Market uptake of sustainable palm oil will need to accelerate in 2011 in order to keep up with rapidly growing production, claims the Roundtable on Sustainable Palm Oil (RSPO). In November 2010 it was announced that all palm oil used in the Netherlands will be certified by the RSPO by 2015, as all the suppliers and buyers in the Dutch market have signed a manifesto and pledged to work towards this goal. According to the RSPO, the combined production capacity of certified oil palm plantations and smallholders grew strongly in 2010, from 1.4m tonnes/yr in January to 3.4m tonnes/yr in December. The volume of actual RSPO-certified sustainable palm oil on the market jumped from 1.3m tonnes in 2009 to 2.3m tonnes in 2010. Sales of sustainable palm oil more than tripled from 0.4m tonnes in 2009 to about 1.3m tonnes in 2010. The past year also saw strong growth in sales of certified sustainable palm kernel products. Palm growers sold GreenPalm certificates covering the production of about 180,000 tonnes of palm kernel in 2010, which amounts to about 35 per cent of RSPO-certified sustainable palm kernel supplied in the same year.The RSPO said the number of its members grew to over 500 companies and organizations, while 81 palm oil mills and 113 facilities in the palm product supply chain are now fully certified. Source: www.confectionerynews.com

The certification schemes that focus on biofuels all take account of the EU RED requirements and hence facilitate trade of your product on the EU market. At present they do not facilitate trade on the US market. It is yet unclear if and how they facilitate trade of your product on other markets. This will become clearer in the years to come. The general perception is that sustainability requirements will become more important in the near future on a global level.

3.2.3 Does the scheme meet legal requirements?

Getting assurance that legal requirements are met can be related to (i) the type of feedstock that is used to 'produce' the biofuel, to (ii) the country or region in which the end-use takes place, or to (iii) both.

In the first case, feedstock related schemes may do the job such as Bonsucro (sugarcane), RTRS (soy), RSPO (palm oil), GlobalGAP, Red Tractor and SAN (agricultural products) or FSC (wood). These schemes focus on ensuring that feedstock is sustainably produced, but also undertake activities to align to legal requirements in their end-use markets.

Figure 8: Compliance with the RED

	FSC	ISCC	NTA8080	REDcert	RSB
Level of requirements compared to RED	Several criteria go beyond RED but RED's GHG requirements are not covered	Goes beyond RED	Goes beyond RED	Aligns to RED	Goes beyond RED
EU RED recognition	Not requested	Requested	Requested	Requested	Requested

For EU companies, the second case is important: the RED legislation is an important driver to seek assurance. Figure 8 highlights how the five schemes comply with the RED. All five schemes, except FSC, aim to comply with the binding sustainability criteria for biofuels and bioliquids of the RED. At the time of this report, none of the schemes have obtained a formal recognition by the EC. The EC is working on the assessments and expects to make these public in the course of 2011.

Note however that, at present, the market in many EU countries is in transition towards RED compliance. In Germany, for instance, companies have to provide sustainability certificates to benefit from the national support scheme for renewable fuels. In 2010 they had hence to address themselves to ISCC and REDcert, as these were the only schemes that provided such certificates. This situation has changed slightly in March 2011, when the German authorities provisionally accepted RSB, and will further change in near future, when any certificate of a voluntary scheme recognised by the EC can give access to these benefits.

For FSC the situation is different since its most direct link is with the RED requirements regarding solid biomass. The RED has no common sustainability requirements for such biomass. Instead the EC has made recommendations to EU Member States on the development of national sustainability schemes. The current FSC system is being evaluated by some governments on its applicability as biomass certification scheme. The first conclusion is that FSC certification can be used as a proxy for the maintenance of conservation values and ecosystem integrity, but due to the fundamentally different approach, it is not designed to provide all answers to the emerging national EU sustainability criteria[14].

If a company produces agricultural or forestry products for two markets (e.g. for food and energy, or for timber and energy), the certification scheme should preferably be applicable to both markets. At present only four schemes provide this possibility: Bonsucro (sugarcane), Red Tractor (agricultural products), RSPO (palm oil) and RTRS (soy). They all have requested EC recognition under the RED and hence can be used in both food and energy markets.

14 For more detailed information we refer to the factsheet on FSC in appendix B1, section 2.14.

So far, the schemes FSC, GlobalGAP and SAN, do not target the energy market but monitor the developments closely and/or prepare to be aligned to the requirements in this market. In some cases their certificates already give a certain access to energy markets: the Laborelec scheme, for instance, accepts FSC and GlobalGAP certificates for a number of its requirements.

Some of the biomass to energy schemes are opening up to other markets. ISCC, for example, is nowadays focusing on the biomass to energy market but has plans to extend its scope in order to cover biomass for chemical, pharmaceutical and technical applications.

3.2.4 Is the scheme credible?

Whether a scheme is considered credible by its stakeholders, is related to many factors, such as the experience, independency and representativeness of the bodies involved and the appropriateness, fairness and robustness of its procedures and criteria. The number of years being operational and the number of certificates issued (market uptake and applicability) may also be an indicator for the credibility of a scheme. Credibility may also evolve over time.

Figure 9: Information related to the credibility of the five selected schemes

	FSC	ISCC	NTA8080	REDcert	RSB
Standard setting	Global multi-stakeholder dialogue	Global multi-stakeholder dialogue with important influence of German stakeholders	Multi-stakeholder dialogue with important influence of Dutch stakeholders	No standard setting (directly taken from RED). Advisory committee on developments	Global multi-stakeholder dialogue
Coverage of sustainability principles	Not focused on RED compliance Broad coverage of sustainability issues. No coverage of GHG	Beyond RED Broad coverage of sustainability issues	Beyond RED Broad coverage of sustainability issues	Aligned to RED	Beyond RED Broad coverage of sustainability issues
Accreditation	By the independent accreditation body ASI	By the German Federal Government Agency for Agriculture and Food (BLE)	By the Dutch Accreditation Council and IAF members	By the German Federal Government Agency for Agriculture and Food (BLE)	By an independent accreditation body (to be defined)
Third party verification	Yes	Yes	Yes	Yes.	Yes
Type of organisation	Independent Not-for-profit	Independent Mix of not-for-profit and profit	Independent Not-for-profit	Independent Profit	Independent Not-for-profit
Adherence	Full Member of the ISEAL Alliance	Affiliate of the ISEAL Alliance	Member of CEN and ISO		Associate Member of the ISEAL Alliance

Figure 9 presents information on five schemes against a number of credibility aspects[15]. An important aspect is how standard setting takes place (row 1 in Figure 9): FSC and RSB use a truly global multi-stakeholder approach. ISCC and NTA 8080 also use a multi-stakeholder approach but less global since stakeholders from respectively Germany and the Netherlands have a dominant say. There is no multi-stakeholder approach at REDcert since REDcert only implements the RED requirements.

Credibility is also related to how sustainability issues are covered (row 2 in Figure 9). ISCC, NTA8080 and RSB cover sustainability issues in a broad way, with some differences (see also paragraph 3.2.5). FSC also covers sustainability issues in a broad way but does not address GHG emissions. REDcert only addresses the RED requirements.

There are notable differences regarding accreditation (row 3 in Figure 9). FSC, NTA8080 and RSB make use of independent accreditation bodies. Independency is less ensured in the cases of ISCC and REDcert, where the German Government Agency for Agriculture and Food (BLE) combines the roles of accreditation body and policy implementation agency.

All schemes make use of third party verification (row 4 in Figure 9) although there are important differences regarding the coverage of this third party verification. REDcert, for instance, relies to a large part on self-declarations of biomass producers which are subject to random verification.

All scheme owners are independent organisations (row 5 in Figure 9). FSC, NTA8080 and RSB are managed by not-for-profit organisations, ISCC by a mix of not-for-profit and for-profit organisations (ISCC Association and Meo Carbon Solutions), and REDcert by a for-profit organisation.

FSC and RSB are members of the ISEAL Alliance and have committed to the ISEAL codes (row 6 in Figure 9). FSC is a Full Member and complies with the ISEAL codes of good practice. RSB is an Associate Member and is in the process of meeting the ISEAL codes of good practice. NEN is the Dutch standardisation institute and as such member of the CEN and ISO organisations. ISCC is Affiliate of the ISEAL Alliance, which is a possibility for interested organisations and individuals to follow the works of ISEAL closely without having to commit to its codes of conduct.

Figure 10: Information related to the market uptake and launch of the five selected schemes

	FSC	ISCC	NTA8080	REDcert	RSB
Number of certificates issued in April 2011	19,749 CoC certificates, 1,028 FM/CoC certificates	283 certificates	2 certificates	782 certificates	None (went live in March 2011)
Year of going live	1993	2010	2011	2010	2011

Note: for FSC the numbers of certificates date from February 2011

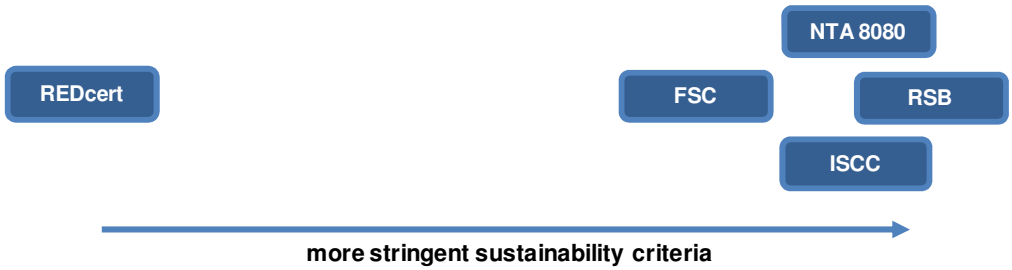
15 For the selection of these aspects we inspired ourselves by ISEAL research on credibility of environmental and social standards. We refer to ISEAL 2007, 2009 and 2011.

There are big differences in the number of years being operational and the number of certificates issued (see Figure 10). This is partly related to the start date of the schemes but also to the effort needed to comply with the scheme. FSC became operational in 1993 and has a high number of certificates issued, more than 20,000. REDcert and ISCC went live in 2010 and have hundreds of certificates issued. NTA8080 and RSB both opened in Q1 2011 and have a very limited number of certificates issued at the time of this report.

3.2.5 *Easiness to comply with the standard's requirements*

The easiness to comply with a certain standard depends, on the one hand, on the stringency of the sustainability requirements of a scheme, and, on the other hand, on the user simplicity and practicability of the scheme. These aspects are detailed hereafter.

Figure 11: Certification schemes and stringency of sustainability criteria



If we compare the five certification schemes (see Figure 11), REDcert clearly has the less stringent sustainability requirements since they are limited to those of the RED, and is hence the most easy to comply with.

FSC, NTA8080, ISCC and RSB have more stringent requirements. We consider that they are at a similar level even if there are notable differences: FSC, for instance, does not include carbon and GHG requirements. Another difference is that RSB includes, on top of environmental and social requirements, an economic requirement: bio-energy actors should demonstrate the long term economic viability of their operation. All four have requirements regarding Environmental and Social Impact Assessments (EIA and SIA), stakeholder consultations according to the principles of Free Prior Informed Consent (PFIC), and legal compliance.

The measures to be taken and the associated compliance costs depend on the scheme's sustainability requirements as well as on your ability to comply. In general can be said: the more stringent the requirements, the higher the costs.

Figure 12: Possibility of less stringent requirements

	FSC	ISCC	NTA8080	REDcert	RSB
Step-in certification	Perhaps	No	Yes	No	Perhaps
Less stringent rules for biomass out of residues	No	Yes	Yes	Yes	No
Less stringent rules for small holders	Yes Adapted indicators Streamlined auditing Group certification	Yes Streamlined auditing	Yes Adapted criteria Streamlined auditing Group certification	Yes Streamlined auditing	Yes Adapted criteria Group certification

All standards offer less stringent requirements for specific situations. NTA8080 offers a lower level of requirements at the start (row 1 of Figure 12): it has adopted a RED growth model allowing companies to comply with the RED requirements first and the full standard later on. A similar approach is under discussion at the RSB. FSC has developed a 3-step modular programme for facilitating progress of applicants towards full FSC certification; decision making on the implementation of this programme is anticipated for 2011. ISCC and REDcert do not offer stepwise approaches.

ISCC, NTA8080 and REDcert foresee reduced requirements for biomass produced of residues, in line with the RED (see row 2 of Figure 12). FSC and RSB do not have less stringent requirements for biomass produced of residues.

All standards have special auditing requirements for smallholders, i.e. streamlined auditing and/or group certification (see row 3 of Figure 12). On top of this, FSC, NTA8080 and RSB offer reduced sustainability requirements to smallholders.

Regarding the user friendliness of the five schemes, all have publicly available websites with extensive information, reports and tools. As FSC is active the longest, their website is the most extensive in number of languages as well as in information and tools provided. None of the schemes have a personal helpdesk for organisations aiming at comply with the schemes requirements, but all indicate to be responsive to questions and problems.

Compliance can also be facilitated if a scheme recognises certificates of other schemes. This differs along the schemes. REDcert indicates that it accepts all schemes that are recognised by the EC under the RED. ISCC currently accepts REDcert, FSC and PEFC certificates for part of the requirements. FSC accepts a number of certificates issued under programmes of the Rainforest Alliance. NTA8080 and RSB have not yet accepted certificates of other standards. All schemes have procedures to recognise certificates of other schemes.

3.2.6 Fit with your willingness to pay for the scheme benefits

Costs for scheme participation and compliance are situation-specific, and vary per organisation type, organisation size or turn-over and annual amount of biomass or biofuel. There are three types of cost:

1. *Certificate costs*: costs to be paid (direct or indirect) to the scheme owner. Usually these certificate cost consist of:
   a. a membership or registration fee (per organisation);
   b. a certificate fee (for each certificate issued);
   c. a quantity based fee; based on the annual amount of biofuels sold as sustainable or the annual turnover of the organisation.
2. *Audit costs*: costs to be paid to the certification body for the audits performed.
3. *Compliance costs*: costs for all kinds of technical, organisational and procedural measures to be able to comply with the schemes requirements.

For most of the schemes the first two types can be known easily. Certificate costs can be found in Figure 13 below and in the detailed factsheets under item '4.4 Costs for operators'. Audit costs can be known by asking proposals from the certification bodies. The compliance costs are difficult to establish and differ greatly depending on the measures already taken by the organisation aimed at compliance.

Figure 13: Scheme costs

	FSC	ISCC	NTA8080	REDcert	RSB
Certificate costs for operators	OPTIONAL Annual membership fee [$75-$10,000]	Annual fee per certificate [€50-€500] AND Fee per metric ton [€0.02-€0.03] OPTIONAL Annual membership fee [€50-€3,000]	Annual fee per certificate [€50-€200] AND Fee per metric ton [€0.03] OR Annual membership fee [€50-€5,000]	Annual fee per participant [€150-€250] AND Fee per metric ton [€0.027-€0.035] AND Annual fee per site [€25-€50]	Yet unknown (according to RSB: minimal cost to administrative and licensing fees) OPTIONAL Annual membership fee [$250-$10,000]
Costs of auditing	Unknown	Unknown	Unknown	Unknown	Unknown
Costs of compliance	Unknown	Unknown	Unknown	Unknown	Unknown

Note: less important cost factors, such as one-off registration fees, are not included in the table.

If we compare the five schemes (see Figure 13), certificate costs are fairly similar for ISCC, NTA8080 and REDcert, and are composed of a fee per certificate/site/participant and a fee per metric ton. NTA8080 waves the fee per metric ton for its members, while ISCC applies a reduced fee per metric ton for its members (€0.02 instead of €0.03).

There is no valid information available on the cost of auditing and compliance for the five schemes. In literature, however, there are some cost indications for FSC certified wood, for a bigger and a smaller operation. This is presented in Textbox 14.

Textbox 14: Costs indication for certified wood

Explanation
The cost indications below are examples for the certification of sustainable wood. In the case of these examples, compliance costs were dominated by harvesting restrictions imposed by the certification standards. These can decrease the stumpage revenues with 15 to 20%, having hence a major impact on the economy of a forest. This had a big impact on the Swedish operation (13.5€/ha per year) and a smaller impact on the Norwegian one (1.61 €/ha per year). The overall cost were 13.55€/ha per year for the Swedish operation and 2.67€/ha per year for the Norwegian operation.

1. Big operation. Gavleborg, Sweden, FSC (+PEFC) certified, 2,000,000 Hectares:
- Direct costs, external auditing: 0.01 €/ha per year
- Direct costs, internal auditing: 0.04 €/ha per year
- Indirect costs, organisational: 0 €/ha per year
- Indirect costs, loss of stumpage revenues: 13.5 €/ha per year

Total costs: € 27,100,000 (€ 13.55 / ha) per year.

2. Small operation. Cost indication for area in Norway, FSC certified, 3,700 Hectares:
- Direct costs, external auditing: 0.38 €/ha per year
- Direct costs, internal auditing: 0.41 €/ha per year
- Indirect costs, organisational: 0.27 €/ha per year
- Indirect costs, loss of stumpage revenues: 1.61 €/ha per year

Total costs: € 9,879 (€ 2.67 / ha) per year.
Source: BTG (2009)

3.2.7 Fit with customer needs and requirements

In paragraph 3.1.2 we suggested to have discussion with your customers about their needs and requirements. The customer needs and requirements are obviously also essential in the final selection of the certification scheme. So we suggest that you anticipate the fit with customer needs and requirements when selecting the certification scheme of your choice.

3.3 Make a final choice and engage

In this section we suggest three last actions to make your final selection:
1. Talk with certification bodies about your plans (paragraph 3.3.1);
2. Talk with your customers about your preferred scheme (paragraph 3.3.2);
3. Make a final choice and engage (paragraph 3.3.3).

3.3.1 Talk with certification bodies about your plans

After having shortlisted possible certification schemes (paragraph 3.2), a certification body has to be selected to carry out the audits. The first step is to contact certification bodies that are accredited by the selected certification scheme. It may be preferably to contact a certification body which whom you are already working with. Lists of accredited certification bodies are available on the websites of each certification scheme.

When selecting a certification body, the following issues are important:
- Is the certification body active in your country for the selected scheme(s)?
- What is the experience of the certification body with the selected scheme(s)?
- What is the opinion of the certification body on your scheme(s) selection?
- What are the certification costs?

3.3.2 Talk with your customers about selecting a certification scheme

Issues to discuss with your customers are:
- Short list of certification schemes to be used based on:

  - scope of the scheme;
  - market opportunities;
  - important market and legal requirements;
  - scheme credibility;
  - sustainability issues covered;
  - certification costs;
- Short list of certification bodies (auditors) to be used;
- Criteria to use for the final selection of a certification scheme;
- Activities and planning how to proceed.

Discussing these issues with your customer can give you a head start, compared to competitors, if you are one of the first to have gained experience with certification within the customer's biomass chain.

3.3.3 Make a final choice and engage

After the discussions with certification bodies and your customers, you make your choice for a certification scheme. You then select a certification body and discuss with them the details of the certification process. Relevant issues to discuss are:

- The process and planning for certification;
- The scope of the certification;
- Your self-assessment (if relevant).

Appendix A: Self assessment form

This self assessment form may help you in the selection of a sustainability certification scheme. The form follows the structure of chapter 3 of this report. The form can help you to structure your discussion with customers or certification bodies. The self assessment form can be progressively filled in when you are investigating which sustainability certification scheme to use. When you have made your selection, the form can be entirely filled in and can serve as a justification of the final selection. An example form, filled in for a hypothetical company, is included on the next page.

Appendix A1: Empty self assessment form

	Question / Issue to decide	Answer
Is biomass certification appropriate for your business?	1.1a Describe the expected revenues (preferably in numbers) and market opportunities (short and long term), both national and export.	
	1.1b What regulatory requirements are relevant for your organisation and what could be their impact?	
	1.1c Are there operational risks (environmental, social and financial) associated with your organisation?	
	1.1d Is there an intrinsic motivation to do business in an ethical and responsible way? What are you already doing?	
	1.1e Is an increase of your operational costs a problem? Do the advantages outweigh these extra costs?	
	1.2 Does your customer want your products to be certified? Which scheme? If not, what are your customer's needs and requirements?	
Which certification scheme(s) to select?	2.1 Which schemes fit with your organisational and biomass chain characteristics?	
	2.2 Which schemes facilitate trade of your product?	
	2.3 Which schemes meet the relevant legal requirements?	
	2.4 Which schemes are credible?	
	2.5 Which schemes are the easiest to comply with?	
	2.6 What are the scheme and compliance costs?	
	2.7 Which schemes fit with your (potential) customer needs and requirements?	
Make a final choice and engage	3.1 Talk with certification bodies about your plans	
	3.2 Talk with your customers about selecting a certification scheme	
	3.3 Make a final choice and engage	

Appendix A2: Self assessment form filled in for a hypothetical company

The form is filled in for a hypothetical bioethanol company located in Brazil that is supplied by a large number of sugarcane farms across the country.

	Question / Issue to decide	Answer
Is biomass certification appropriate for your business?	1.1a Describe the expected revenues (preferably in numbers) and market opportunities (short and long term), both national and export.	Our bioethanol goes for 70% to the internal market and for 30% to the EU. Both markets have high opportunities for certified biofuel, because of the high oil price and the increasing demand for sustainably produced biofuel.
	1.1b What regulatory requirements are relevant for your organisation and what could be their impact?	We have to comply with the Brazilian legal requirements for the operation of our bioethanol mills, this is business as usual. The RED is new as well as the additional requirements set by our export customers that are European biofuel blending companies.
	1.1c Are there operational risks (environmental, social and financial) associated with your organisation?	Yes there are operational risks. Most risks related to the mills are regulated by Brazilian legislation and are well controlled. Our supplier risk is less controlled: so far we did not have requirements on the origin and production of sugarcane that farmers sell to us. We relied on the Brazilian legislation for this. We have to step up here, in order to satisfy our European customers. In order to be sure that work conditions are above-average in the sector, we also decided to participate to the well-known voluntary Brazilian initiative on 'Better Work Conditions on sugarcane', that goes beyond legal obligations.
	1.1d Is there an intrinsic motivation to do business in an ethical and responsible way? What are you already doing?	Our company is not involved in CSR. However, being good for our people and for the environment is our everyday's business.
	1.1e Is an increase of your operational costs a problem? Do the advantages outweigh these extra costs?	Yes, increase of costs is problematic. But the export market requires that we comply with the RED and with the environmental and social requirements of our European customers, so we must do so. We do not obtain a premium price for certified bioethanol, but we do not have a choice if we want to access the EU market. Prices on the EU market are good.
	1.2 Does your customer want your products to be certified? Which scheme? If not, what are your customer's needs and requirements?	We have several European customers all having their own supplier requirements. They ask us to use their schemes (Abengoa and Greenergy), or a comparable credible scheme that covers all or most of their requirements.
Which certification scheme(s) to select?	2.1 Which schemes fit with your organisational and biomass chain characteristics?	Best fit is Bonsucro, since this scheme is very well adapted to the Brazilian sugarcane practice. The next fits are the company schemes of Abengoa and Greenergy, that has ample experience in Brazil and a good fit with the requirements of our export customers. ISCC, NTA8080 and RSB may also do the job but have much less experience in Brazil.
	2.2 Which schemes facilitate trade of your product?	All above-mentioned schemes do. The company schemes are less interesting for us as we don't want to be linked to only one customer.

	Question / Issue to decide	Answer
	2.3 Which schemes meet the relevant legal requirements?	All do.
	2.4 Which schemes are credible?	All are credible in our view: they all are the fruit of intelligent, collaborative stakeholder work and include third party verification.
	2.5 Which schemes are the easiest to comply with?	Bonsucro is the best adapted to our business. Compliance with ISCC, NTA8080 and RSB is possible but requires more work, as our first research showed. We are unsure whether we can easily comply with the RSB requirements on environmental and social impact assessment for land use.
	2.6 What are the scheme and compliance costs?	We don't know the compliance cost at present. We are currently working on a roadmap and cost estimate for us and our suppliers, to comply with Bonsucro. We know that most costs are organisational costs, related to the investment in time to get additional data from our suppliers, on carbon, environmental and social issues. We will also have higher internal auditing costs. For the external auditing costs we have asked three certification bodies for their prices.
	2.7 Which schemes fit with your (potential) customer needs and requirements?	Best fit is Bonsucro. Next fits are ISCC, NTA8080 and RSB.
Make a final choice and engage	3.1 Talk with certification bodies about your plans	We did. The auditors confirmed our choice for Bonsucro as a first step. They recommended monitoring closely whether being certified against ISCC, NTA8080 or RSB would bring us additional benefits in future.
	3.2 Talk with your customers about selecting a certification scheme	Our customers were happy with the choice, but Bonsucro is not satisfying all of their requirements. We have to ask the auditors to verify some additional requirements. This is fine for the first time; we'll have to see how this develops.
	3.3 Make a final choice and engage	We selected Bonsucro as a first step. We also selected our auditor: this'll be a local office of one of the bigger international certification companies. Our main EU customer has recommended us to work with this certification company.

Appendix B: Factsheets of 5 selected certification schemes

Appendix B1 Factsheet FSC

Appendix B2 Factsheet ISCC

Appendix B3 Factsheet NTA8080

Appendix B4 Factsheet REDcert

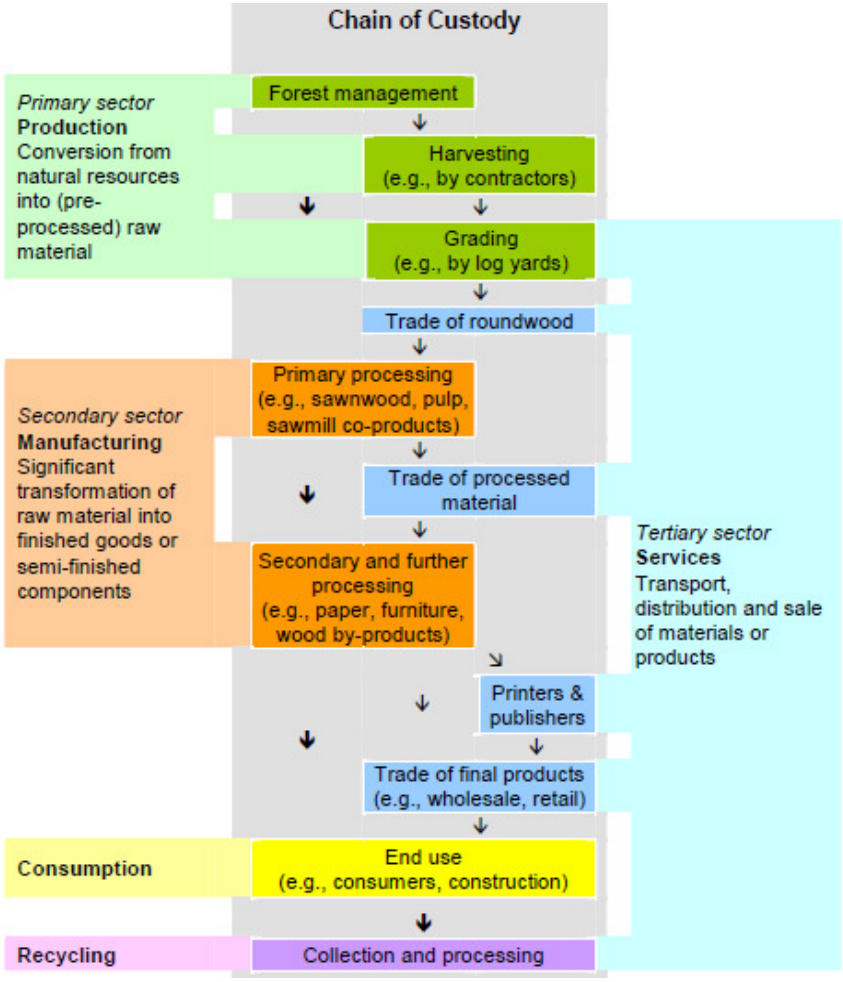
Appendix B5 Factsheet RSB

Appendix B1 Factsheet FSC

This factsheet aims to provide persons interested in the FSC certification system with accessible, comparable and thorough factual information on this system. FSC Netherlands provided feedback and input on an earlier version of this factsheet. The factsheet presents the actual status of the system in May 2011. For more detailed information on the system, the reader is referred to the website of the certification system or suggested to contact the FSC national or international organisations.

Factsheet item	Description
0 SUMMARY AND SOURCES	
0.0 Summary	The Forest Stewardship Council is a stakeholder owned system for promoting responsible management of the world's forests. The FSC Principles and Criteria (P&C) apply to all tropical, temperate and boreal forests. Many of the P&C apply also to plantations and partially replanted forests. More detailed standards for these and other vegetation types may be prepared at national and local levels. While the P&C are mainly designed for forests managed for the production of wood products, they are also relevant, to forests managed for non-timber products and other services.
0.1 Sources used	1. www.fsc.org, last visited 22 April 2011 2. Personal communications of Arjan Alkema and John Hontelez, FSC, 22 April 2011 and 4 May 2011
1 GENERAL ASPECTS	
1.0 Name	Forest Stewardship Council
1.1 Website	www.fsc.org
1.2 Objective	FSC is an international NGO, dedicated to promoting responsible management of tropical, subtropical, boreal and temperate forests. FSC certification provides a credible link between responsible production and consumption of forest products, enabling consumers and businesses to make purchasing decisions that benefit people and the environment as well as providing ongoing business value. The FSC standard has shown its success and is interested in expanding operations to non-timber management objectives, such as climate change and biofuels.
1.3 Context and scheme status	During the UN Conference on Sustainable Development in 1992 (Rio Summit), concerned business representatives, social groups and environmental organisations identified the need for a system that could credibly identify well-managed forests as source of responsibly produced forest products. In 1994, founding members approved the FSC Principles and Criteria, together with the FSC Statutes (today called By-Laws). The Forest Stewardship Council was officially born. The first FSC certificate was issued in February 1996. Currently, FSC has National Initiatives in more than 50 countries around the world. Additionally FSC maintains regional offices. The FSC International Centre is located in Bonn, Germany.
1.4 Scheme owner	FSC is an association of members consisting of a diverse group of representatives from environmental and social groups, the timber trade and the forestry profession, indigenous people's organisations, responsible corporations, community forestry groups and forest product certification organisations from around the world. Its governance structure is built upon principles of participation, democracy and equity. FSC was established in 1993 as a response to concerns over global deforestation. FSC is a pioneer forum where the global consensus on responsible forest management convenes and through democratic process effects solutions to the pressures facing the world's forests and forest-dependent communities.
2 SCHEME CHARACTERISTICS	
2.0 Certification system set-up	FSC certification is a voluntary, market-based tool that supports responsible forest management worldwide. FSC certified forest products are verified from the forest of origin through the supply chain. The FSC label ensures that the forest products used are from responsibly harvested and verified sources. FSC certification is based on 5 steps that are valid for all three types of FSC certificates: 1. The forest operator contacts one or several FSC accredited certification bodies that will give a first estimation of costs and time needed for the FSC certification. 2. Selection of a certification body and signature of an agreement with the certification body. 3. A certification audit takes place to assess the company's qualifications for certification. 4. The data collected at the audit is the basis of the audit report based on which the certification body makes the certification decision. 5. If the certification decision is positive, an FSC certificate is issued. If the audit revealed non-compliance with FSC requirements, new audits have to be conducted have implemented the changes suggested in the certification report. FSC certificates are valid for five years. The FSC accredited certification body will conduct

Factsheet item	Description
	annual surveillance audits to verify the continued compliance with FSC certification requirements. There are three types of certificates, all voluntary: 1. *FSC forest management* (FM) certification is a way of ensuring that a forest manager's or owner's, careful and long-term forest management is recognized. Special options exist for smallholders and groups of forest operations. However to sell material from an FSC certified forest with the FSC logo, the forest manager must also achieve FSC chain of custody certification. 2. *FSC chain of custody* (CoC) allows credible tracking of FSC material from the forest, through all the production process, to committed retailers and consumers. CoC certification is for companies that manufacture, process or trade in timber or non-timber forest products and want to demonstrate to their customers that they use responsibly produced raw materials. Special options exist for larger companies that wish to certify more than one site. Only FSC CoC certified operations are allowed to label products with the FSC trademarks (FSC Pure, FSC mixed, FSC Recycled or FSC Controlled wood). 3. *FSC Controlled Wood* supports the production of FSC Mixed Sources by providing FSC certified companies with tools to control the non-FSC certified wood in their product groups to avoid the wood produced from unacceptable sources. Forest Management companies that comply with the FSC Controlled Wood standard (FSC-STD-40-005 or FSC-STD-30-010) will be able to supply FSC Controlled Wood to FSC Chain of Custody certified operations.
2.1 Chain coverage	All stages of the supply chain from the forest to the consumer; starting from the production (forestry) and including all successive stages of processing, transformation, manufacturing and distribution.
2.2 Biomass focus	Wood, including bamboo, and wood fibre products from tropical, subtropical, boreal and temperate forests.
2.3 Specifics for biomass wastes	Several initiatives around the world are producing heat and power using sawdust and wood waste collected from FSC certified forests. There are no specific rules or less stringent requirements for these flows of the wood chain. Moreover on the 'Principles and Criteria for Forest Stewardship' document, Criteria 5.3 mentions that 'forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources'.
2.4 Scope of the scheme	FSC is an international certification scheme. FSC efforts are directed towards different program areas other than responsible forest management. FSC explores forest-based carbon initiatives and has established the Forest Carbon Working Group. This group will advise FSC Board of Directors with respect to all matters related climate change, greenhouse gas accounting and forest-based carbon programs. The Monitoring and Evaluation program provides insights from external consultations on the impacts of certification on sustainable forest management. The Social Policy Program facilitates access and enhances benefits to small and low intensity forest managers and deals with conflicts related to labour and indigenous rights.
2.5 Sustainability principles	All forest certification standards, recognized by FSC, should be in accordance with the 10 principles and 56 criteria, included in the FSC Principles and Criteria for forest Stewardship FSC-STD-01-001 (version 4-0) document and summarized below. Principle 1. Compliance with laws and FSC Principles Principle 2. Tenure and use rights and responsibilities Principle 3. Indigenous peoples' rights Principle 4. Community relations and worker's rights Principle 5. Benefits from the forest Principle 6. Environmental impact Principle 7. Management plan Principle 8. Monitoring and assessment Principle 9. Maintenance of high conservation value forests Principle 10. Plantations Based on these principles, the FSC has developed policies or standards that explain certain requirements. The principles and criteria must be adapted into national, regional and locally applicable indicators and verifiers either by the National Initiatives or, in the case of generic standards, by the certification bodies. Regarding climate change, the 2008 General Assembly adopted a motion requesting FSC to explore its potential for engaging in forest-based carbon initiatives. Consequently, in 2009, a Forest Carbon Working Group (FCWG) was established. In its discussion paper published in December 2010, the FCWG indicates to believe that FSC is very well placed to incorporate carbon stewardship into its certification scheme and that doing so will enhance the full range of social, economic and environmental benefits FSC already enjoys. FCWG is also clear that monitoring the carbon resources of forests and plantations is both essential and desirable. About carbon offset mechanisms, FCWG concludes that FSC should not be directly involved in carbon offset quantification and verification, but should provide or refer to best practice guidance as to what principles or methodologies carbon accounting should adhere to. The FCWG opinion does not represent the agreed position of the FSC membership. The final report of the FCWG was submitted it to the March 2011 FSC Board meeting.
2.6 Chain of	The requirements for Chain-of-Custody (CoC) certification are included in the official standard, 'FSC-STD-40-004

Factsheet item	Description
custody	Version 2, Chain of Custody control systems and procedures'. There is not a prescribed system for tracking the certified materials. It is up to each company to set out how they will satisfy the requirements and ensure that FSC products are correctly labelled. The most important areas to cover are Critical Control Points where there is a risk of FSC and non-FSC material being mixed up. As part of the requirements for CoC certification, a company must select which of three Control Systems they will be using for each Product Group; these may be the same or different Control Systems. – *Transfer System:* for companies engaged in trading activities related to finished products, and for the production of FSC Pure products (e.g. distributors, sawmills, timber brokers, printers). – *Percentage System*: for companies manufacturing products with FSC Mixed and FSC Recycled claims. Not for trading activities related to finished products (e.g. sawmills, primary/secondary manufacturer, printers). – *Credit System*: for companies manufacturing products with FSC Mixed and FSC Recycled claims. Not for trading activities related to finished products, and not for Printers (e.g. sawmills, primary/secondary manufacturer). An important condition for applying the credit system is that the non-certified wood is either recycled material or FSC-controlled material. The following operations are exceptions and do not require Chain of Custody certification: 1. Companies who pack non-forest products into cartons produced by FSC certified printers, even though they may buy the cartons and sell on the packed products to the retailer. 2. Companies who are doing work for an FSC certified company under that company's Outsourcing Policy and who do not take ownership of the products. 3. Shippers or transport companies handling goods owned by a CoC certified company **Chain of Custody stages in relation to industry sectors** 
2.7 Target groups	The FSC Principles and Criteria are mainly designed for forests managers involved in the production of wood products, but also relevant, to forests managed for non-timber products and other services. Operations making, changing, trading, re-labeling or repackaging *FSC certified* products need to be CoC certified in

Factsheet item	Description
	order to use the *FSC trademarks* and to enable its customers to make an FSC claim about these products.
2.8 Specifics for small holders	Smallholders is the term used to describe those who own, manage or use forests which are considered "small" in relation to others in their region, and those who apply "low intensity" harvesting practices to timber and/or non-timber forest products. The interpretation of 'small' and 'low intensity' concepts depends on the countries and standards. Generally, small forests are those less than 100 ha in size but can be as much as 1,000 ha in size (depending on the country). Low intensity refers to a harvesting rate of less than 20% of the mean annual growth in timber, and either an annual harvest or an annual average harvest of less than 5,000 cubic meters (averaged over the certificate lifetime). Forests used solely for harvesting non-timber forest products also qualify regardless of size or intensity. Plantations for non-timber forest products do not qualify. FSC has two programs in place for smallholders seeking to demonstrate their long-term and careful management practices. These systems include changes to the way certification bodies carry out initial certification assessments and annual monitoring. The first program called SLIMF (Small and Low Intensity Forest Management) consists of individual certification procedures. These procedures follow the basic certification process with two major differences. First, the auditing process has been streamlined resulting in direct cost-savings in certification process. Secondly, the standard includes indicators adapted to SLIMF operations and circumstances. The second program for smallholders is called *'Group certification'* and allows groups of forest owners to join together under a single FSC certificate and share certification costs among the group members. Cost saving can be achieved by reducing the number of member operations visited during a field audit, and by replacing some annual field audits with desk audits of documents and systems. The number of members within each group is unlimited but a proper management must be in place.
2.9 Certification and audit requirements	The applicants for a Forest Management certificate are typically forest landowners, forest managers, governments and private entities that wish to have the forestlands they own or manage, FSC certified. This is the first step to be able to sell FSC certified products and/or make an FSC forest certification claim. Candidates for certification undergo a detailed on-the-ground assessment that includes input from all interested parties, species inventories, management plan reviews, and forest inspections. Forest management certification is valid for five years subject to successful completion of annual audits. The first audit, called the assessment, is the most rigorous and determines the initial decision to certify. The assessment is followed by four annual audits. The assessment for FSC Forest Management certification (similar to the FSC Controlled Wood Certification process) includes the following steps: 1. The candidate operation completes an application. 2. Based on information, the auditing team of the selected Certifying body will determine if a formal Pre-assessment is required prior to conducting the full evaluation. (Operations that plan to certify 10,000 hectares or more must undergo a formal pre-assessment (or gap analysis prior to the main assessment). 3. A budget is prepared (the application is not binding until the budget is approved by the candidate operation), and a service agreement is signed by the candidate operation and the certifying body. 4. A multi-disciplinary team (usually a forester, an ecologist and a community relations specialist) conducts fieldwork to assess the candidate operation's performance, using the FSC's regionally adapted standards as the "measuring stick" (in countries without approved FSC regional standards). 5. The auditing team designs and implements a stakeholder consultation process that seeks outside input on the candidate operation's performance, including input from local communities, environmental groups, government and scientific researchers. 6. After consultation and field work, the certifying body produces an assessment report. 7. The assessment report is reviewed both by the candidate company and independent peer reviewers. 8. Based on the fieldwork, stakeholder consultation and peer review inputs, a certification decision is made. For certain types and sizes, the forest entity can also select one of the following models (options) of Forest Management certification: Group Certification, Small and low intensity managed forests (SLIMF), Non Timber Forest Products (NTFP). FSC CoC certification is available to all companies that process or sell forest products. Thus, in order for clients to manufacture an FSC-certified product or for retailers to make an FSC claim about the products sold to them, a company must be FSC CoC certified. Candidates include sawmills, secondary manufacturers, broker/distributors, wholesalers, retailers, printers and paper merchants. The first audit or assessment, follows a similar process as described above although it concentrates on the following aspects: 1. Quality Management – Evaluation of candidate's CoC Control system which includes: identification and training of staff responsible for implementing the CoC control system; establishment and implementation of procedures and systems covering all applicable requirements of the standards; and maintenance of complete, up-to-date records covering all applicable requirements of the standards. 2. Scope of Chain-of-Custody system – Evaluation of the following aspects: a) FSC Product Groups: identification of products to be sold with FSC claims. b) Material sourcing: specifying types of inputs and validating suppliers. c) Material receipt and storage: identification and segregation of inputs. d) Volume Control: tracking of material balances and processing waste (conversion factors) to ensure compliant FSC claims. e) Sales and delivery: identification of products sold with FSC claims.

Factsheet item	Description
	f) Trademark use: secure system for the compliant use of FSC trademarks, both on-product and promotionally. In addition the certificate scope includes details on the number and location of facilities covered by the certificate, use of Controlled Wood (CW) in FSC Mixed products (if applicable), use of reclaimed inputs (if applicable), use of minor components exempt from CW (if applicable), and outsourcing of processing for your FSC product groups (if applicable). In most cases the assessment will entail an on-site visit to the facility / facilities to be included in the scope of the certification. If the organization does not take physical possession of materials and products (e.g., you are a broker and material is shipped directly to your customers from the mill/supplier), a desk evaluation may be conducted. The following options are available for companies willing to achieve FSC COC certification: – *Multi-Site Certification*: for companies that operate with several facilities to set up a "Central Office" and manage one certificate. – *Group Certification:* for several independent, small operations to join together under a common association and designate a "Group Manager" to oversee one certificate. Both group and multi-site CoC certification allow certification bodies to evaluate participating operations or sites based on audit sampling in recognition of common, centrally administered, and monitored control and reporting systems. This reduces direct auditing costs. FSC Controlled Wood certification CoC certification with FSC Controlled Wood is required for FSC CoC certification applicants that need to control their non-FSC virgin inputs used in FSC-certified products, as well as to FSC-certified companies wishing to supply "FSC Controlled Wood" products to other FSC-certified companies within a supply chain developing FSC Mixed products. Companies are evaluated and approved against the FSC Controlled Wood standard(s). These companies are issued a CW certificate registration code in addition to the CoC certificate code. However, the Controlled Wood code is only used when a company is approved to sell products with "FSC Controlled Wood" claims. FSC Project Certification FSC project certification is applicable to new building or renovation projects, or one-off production of a specific item. This type of certification verifies use of FSC-certified and/or post-consumer reclaimed input materials in the project, allowing the project manager or owner to make FSC promotional claims.
2.10 External stakeholder consultations during audits	The responsibility for engaging affected parties rests with the forest manager. In the absence of a national standard, the forest manager is also responsible for demonstrating how the concerns expressed by other interested parties have been taken into account. The manager must have implemented a clear and robust consultation process which covers pre- and ongoing certification periods and there is a similarly recognised conflict resolution process in place. These rules are prescribed in the FSC standard FSC-STD-20-006 V3-0. FSC also launches calls for public consultations of their standards and rules. In September 2008 for instance, FSC proposed a complete review and revision of the FSC Principles and Criteria (P&C). An overwhelming amount of comments were received. A new version of the P&C is expected to be approved by FSC members at the end of 2011.
2.11 Level of assurance	FSC defines failures to meet certain requirements as non-compliances. These remarks must be identified by the certification bodies. A non-compliance may be considered minor if: a) it is a temporary lapse, or b) it is unusual / non-systematic, or c) the impacts of the non-compliance are limited in their temporal and organisational scale, and d) it does not result in a fundamental failure to achieve the objective of the relevant requirement. A non-compliance shall be considered major if, either alone or in combination with further non-compliances, it results in, or is likely to result in a fundamental failure to achieve the objective of the relevant requirement in the Chain of Custody operation(s) within the scope of the evaluation. Such fundamental failure shall be indicated by non-compliance(s) which: a) continue over a long period of time, or; b) are repeated or systematic, or; c) affect a wide range of the production, or; d) are not corrected or adequately responded to by the responsible managers once they have been identified. The requirements for certification can be found in FSC-STD-20-011 V1-1 EN.
2.12 Dispute resolution	FSC launched in 2009 its FSC Dispute Resolution System replacing the 'Interim Disputes Resolution Protocol' from 1998. Developed in line with ISO regulations and stakeholder input, the system enables consistent and timely evaluation of complaints and appeals raised by stakeholders against decisions, performances or any other issues within the FSC scheme. To facilitate submission and tracking of complaints and appeals, FSC has developed an online user-friendly dispute resolution centre for stakeholders accessible at www.fsc.org/dispute-resolution. Designed in a modular way, the FSC Dispute Resolution System supports stakeholders to express concerns they may have with the operation of the FSC system and to find the best way of resolving disputes. FSC has developed a dispute resolution centre for stakeholders to submit and track complaints and appeals online. Stakeholders may use the dispute resolution online form to contact FSC and start the dispute resolution proces.

Factsheet item	Description
2.13 National and crop specific variations	FSC has specific requirements for FSC-accredited national and regional standards, which are included in the National Initiatives Manual. FSC will only accredit standards where it can be shown all relevant stakeholder groups have been consulted / involved in the standard development and decision making process. National /Regional standards do not involve only FSC members, but also a broad range of other stakeholders at national or regional level. Actually, the development and approval of FSC national and regional standards is being endorsed by the standard "FSC-STD-60-006 Process requirements for the development and maintenance of Forest Stewardship Standards". Prior to the approval of this standard, only FSC accredited National Initiatives (NI) are able to develop and submit a national standard to FSC for approval. Now national and regional standards can be developed and approved by FSC without the need to accredit an NI. The aim of this standard is to improve the quality of national standards and efficiency of their production. Many countries have made progress in the development of national standards in 2009. Currently, national standards are proposed or under development in Australia, Bulgaria, Chile, China, Congo Basin Region (covering Cameroon, Democratic Republic of Congo, Gabon, and the Republic of Congo), Croatia, Estonia, Fiji, France, Germany (revised standard), Ghana, Honduras, Italy, Ivory Coast, Kenya, Kosovo, Latvia, Madagascar, Mexico, New Zealand, Portugal, Slovakia, South Africa, Sweden (revision), Switzerland, Ukraine and the United States (revision).
2.14 Relation with EU RED	As FSC is dealing with forests, the most direct link with the EU RED is concerning the production of solid biomass. For such biomass, the EU has no common sustainability requirements, as the European Commission, in February 2010, concluded that this is difficult due to the wide variety in biomass feedstocks. Instead it has made recommendations to Member States on the development of national sustainability schemes. The current FSC system is being evaluated by some governments on its applicability as biomass certification scheme. First results indicate that the approach taking by EU RED towards the protection of certain ecosystems and forest types by excluding feedstock from such areas altogether differs fundamentally from the premise guiding the mission of FSC, whereby the sustainable use of forests – under strict respect and maintenance of inherent conservation values – is an incentive to maintain such forests rather than degrading or converting them. So is FSC providing a number of detailed provisions how biodiversity values would need to be taken care of, whereas the EU RED or related sustainability frameworks do not set any specific requirements how to carry out the actual land use management. Another circumstance that makes it difficult to compare the two approaches is that – in contrast to EU RED – FSC puts a lot of weight on social issues, such as respect of indigenous peoples' rights, workers' health and safety, and tenure rights. Nevertheless, as part of FSC's ongoing review of its global Principles & Criteria some of the proposed changes, once adopted, should bring the FSC system close to compliance with RED related requirements. As regards criteria related to quantifying the "reduction in greenhouse gas emissions resulting from the use of biomass", such assessments are currently beyond the scope of FSC certification as they would require more of a life-cycle assessment approach. The overall conclusion therefore is that FSC certification can be used as a proxy for the maintenance of conservation values and ecosystem integrity, but due to the fundamentally different approach is not designed to provide all answers to the emerging national EU sustainability criteria.
2.15 Entry level certification	FSC offers a stepwise 'Modular Approach Program (MAP) to applicant forest management enterprises for facilitating their progress towards FSC certification in defined and verified intermediate steps. This modular approach is not approved and implemented yet; it is for decision later in 2011. The idea is that where needed, working with FSC can start on the legality level, but an FSC certificate comes only into play when the requirements for Controlled Wood of Forest Stewardship are met. The three steps of the modular approach are: – Step 1: Compliance with FSC Principle 1 (Legality) The forest management enterprise shall comply with all criteria of Principle 1 of the applicable forest stewardship standard within one (1) year of entering the FSC MAP. Once, this step is met, the forest management enterprise can use the claim 'FSC LEGAL' in business to business communications but not use any on-products claims with FSC logo. – Step 2: Compliance with FSC Controlled Wood requirements The forest management enterprise shall comply with all requirements of FSC-STD-30-010 within three (3) years of entering the FSC MAP. Once this step is met, the forest management enterprise can use the claim 'FSC Controlled Wood' in business to business communications and documentation. – Step 3: Compliance with the FSC Forest Stewardship standard The forest management enterprise shall comply with all requirements of the applicable FSC forest stewardship standard no later than five (5) years of entering the FSC MAP. Once Step 3 is completed, a FSC certificate will be issued with all rights and duties related to it.
2.16 Recognition by other standards	The SmartLogging standard from the Rainforest Alliance fully supports FSC certification. This standard shall be applicable to individual loggers and logging firms, groups of loggers (e.g. logger associations), and forest products companies. In April 2009, FSC and FLO (Fairtrade Labeling Organisation) launched a dual certification pilot project to differentiate products from smallholder and community-based forest enterprises in developing countries in the marketplace in order to bring more benefits to these producers. The 18-month pilot project aims to develop Fairtrade standards for timber, build producer capacity, develop market linkages, and test the dual certification

Factsheet item	Description
	system. A decision will be made regarding the future of dual certification based on the results of this pilot test. Three companies were (Chili, Honduras, Bolivia) were certified against FSC and Fairtrade standards and hence have double labels; at present a pilot is conducted on the market uptake of double labeled products. FSC has been an important benchmark for NTA 8080. At present, however, dual certification against NTA 8080 and FSC is required to obtain certificates for both FSC and NTA 8080.
2.17 Recognition of other standards	FSC's international standards provide the framework for the global FSC network to develop locally applicable standards that are internationally recognized and consistent. To ensure appropriate implementation of the FSC principles and Criteria at the local level, FSC approves national, sub-national and regional standards. A list of FSC approved Forest Stewardship standards is at: www.fsc.org/fileadmin/web-data/public/document_center/national_FSC_standards/FSC_Approved_FSS.pdf.
3 GOVERNANCE AND ORGANISATION	
3.0 Standard setting body	FSC is member of ISEAL, the global association for social and environmental standards. FSC is governed by three chambers with equal voting power that make decisions cooperatively. The highest decision-making body is the General Assembly of FSC Members. This body consists of 3 chambers that represent environmental, economic and social interests from different stakeholders. These chambers are each of them further split into North and South, again each with equal voting powers. The Social and Environmental Chambers are mainly formed by NGO'S, indigenous unions as well as research and academic institutions active in social and environmental beneficial forestry. The Economic Chamber is mainly formed by organisations and individuals with commercial interests such as employees, certification bodies and trade associations. FSC has three levels of decision making: 1) The General Assembly of FSC members is the highest decision-making body in FSC. Every three years members gather from around the world to participate in the General Assembly. 2) The Board of Directors is accountable to the FSC members. It is made up of nine individuals who are elected by the members from each of the chambers for a three-year term. 3) The Managing Director, with the support of a multicultural professional team at the FSC International Centre in Bonn, Germany, runs the FSC on a day-to-day basis.
3.1 Standard implementation body	FSC does not issue certificates itself. The certification process is carried out by independent organisations called certification bodies. Before being able to certify according to FSC standards, certification bodies have to gain FSC accreditation. To do this, certifiers have to comply with an extensive set of rules. The FSC Principles and Criteria are applied at the level of the individual forest management unit through FSC-accredited regional, national or sub-national forest stewardship standards (FSS), or the nationally-adapted generic standards developed by FSC accredited CABs. The FSC International Centre assures through its approval process that national, regional and adapted generic standards are fully compatible with the FSC Principles and Criteria.
3.2 Accreditation body	Certification bodies willing to be FSC accredited need to comply with the accreditation rules and procedures. This is verified by the Accreditation Services International (ASI), the FSC Accreditation body, the organisation managing the FSC accreditation program. ASI verifies certification bodies through office audits and the witnessing of one trial audit in the field. One requirement is that all FSC accredited certification bodies have to be in compliance with relevant international ISO standard (ISO/IEC Guide 65: 1996 (E)). Every year, ASI controls the continued implementation of FSC rules and procedures through at least office and field audits for each FSC accredited certification body.
3.3 Certification bodies	Before being able to certify according to FSC standards certification bodies have to gain FSC accreditation. To do this, FSC certification bodies must operate in accordance with procedures set out in the FSC Accreditation Manual FSC 'General requirements for FSC accredited certification bodies - application of FSC-STD-20-001 (Version 3-0) (similar to ISO/IEC Guide 65:1996 (E). 24 Certification bodies (February 2011) are accredited by the Forest Stewardship Council to certify forest management enterprises. These 24 only include the main office of the accredited Certification Body. In addition, many of these Certification Bodies operate directly and through affiliated organisations in different countries around the world.
4 IMPLEMENTATION AND CERTIFICATION	
4.0 Market and scheme development strategy	FSC assumed a gradual, stepwise approach to marketing. At first, it devoted its time to establishing standards and criteria, and developing the forest certification process. Then it concentrated on attracting businesses to become certified. Now that FSC is better known and the supply and diversity of FSC certified products has increased, the marketing strategy is changing. FSC is marketing to intermediary businesses (retailers, distributors, buyers, etc.), rather than end users, in a variety of ways including participation in and sponsorship of conferences, issuing press releases, and attending trade fairs. FSC Principles and Criteria call for certifying organisations to conduct educational activities on importance of improving forest management and other environmental concerns. That is to say, FSC encourages its accredited certifiers to market FSC certification. FSC will also expand its activities to non-timber management objectives, such as climate change and biofuels. On 21 December 2010, the FSC Forest Carbon Working Group (FCWG) released a discussion paper to highlight

<table>
<tr><th colspan="2">Factsheet item</th><th>Description</th></tr>
<tr><td colspan="2"></td><td>strategic considerations in relation to forest carbon and responsible forest management. The last know development was that FCWG's final report to the FSC Board of Directors was submitted to the March 2011 Board meeting.</td></tr>
<tr><td>4.1</td><td>Level of experience</td><td>135 million ha. of forest certified, 19.749 CoC certificates and 1.028 FM/CoC certificates; that 's the status of FSC certification on February 2011.
In 2010, over 120 million hectares of forest in over 80 countries around the world was FSC certified: the equivalent of roughly 5% of the world's production forests. The value of FSC labelled sales is estimated at over 20 billion US dollar.</td></tr>
<tr><td>4.2</td><td>Certified companies</td><td>FSC publicly offers a database (http://info.fsc.org/) that presents a list of all certificates issued. The largest FSC certificate is located in Canada with 5.656.930 ha FSC certified forest managed by Alberta Pacific Forest Industries Inc. (ALPAC). Other remarkable cases are Tetra Pak which labelled 2,3 billion cartons with the FSC logo in 2009 compared to 200 million in 2008.
COATLAHL Cooperative in Honduras holds a group FSC certificate on behalf of 14 small timber producing community groups, who manage natural broadleaf forests totalling 19,500 ha of natural broadleaf forests. Other case studies on FSC small holders are available on the FSC website.</td></tr>
<tr><td>4.3</td><td>Incentives for scheme operators</td><td>FSC is a credible system as its standard is the only standard for responsible forest management that is operating in compliance with the ISEAL Code of Good Practice. It is also the only standard that is no barrier to trade under the World Trade Organisation (WTO).
Positive effects of FSC certification that were found are improved market access, higher prices, more stable contracts, favourable credit arrangements, improved production efficiency and enhanced public image. It has shown to improve the conservation status and enhance the biodiversity levels of forests, improve pay for workers, increase the attention to worker safety, provide training for workers and stimulate the development of community infrastructure.</td></tr>
<tr><td>4.4</td><td>Costs for operators</td><td>FSC membership fees take into account a wide ranging membership; being individuals, small and large organisations (number of employees and turnover) and those from the North and South. The annual membership fee varies according to the type of membership.

Individual members
<table><tr><th></th><th>Annual fee</th></tr><tr><td>North</td><td>USD 100</td></tr><tr><td>South</td><td>USD 38</td></tr></table>
Non-profit organisations
<table><tr><th rowspan="2">Subcategory</th><th colspan="2">Size of organization</th><th colspan="2">Annual fee</th></tr><tr><th>Based on the # of employees</th><th>Based on turnover (in US Dollars)</th><th>South</th><th>North</th></tr><tr><td>Small</td><td>1-100</td><td>< 15 Million</td><td>USD 75</td><td>USD 150</td></tr><tr><td>Medium</td><td>101-200</td><td>15-30 Million</td><td>USD 500</td><td>USD 1000</td></tr><tr><td>Large</td><td>201-1000</td><td>30-150 Million</td><td>USD 1000</td><td>USD 2000</td></tr><tr><td>Very Large</td><td>> 1000</td><td>> 150 Million</td><td>USD 2500</td><td>USD 5000</td></tr></table>
For-profit organisations</td></tr>
</table>

<table>
<tr><th>Factsheet item</th><th>Description</th></tr>
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<table>
<tr><th rowspan="2">Subcategory</th><th colspan="2">Size of organization</th><th colspan="2">Annual fee</th></tr>
<tr><th>Based on the # of employees</th><th>Based on turnover (in US Dollars)</th><th>South</th><th>North</th></tr>
<tr><td>Very Small</td><td>1-100</td><td>< 20 Million</td><td>USD 100</td><td>USD 200</td></tr>
<tr><td>Small</td><td>101-200</td><td>20-40 Million</td><td>USD 750</td><td>USD 1500</td></tr>
<tr><td>Medium</td><td>201-1000</td><td>40-200 Million</td><td>USD 1500</td><td>USD 3000</td></tr>
<tr><td>Large</td><td>1001-10,000</td><td>200 Million - 2 Billion</td><td>USD 4500</td><td>USD 6000</td></tr>
<tr><td>Very Large</td><td>>10,000</td><td>> 2 Billion</td><td>USD 7500</td><td>USD 10,000</td></tr>
</table>
(Annual) audit costs, certification costs and compliance costs are less clear and typically depend on factors such as size and location of the property.
The cost indications below are examples from Van Dam (2010), "Overview of initiatives in the field of biomass and bioenergy certification".

Gavleborg, Sweden, FSC (+PEFC) certified, 2.000.000 Hectares:
Direct costs, external auditing: 0,01 €/ha per year
Direct costs, internal auditing: 0,04 €/ha per year
Indirect costs, organisational: 0 €/ha per year
Indirect costs, loss of stumpage revenues: 13,5 €/ha per year
Cost indication for area in Norway, FSC certified, 3.700 Hectares:
Direct costs, external auditing: 0,38 €/ha per year
Direct costs, internal auditing: 0,41 €/ha per year
Indirect costs, organisational: 0,27 €/ha per year
Indirect costs, loss of stumpage revenues: 1,61 €/ha per year

</td></tr>
<tr><td>4.5 Pilots</td><td>FSC is running a pilot programme to test FSC certification of small family-owned properties while developing the market for 'green' contractor services. The project is jointly implemented by Stora Enso, FSC and NEPCon. Two additional projects are following up on the pioneering results.

Certification of Forestry Contractors (CeFCo) is jointly implemented by European Network of Forest Entrepreneurs (ENFE), FSC, and NEPCon. It covers 4-6 European countries and is supported by the EU Eco-Innovation Initiative. This project seeks to achieve certification of contractors and forest operations in additional countries such as Portugal, Sweden and Bulgaria until 2012.
'Certification of forest contractors - a shortcut to certification of small forest operations' is jointly implemented by the Danish Association of Forest Contractors, Danish Forest Owners Association (Skovdyrkerne), and NEPCon. It is financed by the Danish Forest and Nature Agency and takes place in Denmark. In addition to the national FSC standards, the local PEFC standards are also included.
</td></tr>
<tr><td>4.6 Guidance for operators</td><td>FSC has developed technical guidance in different languages for certification specifically for smallholders on the following topics:

Assessment of environmental impacts
Evaluating and monitoring social impacts
High conservation values forests
Simple monitoring methods

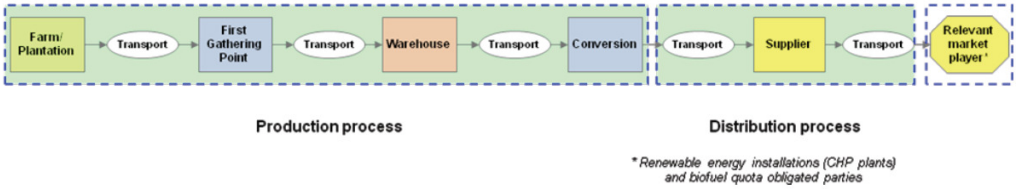
To increase access and reduce barriers to certification for small and low-intensity managed forests in the tropics, the project developed user-friendly guides that can be adapted to local conditions and are available in English, French, Spanish and Portuguese at www.fsc.org/fscpublications.
The "FSC step-by-step guide - Good practice guide to meeting FSC certification requirements for biodiversity and High Conservation Value (HCV) Forests in Small and Low Intensity Managed Forests" explains in simple ways to protect and integrate forest biodiversity and HCVs into management of productive natural forests.
The "FSC user-friendly guide to FSC certification for smallholders - Make more out of your forests!" provides an overview of what FSC certification is and highlights examples of actual and potential economic, social and environmental benefits.
The "FSC guide on the interpretation of FSC principles and criteria to take account of small scale and low intensity" guides standards development groups on how to take account of small-scale and low-intensity forests when developing or updating the FSC forest management standards.</td></tr>
</table>

Factsheet item	Description
4.7 Guidance for auditors	All the instructions and requirements for certification bodies (and auditors) are included in the FSC Standard FSC-STD-20-001 (Version 3-0) 'General requirements for FSC accredited certification bodies - application of ISO/IEC Guide 65:1996 (E)'.
4.8 Helpdesk	FSC provides a section with Help and frequently asked questions where the user can find information on the public certificate database including announcements, frequently asked questions and guidance for making best use of the public certificate holder search. If you use the online brand pack, there is also some information to help you get access.
4.9 Support groups	FSC is a non-governmental, non-profit organisation and was able to receive initial funding from governments, international NGOs and foundations. Different stakeholders have financially supported FSC along the years: – BMZ - German Federal Ministry for Economic Development Cooperation – DANIDA – Danish International Development Assistance – DGIS – Dutch Ministry of Foreign Affairs Development Cooperation – Freshfield Foundation – FSC Global Fund – Global Environment Facility – GTZ –German society for technical cooperation – HIVOS – International Humanist Institute for Cooperation with Developing Countries – ICCO – Inter church Organisation for Development Co-operation – IKEA – Mondi Group – Oxfam Novib – Rockefeller Brothers Fund – Stichting DOEN – Stora Enso – Swiss COOP – Tembec – UNEP – United Nations Environment Programme – VROM – Dutch ministry for social building, regional planning, and environment – WWF International
4.10 Information system	FSC provides an online stakeholder portal and a large resources database, including: – annual Reports; – case studies; – technical guides; – factsheets; – research documents; – documents for users and – photo and video gallery.
4.11 User friendliness and feedback	FSC provides a comprehensive website where vast information is available. The online stakeholder portal is a tool where different links allows the user to easily access further resources. The different sections are enlisted below: – *FSC Dispute Resolution System:* designed in a modular way, the FSC Dispute Resolution System provides stakeholders with a way to express concerns they may have with any part of the FSC system. – *Forest management (FM) assessments:* find listings of upcoming forest management (FM) assessments. – *Certification Body (CB) assessments:* find listings of upcoming certification body (CB) assessments. – *Updates to stakeholders:* find statements and updates from FSC on current issues. – *Information on forest issues:* find statements and information related to the most discussed forest issues.
4.12 Implementation challenges in the year to come	Several challenges could possibly hinder the further entrance of FSC in the market: – Lowered or reduced preference for wood products as the public becomes more aware of the consequences of bad forestry. – Poor understanding of third-party certification systems for building materials. – Low awareness of the preferable attributes of certified wood. – Unawareness of forest certification.

Appendix B2 Factsheet ISCC

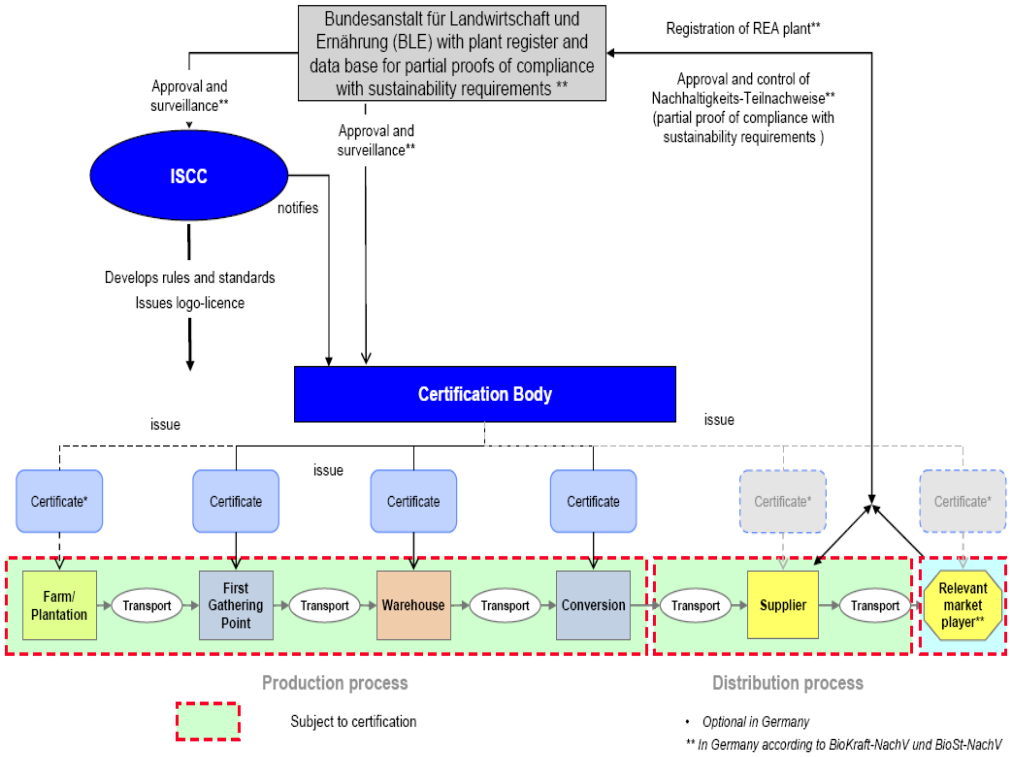
This factsheet aims to provide persons interested in the ISCC certification system with accessible, comparable and thorough factual information on this system. The information has been validated by ISCC System, the scheme owner of the ISCC certification system, and presents the actual status of the system in April 2011. For more detailed information on the system, the reader is referred to the website of the certification system or suggested to contact the scheme owner ISCC System.

Factsheet item	Description
0 SUMMARY AND SOURCES	
0.0 Summary	The ISCC certification system constitutes, for the supply chain for the production of biomass and bioenergy, an instrument for the implementation of the requirements of: 1. EU RED – the 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 2. as well as the German sustainability ordinances – Biokraftstoff-Nachhaltigkeitsverordnung – Biokraft-NachV (ordinance on requirements pertaining to sustainable production of biofuels). – Biomassestrom-Nachhaltigkeitsverordnung – BioSt-NachV (ordinance on requirements pertaining to sustainable production of bioliquids for electricity production). The certification criteria that must be complied with to participate in the ISCC system fall into three categories: 1. Sustainability requirements that have to be complied with in biomass production. 2. Requirements concerning the greenhouse gas emission savings and its calculation methodology. 3. Requirements concerning the traceability and mass balance to provide consistent evidence of the provenance of the biomass. In countries applying the ISCC system, these standards can be further specified and explained in guidelines by national or regional initiatives. National or regional specifications are always subject to recognition by the German Federal Agency for Agriculture and Food BLE.
0.1 Sources	1. www.iscc-system.org, last visited 22 April 2011 2. Review by ISCC, 8 April 2011
0.2 Date	22 April 2011
1 GENERAL ASPECTS	
1.0 Name	ISCC - The International Sustainability and Carbon Certification System
1.1 Website	www.iscc-system.org
1.2 Objective	The ISCC goal is the establishment of an internationally oriented, practical and transparent system for the certification of biomass and bioenergy. ISCC is oriented towards: – reduction of Greenhouse Gas emissions; – sustainable use of land; – protection of natural biospheres and; – social sustainability.
1.3 Context and scheme status	To meet the growing public and policy demands for sustainable production of biofuels and biomass, the German Federal Government passed in November 2009 the biofuel sustainability ordinance – Biokraftstoff-Nachhaltigkeitsverordnung (Biokraft-NachV). Under this ordinance, biofuel producers are able to receive fiscal and administrative support but only if certain sustainability criteria are adhered to. ISCC was initiated in 2006. More than 250 stakeholders from Europe, Latin America and South East Asia representing all stakeholder groups along the supply chains, including NGOs and research institutes including large fuel market players, biomass producers in third countries and WWF Germany have been involved in its development. The schemes scope covers all feedstock and all geographic locations. ISCC was the first certification system approved in January 2010 by the German Authority BLE (German Federal Agency for Agriculture and Food) to the German Biokraft-NachV. On January 26, 2010 the ISCC Association was founded, which is the controlling body of the ISCC certification system. Approx. 500 companies in 25 countries in Europe, North and South America and South East Asia use the system. By April 22, 2011 already 283 certificates have been issued.
1.4 Scheme owner	The ISCC Association (ISCC e.V.) is the governing body to facilitate stakeholder representation. The executive

Factsheet item	Description
	power and the operative management of the system are assigned to the ISCC System GmbH (ISCC limited liability corporation). The ISCC System is financially supported by the BMELV (German Ministry of Food, Agriculture and Consumer Protection) through FNR (Agency for Renewable Resources), who manages the funding programme "Renewable Resources" on behalf of the BMELV.
2 SCHEME CHARACTERISTICS	
2.0 Certification system set-up	The ISCC System consists of six core components: 1. The sustainability audit at farm level for which the ISCC Audit procedures for Farms/Plantations have to be used. This checklist consists of principles, control points, compliance criteria, indicators, and guidance that shall be used within the ISCC System by independent third party certification bodies to verify whether the biomass production takes place in a sustainable manner. Compliance with the ISCC Standard consists of two types of control points: – Major Musts (complete compliance, 100%, together with reference evidence, is compulsory; – Minor Musts (60% compliance is mandatory). 2. The GHG and Chain of Custody (CoC) audit at conversion plant level for which the ISCC Audit Procedures for Conversion Units have to be used. 3. The sustainability, GHG and CoC audit at first gathering point level for which the Audit Procedures for First Gathering Points have to be used 4. The CoC audit at warehouse/supplier level for which the Audit Procedures for Warehouses/Suppliers have to be used. 5. The ISCC registry where audited sites and the audited land and all certificates are registered. Certificates are published on the ISCC webpage and can be search by number, company, kind of unit, validity and certification body. 6. The GHG methodology and data templates to collect the relevant data for the GHG calculation. The certification value chain is explained in the graph below (Source: ISCC 201 System Basics). 
2.1 Chain coverage	All stages of the value chain, from biomass producers to end users.
2.2 Biomass focus	Liquid, gaseous and solid biofuels and biomass for transportation and electricity production, from all kinds of feedstock.
2.3 Specifics for biomass wastes	Wastes and agricultural crop residues shall be considered to have zero life-cycle greenhouse gas emissions up to the process of collection of those materials. Moreover if these residues come from a factory (not produced on a farm or a plantation), a proof of compliance with the sustainability requirements is not necessary. However, the mass balance of the producer of the residues must be verified in the framework of the BioKraft-NachV.
2.4 Scope of the scheme	ISCC is an international certification system for biomass and bioenergy and has a global geographic coverage. It has been developed as a meta standard approach which could allow for the endorsement of other existing certification schemes that can be used to cover all of the ISCC Requirements or parts thereof and would then be complemented by certain components of ISCC. Currently (under BLE recognition) any endorsement of other existing certification schemes is subject to further recognition by the BLE
2.5 Sustainability principles	The ISCC Global Generic Producer Reference Checklist, developed within the ISCC Project in a multi-stakeholder-approach, is used to assess the sustainability of the projects. It is based on the six general principles listed below. Principle 1. Biomass shall not be obtained from land with high biodiversity value or high carbon stock and not from peat land. Principle 2. Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices. Principle 3. Safe working conditions through training and education, use of protective clothing and proper and timely assistance in the event of accidents. Principle 4. Biomass production shall not violate human rights, labour rights or land rights. It shall promote responsible labour conditions and workers' health, safety and welfare and shall be based on responsible community relations. Principle 5. Biomass production shall take place in compliance with all applicable local and national laws and shall follow relevant international treaties.

Factsheet item	Description
	Principle 6. Good management practices shall be implemented.
2.6 Chain of custody	The origin of the sustainable biomass used for the production of liquid biomass or biofuels has to be traced back for every stage of the production and delivery process (see figure in ***Fout! Verwijzingsbron niet gevonden. Fout! Verwijzingsbron niet gevonden.***). Traceability will be achieved via mass balance or physical segregation systems, corresponding traceability attributes and declarations or delivery orders. This assures that origin, amount and related greenhouse gas (GHG) emissions can be uniquely identified and that the amount which has been withdrawn at the respective stage of the value chain does not exceed the amount supplied. The rules for the control of the requirements for traceability apply on an international level. It is up to the particular enterprises to provide evidence of traceability by newly developed documents containing all relevant data or to use existing (partly country-specific) documents and amend the missing data in the document or by means of an appendix. With respect to the framework conditions outlined in document ISCC 203 „Requirements for traceability" the following systems can be distinguished: 1. Physical segregation: organisations applying physical segregation shall ensure that the certified raw material or product is separated at all stages of the production or distribution process. Organisations whose sustainable product is not mixed with other products and during the whole process should use the physical segregation as the preferred option. 2. Mass balance methodology allows the mixing of batches of sustainable and non sustainable products on every stage of the value chain. Due to physical mixing the mixture looses its individual properties. The specific properties of sustainable product can therefore only be determined via bookkeeping. This requires calculation and period monitoring of the mass balance calculation. Within the mass balance period of three months, economic operators can go short as long as they comply with the mass balance requirements by end of the period. Positive credits for sustainable products can be transferred into the next period as long there is physical product in stock. The relevant elements of the value chain (see figure in ***Fout! Verwijzingsbron niet gevonden. Fout! Verwijzingsbron niet gevonden.***) are: a) *Farms/ plantation*: Farms/ plantations are companies or sites that possess one or multiple fields and deliver biomass produced on these fields to the first gathering points. They also conduct the respective documentation on fields and delivery documents. In the certification system these companies or sites have a special status: They can either apply for participation in the certification system and receive – if audited successfully – a certificate for sustainable cropping, or they become part of the system as supplier for a first gathering point. In the latter case, they sign a self declaration towards the first gathering point to comply with the ISCC standards; they will then be audited as supplier sample of the first gathering point. b) *First gathering points*: Enterprises 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 in 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 the suppliers. First gathering points must be physically visited for an audit. Concreted gathering points of multiple suppliers which are for example equipped with a mobile weighing machine during harvest are no first gathering points. c) *Warehouses*: Warehouses in the ISCC system store sustainable biomass (solid, liquid or gaseous). At the same time, they can be part of other elements of the value chain or act autonomously. d) *Conversion units*: Oil mills, refineries and ethanol plants as well as other factories refining bioliquids respectively biofuels to a quality that is required by power plants respectively for supplying biofuels to the market. e) *Suppliers*: A supplier in the ISCC system is an element of the value chain that supplies sustainable liquid biomass or biofuel to other suppliers, to a plant run according to the Renewable Energy Act (EEG) or to a distributor which has to fulfil quota obligations. The sustainability of the supplied liquid biomass or biofuel must be proved and documented. f) *Transport*: Enterprises transporting the biomass between the above mentioned enterprises and to the power plants, storing the biomass or trading in it. Transport is not subject to certification g) *Plant run according to the Renewable Energy Sources Act (EEG) / distributor which has to fulfil quota obligations*: Also the last user of the sustainable bioliquid or biofuel is allowed to apply for a certificate and thus provide evidence for the use of sustainable biomass.
2.7 Target groups	All actors in the biomass-for-energy value chain (see item ***Fout! Verwijzingsbron niet gevonden. Fout! Verwijzingsbron niet gevonden.***)
2.8 Specifics for small holders	ISCC has introduced special treatments for small holders since November 2010: – Small oil mills or traders with a yearly trade or elaboration volume of less than 250 t (solid biomass or equivalent fluid biomass) get a certificate valid for 5 years (instead of 1 year). – Small oil mills or traders which have a yearly trade or elaboration volume of up to 500 t (solid biomass or equivalent fluid biomass) get a certificate valid for 3 years (instead of 1 year). At present, ISCC does not offer group certification since a group certification document was rejected by BLE. Group certification is included in ISCC's application for EC RED recognition.

Factsheet item	Description
2.9 Certification and audit requirements	The certification process is explained in the graph below (Source: ISCC 201 System Basics). Prior to each first audit, the certification bodies must conduct a risk assessment for the relevant element of the supply chain and classify it according to the three ISCC risk categories (regular, medium, high). The risk indicators e.g. level of expertise of employees, risk of corruption, etcetera are to be used for such classification. The result will determine the style and frequency of the audits.



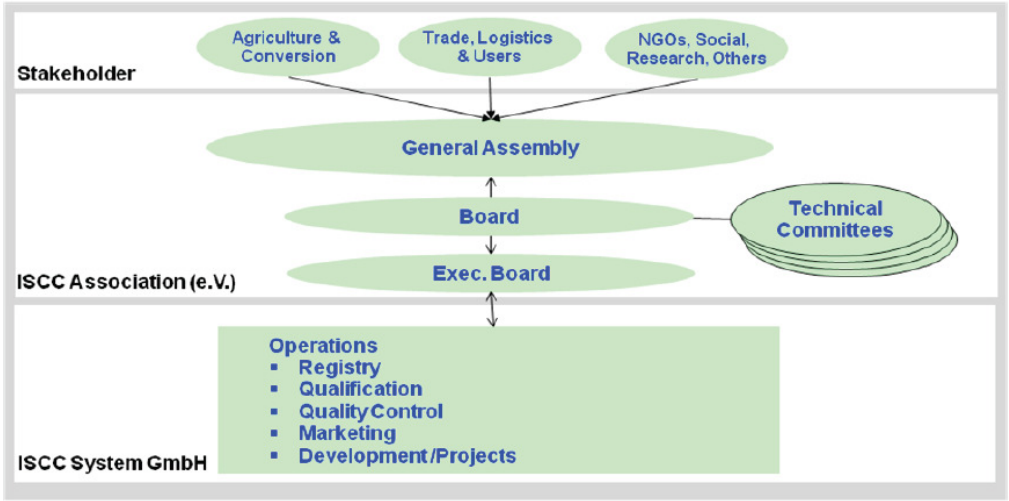
According to the ISCC certification process, the following stages in the production chain need to be audited:

1. *Farm/Plantation*: production of the biomass. Not obliged to be certified, but certification bodies carry out random sample audits for a minimum of 5% of all farms (EU farmers 3% only). If one of the farms does not comply with the requirements, the sample will be doubled excluding farms already audited. This process may continue until 100% of all farms/plantations were audited.
2. *First gathering point (FGP)*: receives the biomass from farmers or warehouses for further trading or processing. A FGP will be audited regarding traceability and mass balance. The FGP needs to provide evidence of the farmers' self declarations regarding sustainability and positive audit results of a minimum of 5% of all farms (EU farmers 3% only) supplying sustainable biomass to the FGP.
3. *Warehouses*: storage of biomass or biofuel. Random samples of the warehouses (minimum of 5%) will be audited regarding traceability and mass balance. They need to provide complete evidence on incoming and outgoing products' sustainability.
4. *Conversion Units*: oil or sugar mills, refineries, esterification plants, ethanol plants and other plants processing the liquid biomass/biofuel. Every conversion unit will be audited on traceability and mass balance as well as on the GHG calculations of its process. The last conversion unit needs to issue the proof of compliance with sustainability requirements.
5. *Suppliers / Traders*: organisations in the supply chain that are not followed by any further processing. These should also be certified. The only further step is trading, storage and/or transport to the final user/distributor.

There are three different types of audits:

1. Certification audit: the duration of the certificate is one year. Thus, an annual certification audit shall be implemented.
2. Surveillance audits:
   - *Planned surveillance*: At the latest six months after the issuing of the first certificate, the certification bodies inspect whether the relevant elements of the supply chain meet the requirements. Further surveillance besides the certification audit (respectively the re-certification audit) is destined only for particular cases (case by case surveillance).
   - *Case by case surveillance:* In special cases, the surveillance can be conducted in shorter intervals.
   - *Appointment of the surveillance by the competent authority:* In case of reasonable suspicion, especially due to the results of precedent surveillances, the competent authority may induce the surveillance of the

Factsheet item	Description
	element of the supply chain in shorter intervals. – *Surveillance as a result of the risk management by the certification body:* If the certification body comes to the conclusion that the compliance of the standards of the certification system is not assured any more, the certification body may shorten the surveillance intervals, respectively induce additional surveillance audits between the certification audits. 3. Inspection audit: An inspection audit is a special form of audit in an agricultural company that, due to its self declaration with its first gathering point, complies with the sustainability standards in the scope of supplier control samples, is surveyed and did not apply neither for participation in the certification system and therefore nor for the issue of a certificate.
2.10 External stakeholder consultations during audits	ISCC requires that the Environmental impact assessment contains consultation of external stakeholders. This is stipulated in ISCC Principle 2: Biomass shall be produced in an environmentally responsible way. This includes the protection of soil, water and air and the application of Good Agricultural Practices.
2.11 Level of assurance	The standard document 'ISCC 202 Sustainability Requirements for the Production of Biomass' comprises six principles with their respective criteria. The criteria are defined as "Major Musts" and "Minor Musts". For a successful audit, all criteria of principle 1 must be met. With respect to all other "Major Musts" exceptions are possible under certain conditions. This is the case if producers cannot fulfil certain requirements due to the specific conditions in an individual country. At the same time, 60% of the minor musts have to be fulfilled. Within EU Member Countries that have implemented Cross Compliance, it is only necessary to control principle 1 as principles 2 to 6 are already covered by Cross Compliance and other control systems. For countries that have ratified the respective ILO Conventions, it is assumed that the social requirements (principle 4) are fulfilled. However, this is only the case as long as the auditor, based on his/her risk assessment, does not come to a different conclusion.
2.12 Dispute resolution	The ISCC standard 'ISCC 253 Complaints, Appeals and Arbitration' distinguishes different procedures depending on the stakeholders involved. Resolution for conflicts shall generally be made near to the source and with participation of the parties involved: – Conflicts that arise within national and regional initiatives shall be resolved by arbitration on the according level. – Conflicts, resulting from the relation between the certification body and the participants of the system (e.g., appeal against refusal of certification), shall be resolved by the arbitration board of the relevant certification body. – Conflicts, resulting from decisions and procedures of ISCC e. V., respectively the Board or the management, and the interpretation of the international valid standards, shall be resolved by the present procedure. – Conflicts, that actually concern national or regional matters which cannot be resolved on national or regional levels, shall be resolved by the procedure explained in the standard 253.
2.13 National and crop specific variations	ISCC provides two different self declaration systems depending if the cultivation farm is located in the European Union (ISCC 202-03 'self declaration of EU farms of their compliance with the ISCC sustainability requirements') or outside the European Union (ISCC 202-02 'Self declaration of non-EU farms of their compliance with the ISCC sustainability requirements). Prior to each first certification, the certification bodies must check with ISCC, whether for the region where the relevant element of the supply chain is located, country-specific particularities are available, which have to be considered (ISCC 202-01, Appendix 1). The result of this check must be taken into consideration when the audits are carried out. As needed, a National or Regional Initiative (National or Regional Technical Working Group) can also adapt the international ISCC standards to local conditions by the means of a specification of the standard. Therefore the working groups shall consider the regulations in the documents ISCC 102 National and Regional Initiatives. Possible national or regional specifications of the ISCC standard are always subject to recognition by BLE. At present that are no regional adaptations but this may change in future as a technical Working Group for South America has been set up.
2.14 Relation with EU RED	The ISCC sustainability requirements are exceeding the EU RED. ISCC has applied for EC RED recognition on 23 July 2010 to DG Energy and is expecting the draft approval soon.
2.15 Entry level certification	The ISCC objective is to extend the scope of the system to short rotation coppice, food, feed and chemical, pharmaceutical or technical applications and to modularize system requirements in order to comply with different levels of requirements. This will include entry level certification, stronger focus on continuous improvement and customer demands (if not determined by regulation).
2.16 Recognition by other standards	ISCC is accepted by REDcert which is also recognised by the BLE.
2.17 Recognition of	ISCC offers appropriate possibilities for cooperation with other certification systems (standard ISCC 254

Factsheet item		Description
	other standards	'Cooperation with other Certification Systems'). There are two stages of cooperation possible: 1. The first stage contains the so called "Gap Certification". Here cooperation with other systems comes about automatically, if the recognition by the competent authority of the cooperating system is available. Further requirements do not exist. If this requirement is met, during the ISCC certification audits (and also during the following surveillance audits) only the elements of the ISCC standards, which are not already covered by the standard of the other certification system, are audited. 2. The second stage permits the use of the ISCC logo to the respective elements of the supply chain, although the audit has been conducted according to the requirements of a cooperating certification system. Since the ISCC system exceeds the legal requirements, the cooperation partner also has to provide evidence that his requirements are equivalent to those of the ISCC system. The relevant examination takes place in a benchmarking process. If an element of the supply chain is already certified according to a system, which has passed through the ISCC benchmarking process and is recognized by the competent authority, then during the ISCC certification audits (and also during the following surveillance audits) only the elements of the ISCC standards, which are not covered by the standard of the other certification system, are audited. ISCC does accept REDcert proof of sustainability and will accept other proofs of sustainability from other systems either being recognised by the EU Commission or the BLE. ISCC also accepts FSC and PEFC certificates as a proof for sustainable wood production. Other systems outside the biofuel arena will follow.
3	**GOVERNANCE AND ORGANISATION**	
3.0	Standard setting body	The General Assembly of the ISCC association incorporates all stakeholders and interested parties. The Board is constituted of 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 are 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 subject areas.  *Figure 1: Interaction between stakeholders, association and operational certification system* As needed, a National or Regional Initiative (National or Regional Technical Working Group) can adapt the international ISCC standards to local conditions by the means of a specification of the standard. Therefore the working groups shall consider the regulations in the documents ISCC 102 'National and Regional Initiatives'. All national or regional specifications are subject to recognition by the Bundesanstalt für Landwirtschaft und Ernährung (German Authority for Agriculture and Food (BLE), the relevant German authority for the recognition of certification schemes. ISCC cannot recognize national or regional specifications itself. The international standard ISCC System was already improved through intensive stakeholder dialogue several times. Institutionalized instruments are Technical Committees but also improvement requests from webpage/email and telephone calls within all stakeholders. Areas of improvement decisions cover all parts of the value chain and issues (e.g. transparency, simplification, support tools etc.). Further on the system monitors continuously its processes and structures. Every 5 years, the system as a whole is revised and the standards are adapted according to the latest findings from science and practice.
3.1	Standard implementation body	The operational business (operating of the certification system ISCC) is carried out by the ISCC System GmbH.
3.2	Accreditation body	The German Authority BLE is the accreditation body involved in the accreditation of certification bodies.

Factsheet item	Description
3.3 Certification bodies	Certification Bodies (CBs) have to fulfil the following requirements (ISCC 251 'Requirements on Certification Bodies'): 1. Recognition by the competent authority in Germany. 2. Outside Germany meeting the requirements of ISO 45011 with regard to the ISCC certification system and the accreditation by the competent authority. 3. Conduct of audits according the requirements of ISO 19011. 4. Notification by the ISCC certification system. 5. Appointing of competent employees in terms of the requirements in this document. 6. Each auditor shall participate a three day training course prior to get involved into ISCC audits CBs shall perform the following tasks: – Risk evaluation. – Conduct of audits (inspections). – Issuance of certificates and declarations of conformity. – To run a register of participants. – Transmission of data to the competent authority (copy of the Proofs of Compliance with Sustainability Requirements, preparation of further reports and communications). – Storage and handling of information. As of 22 April 2011, BLE has recognised 17 Certification Bodies for auditing against ISCC. The list of recognised CBs includes a number of international sector leaders but also smaller local auditor companies. The full list is available on the ISCC System website. Market leaders in terms of the number of certificates issued in April 2011 are SGS (146 or 52%), Control Union (72 or 26%), Bureau Veritas (25 or 9%) and Agrovet (17 or 6%).
4 IMPLEMENTATION AND CERTIFICATION	
4.0 Market and scheme development strategy	Independence, transparency and an international orientation are the marketing strategies of the ISCC. The ISCC aims to have a trusted Label (Seal) to differentiate between sustainable and non-sustainable biomass and bioenergy. Beyond this, it is to motivate farmers and processors towards more sustainability in their daily activities. The ISCC objective is to extend the scope of the system to short rotation coppice, food, feed and chemical, pharmaceutical or technical applications. Currently extensive pilot projects are under way in order to adapt system requirements to the specific demand of the supply chain partner. Examples are pilot project in the area of food, short rotation coppice for energy use and bioplastics.
4.1 Level of experience	ISCC was the first operational (18 January 2010) certification scheme specifically for biomass and bioenergy. In April 2011, 17 Certification Bodies are recognized by the German BLE and are co-operating with ISCC; 283 certificates are registered. These certificates are registered in 26 countries around the world on all continents except Africa. 79% of these certificates are registered within the EU-27, 12% in South-East Asia, 4% in Latin America, 3% in Europe beyond EU-27 and 2% in USA. Top countries with double-digit number of certificates are Germany (54), Czech Republic (52), France (35), Indonesia (21), Hungary 17, Netherlands (17), Poland (13), Slovakia (11) and Malaysia (10). Meo Carbon Solutions, the ISCC system developer, has over 10 years experience in sustainability and carbon accounting.
4.2 Certified companies	Examples of sites that have obtained certificates: – Abengoa (France and Netherlands) – ADM (Germany, Netherlands and Switzerland) – BP International (UK) – Cargill (Belgium, Germany, Hungary, Indonesia, Netherlands and Switzerland) – Cristal Union (France) – Neste Oil (Finland) – PT (Indonesia) – SEKAB (Sweden) – Shell Trading (Netherlands) The full list of certificate holders is available on the ISCC System website.
4.3 Incentives for scheme operators	According to ISCC, the operators interested in ISCC certification will benefit: – A global scheme covering all kinds of biomass, facilitating national and international trade. – Credibility in the public perception and as a result long-term security for the company. – Sufficient number of operational certification bodies.

<table>
<tr><th>Factsheet item</th><th>Description</th></tr>
<tr><td></td><td>
– Approval by the German Federal Office for Agriculture and Food (BLE).
– ISCC certification proofs compliance with the European Renewable Energy Directive and the German Sustainability Ordinances.
– ISCC covers also social sustainability issues.
– ISCC requires less efforts and smaller audit teams than other existing schemes therefore costs of certification are relatively low
– Very moderate fee structure especially for volume dependent fees
– ISCC member discount on fees
– Useful support tools available for system users and members
</td></tr>
<tr><td>4.4 Costs for operators</td><td>
Operators that would like to use the ISCC system have to pay the following fees:
1. Registration fee: onetime fee, to be paid to the certification body.
2. Certificate fee: with the issuing of the certificate or the statement of conformity a fee according to the underneath tariff system becomes due. This fee has to be paid to the certification body.
3. A charge fee: for each ton of gathered or produced sustainable biomass or products. The charge fee is reduced for members of the ISCC association. The fee is to be paid directly to ISCC.

<table>
<tr><th>First Gathering Points[1] (Tons p.a)</th><th>Interfaces[2] (Turnover € p.a.)</th><th>Registration Fee[3] (Non recurring)</th><th>Certificate Fee[3,4] (Per Certificate)</th></tr>
<tr><td>< 2.000</td><td>< 0,6 Mill.</td><td>50 €</td><td>50 €</td></tr>
<tr><td>< 10.000</td><td>< 3 Mill.</td><td>100 €</td><td>100 €</td></tr>
<tr><td>< 50.000</td><td>< 15 Mill.</td><td>150 €</td><td>150 €</td></tr>
<tr><td>< 100.000</td><td>< 30 Mill.</td><td>200 €</td><td>200 €</td></tr>
<tr><td>< 200.000</td><td>< 60 Mill.</td><td>250 €</td><td>250 €</td></tr>
<tr><td>< 500.000</td><td>< 150 Mill.</td><td>300 €</td><td>300 €</td></tr>
<tr><td>> 500.000</td><td>> 150 Mill.</td><td>500 €</td><td>500 €</td></tr>
</table>
1) Based on total turnover in tons per location per year. Warehouses delivering to the first gathering point are not subject to any fees.
2) Based on total turnover in € per location per year. Applies for all interfaces beside the first gathering point.
3) Warehouses after the first gathering point and farmers/plantations which ask for a certificate on voluntary bases, are subject to the same fee structure as the first gathering point
4) Also relevant for statements of conformity

<table>
<tr><th>ISCC Members[5] (per Ton of sustainable Bioliquid or Biofuel)</th><th>Non Members[5] (per Ton of sustainable Bioliquid or Biofuel)</th></tr>
<tr><td>0,02 €</td><td>0,03 €</td></tr>
</table>
5) First gathering points and warehouses are not subject to any quantity dependent fees

2011 ANNUAL MEMBERSHIP FEE
<table>
<tr><td>Individual</td><td>50€</td></tr>
<tr><td>NGO, Research, GOs</td><td>250€</td></tr>
<tr><td>Company, annual turnover < 10 M€</td><td>500€</td></tr>
<tr><td>Company, annual turnover > 10 M€ < 50 M€</td><td>1,000€</td></tr>
<tr><td>Company, annual turnover > 50 M€< 250 M€</td><td>2,000€</td></tr>
<tr><td>Company, annual turnover > 250 M€</td><td>3,000€</td></tr>
</table>
</td></tr>
<tr><td>4.5 Pilots</td><td>ISCC conducted extensive pilots in 2008 and 2009 in Europe, South America and South East Asia. The pilots covered the entire value chain (e.g. farms, FGP, warehouses, oil mills, sugar mills, refineries and bioethanol and biodiesel plants) and included on ground analysis of farms/plantations cultivating wheat, rye, corn, soy, rape, sugar beet, sugar cane and palm. The pilots were always accompanied by experienced auditors. Current pilots include short rotation coppice, food applications and technical application of sustainable biomass.</td></tr>
<tr><td>4.6 Guidance for operators</td><td>ISCC documents are available on the website for public use (English, German and some in Spanish). The users have access to information concerning the sustainability requirements for the production of biomass and for control of traceability. Self-declaration forms and guidelines to use the ISCC brand are available for farmers that want to be certified or hold already a certificate. The ISCC website offers users a descriptive overview of the registration process. The process is explained throughout diagrams and brief explanations to simplify the process for the user. Tariff lists with certificate and membership fees are available on the website.</td></tr>
</table>

Factsheet item	Description
	ISCC has recently developed the iNNw-Tool (only German) where ISCC users can check their compliance against the German Public Administration requirements. The iNNw-Tool, ISCC procedures, checklists for economic operators, other tools and information is available under the client login section on the ISCC webpage
4.7 Guidance for auditors	The ISCC provides guidance that help auditors to carry out the audit process. The use of ISCC procedures is mandatory. By using the procedures the auditor can control the requirements for the production of biomass, control the requirements on traceability as well as calculate the GHG emissions. The requirements for certification bodies and inspectors selected for the auditing activities are also available. Regarding the accreditation process, certification bodies have to be recognised by the BLE and need to sign a cooperation agreement with ISCC. In addition, auditor shall participate in a 3 day training (€900 fee).
4.8 Helpdesk	The ISCC website provides contact details and a digital form to address any doubt or comment.
4.9 Support groups	The ISCC is supported by three technical committees that nurture the discussion about sustainability regulations in Europe, in South America and on short rotation coppice. The committees are formed by stakeholders and certification bodies (
4.10 Information system	The ISCC website discloses a 'News' section where press releases, press publications on ISCC, events, international affairs, newsletter and FAQ are published. Information on new developments and new documents is updated regularly. Within the user login section country guidelines offer insights into sustainability data for more than 60 countries worldwide (outside the EU)
4.11 User friendliness and feedback	The ISCC website and documents are available in German, English and Spanish; a Portuguese version is in preparation. Self declarations (client login section) are also available in French, Polish, Hungarian and Portuguese. The website offers transparent and updated information.
4.12 Implementation challenges in the year to come	For auditors, the challenges are fundamentally based on the assessment and verification of no-go areas due to the difficulty to find updated and consistent maps/ data. The auditors are supported by the ISCC country guidelines which include country specific advice also on maps. The introduction of binding data bases may bring more safety to all involved parties but is currently not possible due to the high variety and different reliability of databases. Within the ISCC client login area, ISCC system users e.g. biomass producers, find "ready to use" checklists and guidelines which give a consolidated overview on documents and information needed for the audits. They can also use the audit procedures to conduct a self assessment. The biggest challenge still is the fact that many companies are not yet familiar with the implications of the RED and the German Sustainability Ordinances (requirements for traceability, mass balance, GHG calculation, document design etc.). Users need to understand the system in order to provide the necessary documents and proofs to the auditors. Non-compliance may require a second audit to obtain certification, increasing the total cost of the certification process. Further challenges are the evolving (different) requirements of the EU Member States and the open issues within the RED (e.g. definition of grassland, residues, waste, NUTS 2 values).

Appendix B3 Factsheet NTA8080

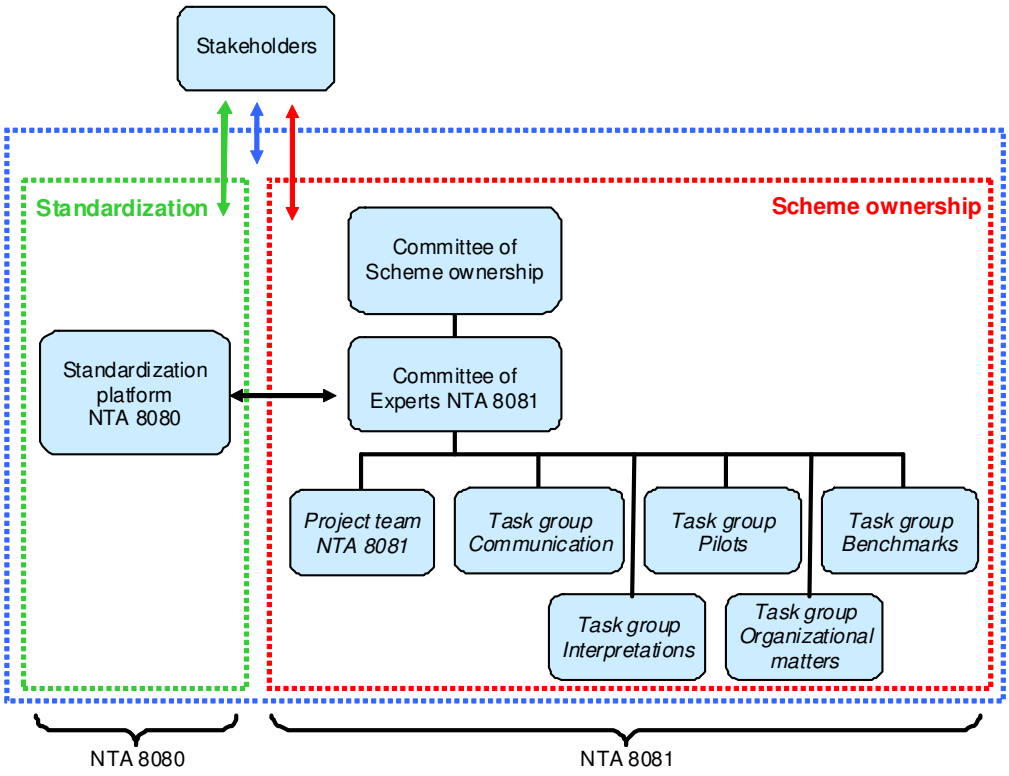
This factsheet aims to provide persons interested in the NTA 8080 certification system with accessible, comparable and thorough factual information on this system. The information has been validated by NEN, the scheme owner of the NTA 8080 certification system, and presents the actual status of the system in April 2011. For more detailed information on the system, the reader is referred to the website of the certification system or suggested to contact the scheme owner NEN.

Factsheet item	Description
0 Summary and sources	
0.0 Summary	With a NTA 8080 certificate, producers, processors, traders or end-users of biomass for energy can demonstrate that their biomass complies with international criteria for sustainability. A broad stakeholder panel representing market players, government and civil society organizations has determined the sustainability requirements with regard to biomass in the form of a voluntary agreement, with the support of NEN, the Netherlands Standardization Institute. The NTA 8080 certification system is open since early 2011. The scheme is directed to biomass actors and end-users in the Dutch market and also targets users worldwide (e.g. Indonesia, Ukraine, Vietnam, Turkey and Tanzania). The main characteristics of NTA 8080 certification are: - Broad scope covering all types of bio-energy and end-uses; - Compliant with legislation (RED); - Credible system that draws on the reputation of accreditation bodies that are IAF members; - International application; - Low costs since scheme management is done by existing organisational structures without (major) commercial interests.
0.1 Sources	1. NTA 8080/81: website www.sustainable-biomass.org, last checked on 22 April 2011 2. NEN (2011c): personal communications, Jarno Dakhorst, interview 13 January 2011 3. NEN (2011d): NTA 8080 certification system for sustainably produced biomass, presentation, Rotterdam, 26 January 2011 4. review by NEN, 18 March 2011
0.2 Date	22 April 2011
1 GENERAL ASPECTS	
1.0 Name	Netherlands Technical Agreement 8080 - Netherlands Technical Agreement 8081: ▪ NTA 8080: Sustainability criteria for biomass for energy purposes. ▪ NTA 8081: Certification scheme for sustainably produced biomass for energy purposes.
1.1 Website	www.sustainable-biomass.org or www.nta8080.org
1.2 Objective	The NTA 8080/81 is a certification system that sets requirements for sustainable biomass for energy purposes (electricity, heat & cold and transportation fuels). Biomass includes solid as well as liquid and gaseous biofuels. It is currently not applicable to biomass used outside the field of energy.
1.3 Context and scheme status	In 2007, the Dutch project group "Sustainable production of biomass" has formulated criteria for to the use of biomass for energy applications and chemical industry also known as Cramer Criteria. The criteria were intended to prevent economic growth harming other important values for nature, environment and society (people, planet, profit). In 2008/2009 the NTA 8080 Working Group developed the NTA 8080 standard. The Committee of Experts subsequently developed the certification scheme NTA 8081. In 2009/2010, certification bodies have validated the certification scheme with pilot projects as part of its development. In December 2010 the scheme was accepted by the Dutch Accreditation Council (RvA - Raad voor Accreditatie) and started preparing going life. In December 2010, the first auditor training for certification bodies was conducted. The system is fully operational since early 2011. The first road show event was held in Rotterdam on 26 January 2011. More road shows are planned in the Netherlands, Belgium and other places of interest. Countries like Ukraine and Indonesia are showing interest for the system. On 18th and 21st February 2011 the first two certificates have been issued. For organizations that need to comply with RED a growth model has been developed; if an organization does

Factsheet item	Description
	not yet meet all NTA 8080 requirements, it may still qualify for RED certification. The RED version will be temporary; after 1 January 2013 it won't be possible to obtain a new RED certificate and with prolongation of the certificate the organization shall comply with the NTA 8080 requirements. The growth model was announced on the NTA 8080 website on 31 March 2011.
1.4 Scheme owner	NEN, the Netherlands Standardization Institute, is the independent holder of the certification scheme. The certification scheme is managed by NEN Scheme Ownership, the NEN division that is responsible for the management of certification schemes and all related activities.
2 SCHEME CHARACTERISTICS	
2.0 Certification system set-up	The NTA 8080 certification system is based on: 1. Engagement of professional independent third party certification bodies responsible for evaluating compliance of participating operators and issuing NTA 8080 certificates. 2. Accreditation of these certification bodies by accreditation bodies which are IAF member; 3. Acceptance of the NTA 8080 certification system by the Dutch Accreditation Council. 4. Recognition of the NTA 8080 certification system by the European Commission for RED compliance (currently under evaluation). There are four scopes of certificates: producers, processors, traders and end-users. Biomass used for energy purposes is considered sustainable if: 1. all organisations classified as producers, processors, traders and end-users in the biomass chain have a valid certificate; 2. GHG emission reduction of the chain is positive ranging from 35% to 70% depending on the end use; 3. the traceability of the biomass through the biomass chain is ensured.
2.1 Chain coverage	All stages of the supply chain from feedstock production, transportation, processing, conversion and end use.
2.2 Biomass focus	Liquid, gaseous and solid biofuels from all origins, including wastes.
2.3 Specifics for biomass wastes	NTA 8080/81 defines biomass residues as the flow of biomass that is released in the production of other (main) products, representing an economic value less than 10 % of the main product's value. For these biomass streams only a limited number of sustainability requirements need to be looked at. These are: ▪ the GHG balance of the production chain and application of the biomass should be positive; ▪ there should be no negative effects on the soil quality (for primary residues only). Note: for primary residues falling within the scope of RED, the sustainability criteria as included in RED apply.
2.4 Scope of the scheme	*International:* NTA 8080/81 is an *international* certification system for biomass. *Meta-standard:* NTA 8080/81 is committed to establish a '*meta-standard'* system which relies on existing certification schemes and standards.
2.5 Sustainability principles	The NTA 8080 standard covers environmental, social and economic principles and criteria. It contains 9 principles (adapted from the Testing framework for sustainable biomass (Cramer Committee)): Principle 1. The greenhouse gas balance of the production chain and application of the biomass is positive. Principle 2. Biomass production is not at the expense of important carbon sinks in the vegetation and in the soil. Principle 3. The production of biomass for energy shall not endanger the food supply and local biomass applications (energy supply, medicines, building materials). Principle 4. Biomass production does not affect protected or vulnerable biodiversity and will, where possible, strengthen biodiversity. Principle 5. In the production and conversion of biomass, the soil and soil quality are retained or even improved. Principle 6. In the production and conversion of biomass, ground and surface water are not depleted and the water quality is maintained or improved. Principle 7. In the production and conversion of biomass, the air quality is maintained or improved. Principle 8. The production of biomass contributes towards local prosperity. Principle 9. The production of biomass contributes towards the social well-being of the employees and the local population.
2.6 Chain of custody	Organizations that wish to be certified against NTA 8080 shall apply segregation or mass balance as the traceability method. The book and claim method is excluded because this system needs different requirements to the chain concerning infrastructure and administration. ▪ *Segregation of product*: among other documents, the organization has to declare that no mixing has occurred with material that has not been certified according to NTA 8080 or equivalent; in case the organization applies identity preserved, the declaration shall also demonstrate that no mixing has occurred

Factsheet item	Description
	with material that originates from different sources; ▪ *Mass balance of product*: this approach included in NTA 8080 is used in markets for certified mass and bulk products, especially when these products are converted and/or processed in continuous processes. The two methods are in line with the EU RED requirements which consider that each link in the biomass chain shall have a chain of custody in place according to the mass balance or the segregation method.
2.7 Target group	NTA 8080 certification is open to all organisations of the biomass value chain willing to produce, process, convert, trade or valorise biomass for energy purposes.
2.8 Specifics for small holders	Small holders are exempted from certain requirements regarding consultation of stakeholders, prosperity, working conditions, contribution to social well-being of local population and integrity of the company. Small holders may opt for establishing a group in order to be certified as a group. Within NTA8080/81, a small holder is defined as an organization that produces biomass (sometimes along with subsistent production of other crops) and is able to demonstrate that: 1. at least two-third of the structural workforce (in fte) consists of next of kin; additional personnel may be hired during peak periods, and; 2. the total surface area for cultivation does not: ▪ exceed 50 hectares in case of arable farming and ▪ not over 100 hectares in case of forestry; ▪ in the case of combined arable farming and forestry, the total surface area for cultivation may not exceed 100 hectares, of which a maximum of 50 hectares for arable farming 3. The total surface area for cultivation needs not to be totally used for biomass production for energy purposes.
2.9 Certification and audit requirements	The NTA 8080 certification system is based on four steps : 1. *Preparation*: prior to contracting a certification body, the operator conducts a self assessment to see if its operations fit the NTA 8080/81 certification requirements. After the necessary improvements have been implemented, the operator contracts a certification body and registers at the system manager prior paying the membership fee; 2. *Initial audit*: the operator engages with a certification body, which conducts the initial audit in 2 stages: the preliminary investigation and the on-site audit; 3. *Issuing of the certificate*: based on the initial audit, the certificate may be granted. In case the certificate is not granted, improvements can be made and the certification body can conduct a new audit. The certification body informs the scheme manager about issuing the certificate within two weeks. The company name and certificate details are included in the website of the scheme owner and publicly available; 4. *Maintenance of the certificate*: the certificate is granted for a maximum period of five years. Surveillance audits are yearly conducted to watch over the performance of the operator. A re-certification can be conducted before these five years have expired. NTA 8081 provides detailed guidance regarding the number of audit days required for initial certification audits, yearly surveillance audits and 5-yearly certification prolongation audits. The audit effort is divided along the chain and with this it is linked to the number of certificates and the scope of the certificates. The initial certification and recertification audit consists of two stages: 1. It concerns the preliminary investigation. The certification body assesses all the necessary documents, carries out a risk analysis and draws up the audit plan on the basis of inter alia these documents. 2. It concerns the on-site audit. The audit team of the certification body assesses the organization on site. If the organization is a 'producer', the audit effort will increase by a number of days for inspecting and assessing the production unit(s), which is linked to the area of cultivation.
2.10 External stakeholder consultations during audits	NTA 8080/81 requires that the certification body consult the direct stakeholders during the auditing process (initial and re-certification audits). This is done to verify whether the performances of the producer correspond with the requirements of NTA 8080. The methodology used by the auditor shall ensure that: ▪ Those stakeholders are identified and consulted who dispose of relevant information and who fit in the field of application and number to the extent, intensity and complexity of the producer of primary biomass to be audited. NTA 8080/81 specifies that for a large-scale business, consultation will probably cover organizations operating on national level and/or regional level in the region; in the case of a smaller business this can be limited to only local organizations, interested groups or individuals. ▪ Stakeholders can provide the certification body, at least 30 days preceding the audit, with their view and/or information, which can be kept confidential if desired; ▪ Information and opinions are treated confidentially, evaluated objectively and shall have objective influence on the decision for certification; supplied information shall be confirmed, if possible, independently by a second source or by the locally present auditors of the certification body. Stakeholder consultation during the audit is not required or only partially required in the following cases: 1. The organization is categorized as small holder or the area intended for biomass for energy purposes covers less than 50 ha; 2. When the construction or exploitation of the biomass production unit was subject to a permit process that

Factsheet item	Description
	included a procedure for complaints.
2.11 Level of assurance	Failure to meet standard requirements leads to non-conformities. The standard defines major and minor non-conformities as follows. ▪ A 'major' non-conformity is the failure to meet a legal requirement or a specified requirement that causes an immediate increase in risk. It can be caused by a non correction of a 'minor' non conformity detected in a previous audit; ▪ A 'minor' non-conformity is failure to satisfy a requirement that exceeds legal requirements and which causes an increased risk over time. In case of major non-conformities, the certification body shall not issue a certificate. Major non-conformities need to be corrected within three months otherwise a new audit is necessary or the certificate will be suspended if the organization has already a certificate. In case of suspension the organization has three months to correct the non-conformity to avoid withdrawal of certificate. For minor non-conformities, the organization shall provide a plan with corrective measures within two weeks after the audit. The implementation of this plan is reviewed during the next yearly surveillance audit.
2.12 Dispute resolution	NTA 8080/81 requires that certification bodies have a documented process for receiving, evaluating and decisions on complaints or objections. As a matter of fact, stakeholders should first file a complaint to the certification body as they are the next higher committee after the certificate holder. Organisations have one month after the decision of a certification body to object. An appeal procedure is foreseen. Regarding the objection handling process, the following applies: ▪ the persons involved in handling and taking decisions on the objection or complaint shall not have been involved in the audit or certificate decision making; ▪ the complaint applicant shall not have negative consequences for further treatment; ▪ the certification body will confirm receipt of the complaint or objection and notify the petitioner of progress and outcome. Pending the objection or complaint procedure, all certificates already issued remain valid. NEN has laid down the full complaints procedure as part of the NEN Scheme Management Manual.
2.13 National and crop specific variations	NTA 8080/81 has no specific variations depending on the crop or the location. National regulations are taking into account during the evaluation of certain criteria, such as land laws and water rights. NEN indicates that national or regional interpretation of requirements may be developed in future.
2.14 Relation with EU RED	NTA8080/81 has been submitted to the EC for recognition within the EU RED. An answer is expected in the course of 2011.
2.15 Entry level certification	For organizations that need to comply with RED a growth model has been developed; if an organization does not yet meet all NTA 8080 requirements, it may still qualify for RED certification. The RED version will be temporary; after 1 January 2013 it won't be possible to obtain a new RED certificate and with prolongation of the certificate the organization shall comply with the NTA 8080 requirements. The growth model was announced on the NTA 8080 website on 31 March 2011.
2.16 Recognition by other standards	NTA 8080/81 has not been recognised yet by other standards, to the knowledge of the scheme owner. NTA 8080/81 is accepted by the Dutch Accreditation Council.
2.17 Recognition of other standards	The Committee of Experts at NEN has the task to verify whether other certification systems for sustainably produced biomass comply with the requirements of NTA 8080. So far, other standards have not yet been endorsed. Only systems that issue certificates by bodies accredited by an IAF member can be qualified, according to the rules which are in force at the time of this report (April 2011).
3 GOVERNANCE AND ORGANISATION	
3.0 Standard setting body	NEN Scheme Management is an integrated part of the NEN Office and is responsible for the management of schemes and all related executive activities. NEN Scheme Management fulfils the role of secretariat for the Scheme Management Committee and the Committees of Experts and Review Committees falling under it. NEN Scheme Management is the first point of contact for all stakeholders in the management of the schemes. The Scheme Management Committee responsibilities are: ▪ to adopt the NEN Scheme Management Manual; ▪ to check whether the schemes to be managed are in accordance with the NEN Scheme Management Manual; ▪ to decide whether a scheme is to be managed by NEN Scheme Management; ▪ to set up Committees of Experts and Review Committees and appoint the members based on a proposal by NEN Scheme Management; ▪ to monitor the execution of the management of schemes in accordance with NEN Scheme; ▪ to adopt the documents to be used within the scheme management, for example standards, schemes and interpretation documents;

Factsheet item	Description
	▪ to deal with complaints received about the execution of schemes. Committee of Experts ▪ to assess (reports of investigation into) the functioning of the scheme in practice; ▪ to draw up additional decisions and/or interpretation documents. Review Committee ▪ to assess schemes for verifiability; ▪ to advise on the number of inspection hours/days per scheme; ▪ to record and give feedback on the experiences of licence holders relating to approval tests and inspections carried out; The structure of the organization for NTA 8080/8081 is shown below: 
3.1 Standard implementation body	NEN is the entity in charge of the implementation and management of the NTA 8080/81 standards. It provides the systems' information and compliance management database and maintains the systems' administration. The management is carried out by the Committee of Experts and Review Committee reporting to the Scheme Management Committee. The NEN Scheme Management Manual, available on NEN website, provides the details on the composition and the procedures used by the different committees to develop and manage the scheme.
3.2 Accreditation body	The Dutch Accreditation Council (RvA) has accepted NEN as scheme owner and the NTA 8080 certification system. The Dutch Accreditation Council complies with the requirements of ISO/IEC 17011. These requirements are met by participation to peer reviews in the frame of the EA (European co-operation for accreditation) and IAF. Certification bodies that enter into agreement with NEN shall be accredited for the application of the NTA 8080 certification system within one year by an IAF member.
3.3 Certification bodies	Certification bodies shall enter into agreement with NEN and shall comply with ISO/IEC Guide 65 (EN 45011). Certification bodies shall be accredited by an accreditation body that is member of the IAF and that shall periodically assess the technical competency of the certification bodies. The certification audits shall be carried out and reported in accordance with ISO 19011 by an audit team with demonstrable knowledge on sustainability of the production and processing and conversion of biomass flows, chain of custody and greenhouse gas balance calculations. In addition to the guidelines in ISO 19011 external stakeholders shall be consulted during the certification audits, if required. As of 22 April 2011, five Certifying Bodies have signed agreements with NEN (Control Union Certifications, DEKRA Certification, Quality Services Certification, Bureau Veritas Certification and SGS Nederland)

<table>
<tr><th>Factsheet item</th><th>Description</th></tr>
<tr><td colspan="2">4 IMPLEMENTATION AND CERTIFICATION</td></tr>
<tr><td>4.0 Market and scheme development strategy</td><td>NEN has a three-level strategy to implement the scheme: put in place NTA 8080/81 and then strive for further harmonisation at European (CEN) and international (ISO) level.
The scheme focuses on biomass actors and end users in the Netherlands and also targets users worldwide (e.g. in Indonesia, Ukraine, Vietnam, Turkey and Tanzania).
The first focus of market development is the roll-out in the Netherlands. A road show started early 2011. NEN can organise activities in other countries, upon request.</td></tr>
<tr><td>4.1 Level of experience</td><td>NEN was set-up in 1916 by the Dutch organisation for industry and trade (Nederlandse Maatschappij voor Nijverheid en Handel) and the Royal Institute of Engineers in the Netherlands (Koninklijk Instituut van Ingenieurs). For more than 90 years NEN is the Dutch partner for developing national, European and international standards. NEN has an annual turnover of € 32 million, about 300 employees and 1.400 standard committees.
Developing certification schemes is a relatively new business of NEN. Other certification schemes relate to debt assistance and asset management for energy network operations.</td></tr>
<tr><td>4.2 Certified companies</td><td>As of 22 April 2011, two NTA 8080 certificates have been issued:
1. colza farmer Van Gorsel was the first producer in a liquid biomass chain;
2. Vagroen, collector and processor of woody residues was the first organization in the solid biomass chain.</td></tr>
<tr><td>4.3 Incentives for operators</td><td>NEN positions the NTA 8080 certification system using the following arguments:
▪ Broad of scope: covering all types of bio-energy and end-uses, solid, liquid and gaseous biomass, for transportation, electricity, heating and cooling;
▪ Compliant with legislation (RED): under evaluation by EC for recognition as voluntary scheme; development of growth model (RED certificate);
▪ Credible system: based on the proven concept of standardization principles, recognised by the Dutch accreditation council, member of the IAF. Only accredited certification bodies may issue certificates;
▪ International application: available in English, continuous alignment with (legal) developments, three-stage rocket: NTA 8080 provides input for European and international standardisation and harmonisation;
▪ Low costs: management of scheme by existing organisation structures (NEN), no (major) commercial interests.</td></tr>
<tr><td>4.4 Costs for operators</td><td>The tariffs for certificate holders consist of an annual fee for each certificate and an annual membership fee OR an annual payment per metric ton.
<table>
<tr><th>Fee</th><th>EUR</th></tr>
<tr><td>Annual fee per certificate for Producer > 250 ha*, Processor, Trader, End-user</td><td>200</td></tr>
<tr><td>Annual fee per certificate for Producer < 250 ha*</td><td>50</td></tr>
</table>
* In case of group certification of 'small-holders', the group is regarded as a 'producer'.
The annual fee per certificate is collected by the certification body on behalf of the scheme manager.
<table>
<tr><th>Company turnover/year in million EUR*</th><th>Annual membership fee (EUR)</th></tr>
<tr><td>0 – 0,1</td><td>50</td></tr>
<tr><td>>0.1 – 0.5</td><td>100</td></tr>
<tr><td>>0.5 – 1</td><td>200</td></tr>
<tr><td>>1 – 10</td><td>400</td></tr>
<tr><td>>10 – 50</td><td>1,000</td></tr>
<tr><td>>50 – 100</td><td>2,000</td></tr>
<tr><td>>100 – 500</td><td>4,000</td></tr>
<tr><td>>500</td><td>5,000</td></tr>
</table>
*In case of group certification of 'small-holders', the group is regarded as organization (legal entity). It concerns the annual turnover of the legal entity (the company) that wishes to register.</td></tr>
</table>

Factsheet item	Description
	Members are exempt to pay per metric ton and to pay registration costs. They also get membership benefits. For the year 2011 operators can also choose for a payment of EUR 0,03 per metric ton (with a minimum total of EUR 100). The organization has the obligation to inform NEN about the volume of sustainable biomass. These details have to be submitted during the auditing process or once a year (within 12 months after the last audit). The above prices do not include VAT and are valid until 31 December 2011.
4.5 Pilots	NTA 8080 has conducted pilot projects in 2009 and 2010. In the framework of the Dutch subsidy programmes for sustainable biomass, a number of other projects apply NTA 8080 for developing new supply chains. Target countries include Brazil, the Netherlands, Tanzania, Turkey, Ukraine and Vietnam. Feedstock included wood and bamboo pellets, and pyrolysis oil. A number of stakeholders presented their progress and ambitions with NTA 8080 at the kickoff of the road show on 26 January 2011. The presentations and are available on the NTA 8080 website.
4.6 Guidance for operators	NEN provides a number of key documents for users: ▪ NTA 8080 'Sustainability criteria for biomass for energy purposes' (44 pages) available in Dutch and English (against a document fee); ▪ NTA 8081 'Certification scheme for sustainably produced biomass for energy purposes" (20 pages) available in Dutch and English; ▪ Interpretation document 03 linked to NTA 8081 (13 pages) available in Dutch and English; the interpretation document is periodically updated; ▪ NEN Scheme management manual (15 pages); ▪ System Plans for self assessment (under development). ▪ NEN organises introduction trainings to NTA 8080: a one-day course that goes into the content and backgrounds of NTA 8080 and the certification procedure. The module is targeted at employees of companies that wish to get familiar with the sustainability criteria of NTA 8080.
4.7 Guidance for auditors	There is additional guidance available for auditors. NTA 8080/81 has a three-day training programme that addresses the contents and backgrounds of NTA 8080 and the auditing practice according to the certification scheme NTA 8081. This training is specifically meant for auditors. The above mentioned 'System Plans' also serve as guidance for the auditors. These plans serve as a tool for self assessment of the actors of the whole chain (producer, processor, trader, end-user). Note that this system does not replace the leading documents of NTA 8080 and the evaluation document. If applying for a certificate, the applicant is advised to send a copy of this assessment.
4.8 Helpdesk	There is no dedicated helpdesk, but the NTA 8080 website provides an email address and an online form that can be used to establish contact. The website contains a section with frequently asked questions.
4.9 Support groups	Several potential users and certification bodies have been closely involved in the development of NTA 8080/81. So far there are no known user support groups and auditor support groups.
4.10 Information system	NTA 8080/81 publishes a number of reports and guidelines on their website; more information can be requested via email. A summary of the audit reports will be published in the central register for certificates including the feedstock audited, the address of the production location, and, if applicable, the surface area for cultivation.
4.11 User friendliness and feedback	User satisfaction surveys or other information on user friendliness are presently not foreseen.
4.12 Implementation challenges in the year to come	NEN considers as main challenges for the period to come: ▪ the recognition of the NTA 8080 certification system by the EC; ▪ the acceptance by the market and stakeholders of NTA8080/81 including the RED growth model as a credible and useful standard; ▪ the cooperation and competition with other sustainability standards.

Appendix B4 Factsheet REDcert

This factsheet aims to provide persons interested in the REDcert certification system with accessible, comparable and thorough factual information on this system. The information has been validated by REDcert and presents the actual status of the system in April 2011. For more detailed information on the system, the reader is referred to the website of the certification system or suggested to contact the scheme owner.

Factsheet item	Description
0 SUMMARY AND SOURCES	
0.0 Summary	The REDcert certification system provides proof to German and other European organisations, active in the entire biofuel liquid fuels supply chain, to fulfil the requirements of the German Biomass Sustainability Ordinances (BioSt-NachV and Biokraft-NachV) and the EU RED Directive. REDcert, together with ISCC, are the only two certification standards that have been approved by the German Federal Agency for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung – BLE). The first certificate was issued on 25th June 2010. In March 2011, 782 certificates were issued.
0.1 Sources	1. REDcert website: www.REDcert.org, last visited 22 April 2011 2. Review by REDcert, 14th March 2011
0.2 Date	22 April 2011
1 GENERAL ASPECTS	
1.0 Name	REDcert Gesellschaft zur Zertifizierung nachhaltig erzeugter Biomasses GmbH
1.1 Website	http://www.REDcert.org/
1.2 Objective	The REDcert certification system provides proof to German and other European organisations, active in the entire biofuel liquid fuels supply chain, to fulfil the requirements of the German Biomass Sustainability Ordinances (BioSt-NachV and Biokraft-NachV) and the EU RED Directive. The REDcert system ensures legal compliance with certification requirements for the sustainable production of biomass. It places no additional requirements on biomass producers and processors. 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.
1.3 Context and scheme status	With the Biomass Electricity Sustainability Ordinance (BioStNachV) and the Biofuels Sustainability Ordinance (Biokraft-NachV), the framework of the EU RED for sustainability criteria for biofuels and liquid fuels (Directive 2009/28/EC) is transposed into German national law. The specifications of the Sustainability Ordinances apply for companies along the entire production, processing and supply chain all the way to the plant operator and those responsible for providing proof that they satisfy the requirements pursuant to the Energy Taxation Act and the Federal Immission Control Act (BImSchG). Moreover, operators of facilities in the area of biomass electricity receive a reimbursement from the common carrier according to the Renewable Energy Law (EEG) only, if they present (partial) a formal proof of sustainability handed out by their certified (according to an approved scheme) biofuel suppliers. REDcert is such a certification scheme. REDcert was founded on 26 of February 2010 by leading associations and organizations in the German agricultural and biofuel sector. It was approved as a certification system on 2 June 2010, by the Federal Agency for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung – BLE) to fulfil the requirements of the German Biomass Sustainability Ordinances (BioSt-NachV and Biokraft-NachV).
1.4 Scheme owner	REDcert GmbH is the scheme owner. The founders of the REDcert system represent the main economic groups affected by the Biomass Sustainability Ordinances. To get REDcert GmbH up and running quickly as the founder of the new system, a new office was not created for REDcert GmbH. Instead, management was placed in the experienced hands of ORGAINVENT Entwicklungs- und Koordinationsgesellschaft GmbH through an agency agreement. ORGAINVENT is the largest German labelling organisation in the beef sector and is experienced in the field of certification schemes.
2 SCHEME CHARACTERISTICS	
2.0 Certification system set-up	The relevant legal standards for sustainability certification already contain extensive requirements for the type of documentation and verification. Starting from these unalterable legal requirements, REDcert only wants to impose additional requirements for the type, form and level of detail of the documents/verification as is necessary to comply with legal verification requirements.

Factsheet item	Description
	For the implementation of the Biomass Sustainability Ordinances ((BioSt-NachV and Biokraft-NachV), REDcert has assigned different requirements for the four actors of the biomass chain. The certification system is divided in 4 categories representing the agriculture level, primary distributor, supplier and the final Interface: 1. *Producers*: At agriculture level, the producer of the raw materials for biomass (farmer) must first declare to the primary distributor that the biomass supplied was sustainably produced. Second the producer must submit a written self-declaration to the primary distributor to confirm that the biomass cultivated and supplied meets the requirements of the Biomass Sustainability Ordinances. 2. *Primary distributors* are operations that receive the harvested biomass from the operations that cultivate and harvest such biomass for the purpose of further processing (dealers, agricultural cooperatives or oil mills that obtain biomass from a number of different farms). Primary distributors have to document that they have pledged to satisfy the requirements of the REDcert system in the handling (e.g. storage, preparation, mixing) under the BioSt-NachV and Biokraft-NachV requirements. Verification can be provided in the form of, for example, the certificate (valid for 12 months) or the contract with REDcert. 3. *Suppliers* have been divided in two categories: suppliers before the final interface and suppliers after the final interface. Suppliers before the final interface are operations that actually deliver the biomass to the next recipient after cultivation by the farm up to the final interface. Suppliers after the final interface are the operations that actually supply the liquid biomass or fuel to the next recipient after production by the final interface up to the plant operator or those required to provide proof that they satisfy the requirements. While the Sustainability Ordinances don't require a membership in certification schemes and a formal certification procedure of suppliers, REDcert offers a conformity assessment also for them to achieve a unique certification (and security) level of the whole biomass/biofuel chain. 4. *Interfaces:* According to the Sustainability Ordinances, interfaces are operations along the production and supply chain that require certification. Final interfaces are defined as operations in the production chain where no further processing step generally follows, i.e. no other interface is downstream such as, e.g.: oil mills in the case of vegetable oil esterification facilities in the case of biodiesel hydrogenation plants or co-hydrogenation plants in the case of hydrogenated vegetable or animal oils bioethanol production facilities in the case of bioethanol (except when the biomass is further processed to ETBE as the final interface) biogas facilities in the case of biogas for biofuels. All the information and documentation within the REDcert certification system, associated with receipt and forwarding of the liquid biomass or biofuel is found in the electronic database operated by the BLE. The required data is entered via a free web application called Nabisy (https://nabisy.ble.de).
2.1 Chain coverage	The certification system can be applied to all stages of the supply chain for sustainable biofuels and liquid fuels, from production and collection of input materials through to processing in oil mills and the production of the fuels itself.
2.2 Biomass focus	REDcert is restricted to European bio-energy (liquid and gaseous biofuels).
2.3 Specifics for biomass wastes	Biofuels produced from waste or residues from agriculture, forestry, and fishing or aquacultures have less stringent sustainability criteria. The principles on 'protection of natural habitats' (Art. 4 through 6) and 'sustainable agricultural management' (Art. 7) do not apply for bioliquids produced from waste and residues with the exception of residues from agriculture, forestry, fisheries and aquaculture. Wastes, agricultural crop residues, including straw, bagasse, husks, cobs and nut shells, and residues from processing, including crude glycerine (glycerine that is not refined), shall be considered to have zero life-cycle greenhouse gas emissions up to the process of collection of those materials.
2.4 Scope of the scheme	At the beginning, the focus of REDcert's activities with the certification system is Germany and Europe.
2.5 Sustainability principles	The REDcert sustainability principles, are directly taken from the Sustainability Ordinances: Principle 1. Ensure that no new land important for the protection of natural habitats is converted for farming biomass for energy use. Principle 2. Ensure that no new land containing significant carbon stocks is converted for farming biomass for energy use. Principle 3. The greenhouse gas emission saving from the use of liquid biomass or biofuels has to be at least 35% (except in the case of old installations). This saving shall increase: – to at least 50% on 1 January 2017 and – to at least 60% on 1 January 2018 in interfaces in which production started on or after 31 December 2016.
2.6 Chain of custody	REDcert has selected the mass balance system as biomass tracking system. According to REDcert, the mass balance method allows to track all handling of a quantity of sustainable biomass along the production and supply chain from the farm through to the final interface and to seamlessly verify the origin of the biomass.

<table>
<tr><th>Factsheet item</th><th>Description</th></tr>
<tr><td>2.7 Target group</td><td>Companies along the entire production, processing and supply chain all the way to the plant operator but with a focus to cross-compliance[16] farms in Germany and the rest of Europe.</td></tr>
<tr><td>2.8 Specifics for small holders</td><td>The inspection intervals for small and very small operations are less strict than for operations in general (see 2.9 'Certification and audit requirements').
<table>
<tr><th>Operation type</th><th>Monitoring audit*</th><th>Recertification</th></tr>
<tr><td>Normal operations</td><td>after max. 6 months</td><td>after 12 months</td></tr>
<tr><td>Small operations</td><td>after max. 6 months</td><td>after 36 months</td></tr>
<tr><td>Very small operations</td><td>after max. 6 months</td><td>after 60 months</td></tr>
</table>
* Option for earlier recertification
The definition of small and smallest operations is determined in the REDcert system based on the number of the operation's "productive sites" (those sites that need a sustainability certification as interfaces) and its sales volume (tons). 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.
<table>
<tr><td></td><td colspan="2">Primary distributors and
(final) interface operations (oil mills in particular)</td></tr>
<tr><td></td><td>"Small operation"</td><td>"Very small operation"</td></tr>
<tr><td>Number of productive* sites</td><td>1</td><td>1</td></tr>
<tr><td>Annual revenues/production</td><td>≤ 500 t solid biomass
or
equivalent** liquid biomass</td><td>≤ 250 t solid biomass
or
equivalent** liquid biomass</td></tr>
</table>
* Sites that require sustainability certification as interfaces
** The equivalent quantity (t) of liquid biomass is based on the process-based yield of liquid biomass to be verified (e.g. measure oil yield = 130 t p.a. The operation provides evidence on the basis of its diagrams and process: 130 t oil at 33% yield = 394 t rapeseed)</td></tr>
<tr><td>2.9 Certification and audit requirements</td><td>The general requirements of the inspection process are specified by the ISO standard DIN EN ISO 19011:2002. Compliance with legal requirements along the entire production, processing and supply-chain is checked by REDcert in a neutral inspection (audit). There are two types of neutral inspections: System inspections and Special inspections.
1. System inspections: A system inspection checks compliance with system requirements on-site in accordance with the REDcert checklists specific to each process step. The system inspections include the regular inspections of companies participating in the REDcert certification along with the random inspections (spontaneous and announced 1 week in advance) of farms that have to be inspected due to their supply relationship with a REDcert system participant (e.g. to agricultural cooperatives, dealers or other primary distributors as defined by the Sustainability Ordinances). The duration of the inspection is determined by the respective certification body and contractually agreed with the respective operations prior to beginning the inspection. REDcert is, however, authorised to define a future minimum duration for the respective steps particularly based on the inspection results for the purpose of quality assurance.
2. Special inspections can be organised by REDcert in exceptional cases when reports have identified negative inspection results. They are the same as system inspections from a content standpoint.
The certification body conducts an inspection no later than six months after the first certificate has been issued (monitoring inspection) and otherwise, once a year, to validate that the operations continue to fulfil the requirements for issuance of a certificate. Two certification models are possible:
▪ Certification model 1:
– First inspection: Month 0 (if the inspection result is ≥ 75%: issuance of a certificate valid for 12 months).
– Monitoring: after max. 6 months.
– Normal recertification: after another 6 months.
▪ Certification model 2:</td></tr>
</table>

16 The significance of cross-compliance is that farmers' receipt of direct aids depending on their doing so. This compulsory law established by the 2003 CAP (Common Agricultural Policy) reforms, has been extended beyond compliance with environmental rules, to include new requirements regarding public, animal and plant health, animal welfare, and the maintenance of all agricultural land in good agricultural and environmental condition.

Factsheet item	Description
	– First inspection: Month 0 (if the inspection result is ≥ 75%: issuance of a certificate valid for 12 months). – Monitoring: after max. 6 months (if the inspection result is ≥ 75%: a new certificate valid for 12 months is issued at the same time the original certificate is revoked). – Normal recertification: after another 12 months.
2.10 External stakeholder consultations during audits	No special requirements address the need to carry out external consultations during the inspection process.
2.11 Level of assurance	The preliminary results of the inspection (audits) are determined by the inspector at the end of the inspection and explained to the operations being inspected. Depending on the number of points achieved or whether a criterion is evaluated as knockout (KO - requirement not fulfilled), the inspections are categorised into the following three categories: ▪ **No discrepancies** (100%): Certificate/inspection certificate can be issued, which means that no problems were found and the REDcert requirements are fully satisfied. Certificate / inspection certificate can be issued ▪ **Minor discrepancies** (75 – 99%): The system requirements are not fully satisfied but the discrepancies found do not put the system integrity at risk. The correction measures agreed with the inspection body must be implemented by the dates specified. Certificate/inspection certificate can be issued once the inspector responsible has accepted the correction measures proposed by the operations and the deadlines for their implementation. ▪ **Major discrepancies** (< 75% and/or KO evaluation/s): Significant problems were found in the fulfilment of the REDcert system requirements. Thus the system integrity is not assured. No certificate/inspection certificate is issued. The problems found are tracked and sanctions introduced in accordance with the REDcert sanction system. If major discrepancies are found, the certification body is required to inform REDcert and the competent authority (BLE) within 24h (i.e. to send the inspection report electronically to REDcert and the BLE), to agree to correction measures with the system participant and to define an appropriate timeframe or a deadline by which the operations have to verify implementation of the correction measures – usually through another on-site.
2.12 Dispute resolution	A dispute resolution procedure concerning the result of an audit or the assessment of audit findings has be set up by each certification body within their internal certification procedure.
2.13 National and crop specific variations	REDcert does not have national or crop specific variations.
2.14 Relation with EU RED	REDcert fully complies with EU RED. REDcert has applied for recognition by the EC.
2.15 Entry level certification	REDcert does not provide a form of entry level certification.
2.16 Recognition by other standards	There is no need for official bilateral recognition of the REDcert scheme by other scheme owners.
2.17 Recognition of other standards	There is no need for official bilateral recognition so far other schemes respect the RED/national sustainability ordinances and provide a formal approval by the European Commission and/or their national authorities according to the RED. Other non-approved sustainability schemes are not recognized.
3 GOVERNANCE AND ORGANISATION	
3.0 Standard setting body	There is no standard setting body as the REDcert sustainability criteria are directly taken from the German Renewable Energy Law and it's Ordinances. Other scheme requirements are directly taken from the Ordinances as well ISO standards ISO 19011 and ISO 45011. REDcert structure is divided in two committees: • The 'Advisory Committee's primary task is to advise the executive management and initiate and coordinate measures to maintain and further develop the REDcert certification system. The members appointed by the shareholders represent the various process steps included in the REDcert system. • The 'Sanctions Committee' is required by the Biomass Sustainability Ordinances. It uses REDcert to penalise non-compliance with certification system requirements. The Sanctions Committee is an independent, neutral committee of REDcert. Any sanctions imposed by the Sanctions Committee are implemented by REDcert GmbH.
3.1 Standard implementatio	The management of REDcert is in hands of ORGAINVENT Entwicklungs- und Koordinationsgesellschaft GmbH which is in charge of implementing the standard in the market.

<table>
<tr><th colspan="2">Factsheet item</th><th>Description</th></tr>
<tr><td></td><td>n body</td><td></td></tr>
<tr><td>3.2</td><td>Accreditation body</td><td>The Federal Agency for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung – BLE) is in charge of the accreditation of the certification bodies.</td></tr>
<tr><td>3.3</td><td>Certification bodies</td><td>Currently 20 Certification Bodies are allowed to perform REDcert certification activities. The list of accepted CBs includes a number of international sector leaders but also smaller local auditor companies. The full list is available on the REDcert website. Market leaders in terms of the number of certificates issued in April 2011 are DQS (140), DEKRA (139), Agrizert (100), QAL (95) and SGS (68).
REDcert provides a set of requirements and responsibilities to certification bodies as well as to inspectors of the certification bodies, which are listed in REDcert System Principles for neutral inspections under the Biomass Sustainability Ordinances (BioSt-NachV and Biokraft-NachV). REDcert has defined requirements for each step to create a transparent and all-encompassing inspection system. The neutral inspection and certification under the REDcert system is conducted by independent certification bodies that satisfy the following requirements:
— Accreditation by the Federal Agency for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung – BLE).
— Satisfaction of international requirements (such as e.g. ISO 45011).
— Carrying out independent and impartial inspections.
— Deployment of qualified and expert personnel.
— Participation in an initial training held by REDcert prior to taking up its activities under the REDcert system and in other informational and training events offered by REDcert.
— Registering with REDcert and concluding a contract.</td></tr>
<tr><td colspan="3">4 IMPLEMENTATION AND CERTIFICATION</td></tr>
<tr><td>4.0</td><td>Market and scheme development strategy</td><td>At the beginning, the aim of REDcert team is to implement the standard in Germany and Europe and create the framework for certification of all types of biomass either through legislation or market influences. REDcert is aware of upcoming initiatives which try to extend a standardized sustainability certification scheme on other sectors/products. As many operators already perform a couple of certifications (quality and environmental management, food safety management schemes) REDcert is keen to provide synergy effects for the operators between sustainability and other certifications, e.g. by combined auditing, integrated auditor trainings etc. While certification and auditing cost cover an estimated two third of the overall cost for sustainability certification, this has an important influence on the system’s acceptance in the market.</td></tr>
<tr><td>4.1</td><td>Level of experience</td><td>Founded in 2010, the standard was quickly approved by the BLE and subsequently many companies entered into an agreement to get a certificate. The0 management of the scheme was taken over on February 2010 by the company ORGAINVENT Entwicklungs- und Koordinationsgesellschaft GmbH. Since its foundation in 1997, this company has developed various systems for the identification and traceability of food products and they are coordinator for the agricultural stage in the QS System.
On 14 March 2011, 782 certificates (including 20 inspection certificates) have been issued.</td></tr>
<tr><td>4.2</td><td>Certified companies</td><td>The company Kleeschulte GmbH & Co. KG in Büren obtained the first certificate issued by DQS on the 25 June 2010. Since the approval by the BLE in June 2010, more than 920 companies involved in distribution and transport, trade and processing have already registered with REDcert and approximately 865 companies from Germany and other European countries have already concluded a REDcert contract (status of March 2011). Of these companies, 782 have already been successfully certified. All certificates issued in the REDcert system are published on the website on the ‘certificate’ section. Most registrations are done by at the stage of a primary distributor collecting the harvested biomass (see table below on left). Six percent of the registrations are from companies that are not located in Germany. The highest number of foreign registrations are from Belgium, France and Poland (see table below on left)
<table><tr><th>Registration as ...</th><th>#</th></tr><tr><td>Biofuel producer</td><td>31</td></tr><tr><td>Primary distributor</td><td>753</td></tr><tr><td>Oil mill</td><td>129</td></tr><tr><td>Ethanol producer</td><td>14</td></tr><tr><td>Supplier solid/liquid biomass</td><td>75</td></tr><tr><td>Sugar producer</td><td>9</td></tr><tr><td>Other</td><td>14</td></tr></table><table><tr><th colspan="2">Foreign registrations</th></tr><tr><td>Poland</td><td>13</td></tr><tr><td>Tchech Republic</td><td>3</td></tr><tr><td>Austria</td><td>2</td></tr><tr><td>Italy</td><td>1</td></tr><tr><td>Belgium</td><td>14</td></tr><tr><td>The Netherlands</td><td>1</td></tr><tr><td>United Kingdom</td><td>1</td></tr><tr><td>France</td><td>13</td></tr><tr><td>Luxembourg</td><td>2</td></tr><tr><td>Slowenia</td><td>1</td></tr><tr><td>Denmark</td><td>3</td></tr></table>(status March 2011)</td></tr>
<tr><td>4.3</td><td>Incentives for</td><td>According to REDcert, the different new certification systems for biomass form considerable economic and</td></tr>
</table>

<table>
<tr><th colspan="2">Factsheet item</th><th>Description</th></tr>
<tr><td></td><td>operators</td><td>organizational burdens for companies (documentation, verification, etc.). REDcert aims for simplicity and practicability to reduce the costs related to disclosure and verification requirements but also in the certification process itself (neutral inspections) wherever possible and permissible. REDcert:
– is tailored to the specific German and European market and farming conditions;
– thus stands for equal market access of all affected production and processing steps;
– offers transparency through an accessible documentation system.</td></tr>
<tr><td>4.4</td><td>Costs for operators</td><td>REDcert charges an annual fee for the contractually-based services in the REDcert system to participants (contract parties). This fee consists of a Basic fee, a Scaled fee (based on the number of registered sites) and Quantity based fee (Related to the quantity biomass sold as sustainable).
A Basic fee
<table>
<tr><td>Per participant</td><td>1x annually</td><td>250,00 EUR</td></tr>
<tr><td>Per participant – small company*</td><td>1x annually</td><td>200,00 EUR</td></tr>
<tr><td>Per participant – smallest company**</td><td>1x annually</td><td>150,00 EUR</td></tr>
</table>
* small company = 1 site and ≤ 500 t annual turnover/-production solid respectively equivalent liquid biomass
**smallest company = 1 site and ≤ 250 t annual turnover/-production solid respectively equivalent liquid biomass
B Scaled fee
<table>
<tr><td>For the 1st-3rd site</td><td>per site</td><td>50,00 EUR</td></tr>
<tr><td>For the 4th-10th site</td><td>per site</td><td>45,00 EUR</td></tr>
<tr><td>For the 11th-20th site</td><td>per site</td><td>40,00 EUR</td></tr>
<tr><td>For the 21st-50th site</td><td>per site</td><td>35,00 EUR</td></tr>
<tr><td>For the 51st-100th site</td><td>per site</td><td>30,00 EUR</td></tr>
<tr><td>after 101st site…</td><td>per site</td><td>25,00 EUR</td></tr>
</table>
C Quantity based fee
– Related to the mass of the liquid biomass sold as sustainable.
– Solid biomass (sold before conversion) with conversion factors is converted to equivalent mass of liquid biomass which takes into account the specific yield of liquid biomass
<table>
<tr><td>Vegetable oil</td><td>per tonne</td><td>0,035 EUR</td></tr>
<tr><td>Ethanol*</td><td>per tonne</td><td>0,027 EUR</td></tr>
</table>
* A density of 0.79kg/l is assumed at 20°C
Conversion factors (for oil/ethanol equivalents)
<table>
<tr><td>Oil seed</td><td>Mass (to) x 0,5</td></tr>
<tr><td>Wheat</td><td>Mass (to) x 0,6</td></tr>
<tr><td>Sugar beets</td><td>Mass (to) x 0,175</td></tr>
<tr><td>Other biomass</td><td>To be defined as necessary</td></tr>
</table>
The fees B and C can be paid in two statements (30 June and 31 December) while the annual fee has to paid in the full amount.
Costs of verification for small farmers are incurred for cross-compliance and only cross-compliance farms can opt for REDcert certificates.</td></tr>
<tr><td>4.5</td><td>Pilots</td><td>There is no detailed information publicly available regarding pilot test of the REDcert certification system.</td></tr>
<tr><td>4.6</td><td>Guidance for operators</td><td>REDcert System provides informative leaflets and registration forms in English and German (Material section). The leaflets summarize the requirements of the REDcert certification system:
– Registration for the REDcert certification system
– Registration of operating sites for the REDcert system
– System principles for the four process steps</td></tr>
</table>

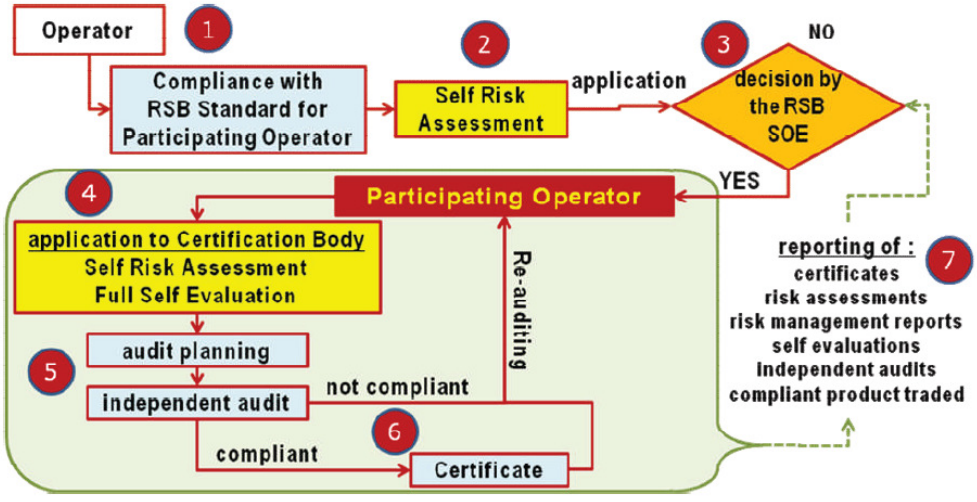
Factsheet item	Description
	– System principles for GHG calculation – System principles for Mass Balancing pursuant – Sanction system – Fee schedule – Regulation for small and very small operations in the REDcert system – FAQ's Also information from BLE on the requirements following from the Ordinances is provided.
4.7 Guidance for auditors	REDcert provides the following guidance documents to be used by the inspection bodies in order to be accredited by the BLE and conduct the inspections of the certificate holders: – System principles for neutral inspections under the BioSt-NachV and Biokraft-NachV. – Checklist for the inspection of interfaces, warehouses and suppliers. – Checklist for the inspection of the process step Agriculture.
4.8 Helpdesk	REDcert provides a post address and a virtual form which users can fill in to get in contact with the REDcert team.
4.9 Support groups	The development of the scheme is supported by the following associations: Deutscher Bauernverband e.V. (DBV), Deutscher Raiffeisenverband e.V. (DRV), Verein der Getreidehändler der Hamburger Börse e.V. (VdG), Verband der Deutschen Biokraftstoffindustrie e.V. (VDB), Verband der Ölsaatenverarbeitenden Industrie in Deutschland e.V. (OVID), Bundesverband der deutschen Bioethanolwirtschaft e.V. (BDBe), Bundesverband Dezentraler Ölmühlen e. V. (BDOel), Bundesverband der Agrargewerblichen Wirtschaft e.V. (BVA), Mineralölwirtschaftsverband e.V. (MWV), Fachverband Biogas e.V.
4.10 Information system	Support for users is offered through personal communication during events or via trainings for participants and certification bodies which dates are available on the website. The REDcert team publishes monthly newsletters that inform about the development and updates of the scheme. The most recent updates are published on the 'News' section as press releases.
4.11 User friendliness and feedback	The REDcert provides documents on the REDcert website for its participants (including guidelines with the system requirements as well as process step, tools and legal texts) for operational implementation and verification within the framework of the Biomass Sustainability Ordinances. Beside the system's documentation and material a personal communication with users and individual advice is provided. This allows a direct feedback to the REDcert staff.
4.12 Implementation challenges in the year to come	The main challenge for the scheme is posed by the growing competition with new certification systems that are globally appearing in the market.

Appendix B5 Factsheet RSB

This factsheet aims to provide persons interested in the RSB certification system with accessible, comparable and thorough factual information on this system. The information has been validated by the RSB Secretariate and presents the actual status of the system in April 2011. For more detailed information on the system, the reader is referred to the website of the certification system or suggested to contact the scheme owner.

Factsheet item	Description
0 SUMMARY AND SOURCES	
0.0 Summary	The Roundtable on Sustainable Biofuels (RSB) is an international initiative co-ordinated by the Energy Center at the Swiss Federal Institute of Technology in Lausanne (EPFL). It brings together farmers, companies, non-governmental organisations, experts, governments, and inter-governmental agencies concerned with ensuring the sustainability of biomass production, processing and use. The RSB is developing a third-party certification system for biofuels based on sustainability standards, encompassing environmental, social and economic principles and criteria, through an open, transparent, and multi-stakeholder process. The first certificates are expected to be issued in the first half of 2011.
0.1 Sources used	1. RSB (2011a): website (www.rsb.org and http://rsb.epfl.ch), last visited 22 April 2011 2. Review by RSB Secretariat, 4 March 2011
0.2 Date	22 April 2011
1 GENERAL ASPECTS	
1.0 Name	Roundtable on Sustainable Biofuels (RSB)
1.1 Website	www.rsb.org
1.2 Objective	The vision of the RSB is to achieve global sustainable production, conversion, and use of biomass. Its mission is as follows: – To provide and promote the global standard for socially, environmentally and economically sustainable production and conversion of biomass. – To provide a global platform for multi-stakeholder dialogue and consensus building. – To ensure that users and producers have access to credible, practical and affordable certification. – To support continuous improvement through application of the standard.
1.3 Context and scheme status	The RSB started as a response on growing concerns related to biofuels sustainability. In June 2007, the Steering Board of the RSB published draft principles for sustainable biofuels production. Interested stakeholders were invited to join Working Groups and to suggest criteria for achieving these principles, as well as rewording for the draft principles themselves. In August 2008, the RSB published version Zero of the Principles & Criteria, with additional guidance for implementation. In November 2009, RSB published version One of its Principles and Criteria, a complete guidance document, compliance indicators and a glossary, accompanied by a set of guidelines to help operator through compliance. Version One also included a set of standard for the implementation of the certification system. In November 2010, RSB published version 2.0 after having pilot tested the first version. The standard is open for certification since March 2011.
1.4 Scheme owner	RSB was initiated in 2006 and it is coordinated by the Energy Center (CEN) of the Ecole Polytechnique Fédérale de Lausanne, Switzerland (Swiss Federal Institute of Technology EPFL). It has more than 120 member organisations from about 40 countries and various sectors, from NGOs to oil companies, from academic scientists to government representatives. Major Institutions such as the UN Environment Programme, Shell, Boeing, the Swiss Government, the WWF, the IUCN or the Brazilian sugarcane growers association (UNICA) actively participate. The RSB operates under its own budget, based on resources provided by EPFL, third party organisations and membership fees.
2 SCHEME CHARACTERISTICS	
2.0 Certification system set-up	The RSB certification system is based on: – engagement of professional independent third party certification bodies responsible for evaluating compliance of participating operators with RSB standards and issuing RSB certificates; – evaluation, recognition and management of certification bodies by a RSB recognized independent accreditation body, and – independent verification of the RSB Principles & Criteria and RSB standards.

Factsheet item	Description
	The system is designed to fully comply with ISO/IEC Guide 65: 1996 (E) General requirements for bodies operating product certification systems, ISO 17021: 2006 Conformity assessment – General requirements for bodies providing audit and certification of management systems and ISO 19011: 2002 Guidelines for quality and/or environmental management systems auditing.
2.1 Chain coverage	Product certificates cover: Feedstock Production & Processing, Biofuel Production and Biofuel Blending. Additional operators in the chain can be certified in the chain if owner of the product. All operators in the value chain must be certified.
2.2 Biomass focus	Liquid biofuels from all biomass sources, including waste. The long term objective is to cover all types of biomass.
2.3 Specifics for biomass wastes	There are no specific rules or less stringent requirements for biofuels produced out of wastes. The RSB indicates that it will develop a strategy about how to handle wastes in the context of certification.
2.4 Scope of the scheme	*Global*: the RSB has developed an international certification system for biofuels. It can be applied in any country and any region. *Benchmarking*: the RSB is committed to investigate how to recognise existing certification and standards schemes. According to RSB, this reduces the cost and inspection burden on producers (who do not need to get a separate certification for the biofuels market). RSB participates in various projects with other standard organisations in order to harmonise the requirements and the implementation within the standard movement.
2.5 Sustainability principles	The RSB standard covers environmental, social and economic principles and criteria. It contains 12 principles, as follows: Principle 1. Legality (national and international laws and regulation) Principle 2. Planning, Monitoring and Continuous Improvement (transparent and consultative impact assessment, and economic viability) Principle 3. Greenhouse Gas Emissions (Biofuel blend must be 50% better over lifecycle than fossil fuel) Principle 4. Human and Labour Rights (protect workers' and human rights) Principle 5. Rural and Social Development (focus regions of poverty) Principle 6. Local Food Security (direct impacts) Principle 7. Conservation (conserve and protect important conservation values, ecosystem services and functions) Principle 8. Conserve and protect Soil Principle 9. Conserve and protect Water Principle 10. Conserve and protect Air Principle 11. Use of Technology, Inputs, Management of Waste (risks, chemicals, wastes) Principle 12. Land Rights (respect land rights and land use rights)
2.6 Chain of custody	The RSB chain of custody tracking standards are designed so that participating operators are able to track biomass / biofuels to any point in the supply chain or all the way through the supply chain, depending on their commercial needs and preferences. The RSB certification system foresees 4 different chain of custody tracking models which can be applied to participating operator's chain of custody systems relating to acquisition, handling and forwarding of RSB compliant biomass / biofuels production, conversion, processing and trade of biofuels. Each of these models has different characteristics and different requirements for tracking RSB compliant physical product as well as associated documentation of product characteristics. The implementation effort of these models typically decreases from model 1 to model 4. The 4 models are: 1. *Identity of product preserved*: usually used in niche markets for very specialised products or markets. This model allows tracking the exact origin of each intermediary product in the supply chain. Certified products (e.g. harvested biomass) are completely separated from non-certified products and certified products from different operators cannot be mixed. 2. *Segregation of product*: used often in markets for certified food products. In this model, certified products (e.g. harvested biomass) are completely separated from non-certified products but certified products from different operators may be mixed. 3. *Mass balance of product*: this approach is used in markets for certified mass and bulk products, especially when these products are converted and/or processed in continuous processes. In this model, certified products and uncertified products can be mixed but associated documentation is kept separated. It is considered especially relevant for tracking of biomass / biofuels. According to the RSB it responds to the requirements of the EU RED. 4. *Content ratio accounting of product*: this approach is also used in markets for certified mass and bulk products, again especially when these products are converted and/or processed in continuous processes. Similarly to mass balance, certified products and uncertified products can be mixed but in this case associated documentation can also be combined. . It is not allowed under EU RED. The models 1, 2, and 3 are allowed under the EU RED. RSB will also explore in the future the possibility to offer certificate trading.

Factsheet item	Description
2.7 Target group	RSB certification applies to all operators of the biofuel value chain. RSB Membership is open to any organisation involved in biofuel-related activities. Membership is not a requirement for an operator to apply for certification.
2.8 Specifics for small holders	RSB has less stringent requirements in place for small holders and small-scale operations; a number of RSB's minimum requirements differs for small scale and larger scale operations. RSB defines small-scale applicants as follows: 1. Small Feedstock Producer is a feedstock producer with a total area of production of agricultural products, whether intended for biofuel production or not, smaller than or equal to 75 hectares. 2. Small-scale Farmer (Developing Countries) is a resource poor feedstock producer from a developing country who currently cultivates less than 10 ha of land on a low input low output basis. The definition of developing countries is that of the OECD. 3. Small Feedstock Processor is an operator that processes company-wide total actual feedstock, whether intended for biofuel production or not, in an amount smaller than or equal to 50'000 metric tons/year. 4. Small biofuel Producer is a biofuel producer with a company-wide total actual annual feedstock processed in an amount smaller than or equal to 10'000 metric tons/year. 5. Small biofuel Blender is a biofuel blender that handles company-wide, including fossil fuels and biofuel, an amount smaller than or equal to 10'000 metric tons/year. 6. Group certification is possible through the concept of participating operator, which allows horizontal and vertical integrations; for example, a farmers' cooperative can apply as a unique participating operator. In such case, the cooperative is responsible for ensuring that all its members comply with the RSB. Failure of one single member of the group would lead to the loss of the certificate for the entire group.
2.9 Certification and audit requirements	The RSB certification system is based on seven steps (see also figure below): 1. The operator achieves compliance with the RSB Principles and Criteria and other requirements of the RSB standard for participating operators; 2. The operator conducts a self risk assessment, which determines its risk class (see RSB-STD-30-001 for more details); 3. The operators applies for participation in the RSB certification systems; 4. Upon approval by RSB SOE (System Operating Entity), the RSB SOE will provide a unique ID number as well as the list of all RSB accredited certification bodies. The operator engages with an RSB accredited certification body of his choice, applies for an independent evaluation audit and provides the self risk assessment and the self evaluation; 5. The certification body conducts the audit following RSB standards; the nature and stringency of the audit depends on the risk class of the operator; 6. Upon successful completion of the certification process, the certification body issues the RSB certificate; 7. Each step of the certification process is reported to RSB Services that maintains the overview of all participating operators, all certification bodies, all evaluations and all certificates issued/denied/suspended/terminated in the RSB certification systems.  The number, frequency and types of audits highly depend on the risk class of the participating operator. Within the RSB philosophy, the risk factor describes the conditions under which the operation of the participating operator is implementing the RSB Principles & Criteria. The table below shows how the audit interval, the audit type and audit team vary depending on the risk class. Risk classes range from very low (1) for outstanding operations, to low (2) for good operations, average (3) for typical operations, and high, very

<table>
<tr><th>Factsheet item</th><th>Description</th></tr>
<tr><td></td><td>high or exceptional (4, 5, 6) for poor operations and operations on probation.
<table>
<tr><th colspan="4">Auditing interval and type of audit</th></tr>
<tr><td>risk class</td><td>Maximum audit interval</td><td>audit type</td><td>audit team</td></tr>
<tr><td rowspan="2">1</td><td>12 months</td><td>desk audit</td><td>1 international lead auditor</td></tr>
<tr><td>24 months (+6)</td><td>office & field audit</td><td>1 international lead auditor + 1 local auditor</td></tr>
<tr><td rowspan="2">2</td><td>9 months</td><td>desk audit</td><td>1 international lead auditor</td></tr>
<tr><td>18 months (+6)</td><td>office & field audit</td><td>1 international lead auditor + 1 local auditor</td></tr>
<tr><td>3</td><td>12 months (+6)</td><td>office & field audit</td><td>1 international lead auditor + 1 local auditor</td></tr>
<tr><td>4</td><td>9 months (+3)</td><td>office & field audit</td><td rowspan="3">1 international lead auditor + 1 local auditor + technical, social, environmental experts</td></tr>
<tr><td>5</td><td>6 months (+3)</td><td>office & field audit</td></tr>
<tr><td>6</td><td>3 months (+3)</td><td>office & field audit</td></tr>
</table>
Operators may publicly communicate participation in the RSB certification systems and compliance with the RSB standards as per RSB STD- 50-001 Standard on communication and claims. Participating Operators with a “very high” risk class (5) will be publicly listed by the RSB. Certification Bodies are required to compile a public summary of the certification report.</td></tr>
<tr><td>2.10 External stakeholder consultations during audits</td><td>External stakeholder consultation is required as part of the principle 2 of the Principles and Criteria (impact assessment process and project implementation). The consultation ‘s requirements include that:
1. a range of representative stakeholders is consulted, appropriate to the scale, intensity, complexity and impacts of the operations evaluated;
2. stakeholders can present their comments to the auditors in local language and under terms of confidentiality;
3. stakeholders have the opportunity to present their comments prior to peer review of the certification report and certification decision making;
4. stakeholder consultation shall be designed to solicit direct, factual observations with regard to compliance of the operator with the RSB standard and certification system;
5. information and opinions given by consulted stakeholders are investigated, evaluated and verified objectively and meaningfully, and affect the certification decision only in so far as they provide evidence of compliance or non-compliance with the applicable requirements of the RSB standards and the RSB certification systems.
In addition, RSB requires that stakeholder consultations are part of the office and field audits and has set a number of requirements to these consultations (RSB STD 70-003 section 3.4):
– stakeholders directly affected by the operation identified in the scope shall be included;
– the stakeholders identified shall be notified at least six (6) weeks prior to the start of the evaluation of the participating operator about the schedule and details of the evaluation.</td></tr>
<tr><td>2.11 Level of assurance</td><td>RSB requests from the participating operator that they declare any non-compliance with the RSB standard and certification system through the self-assessment; the accuracy of the declarations will be verified by the auditor team. A number of non-compliances are considered as major non-compliances, for example non-compliances that have the potential to compromise the RSB certification system, that have not been corrected in the preceding audit, or that have been identified as systematic. If one or more non-compliances were identified in more than 10% of the representative sample of the operations or of the compliance claims, this leads to a major non-compliance. Major non-compliances are listed and defined in the RSB-STD-70-003 standard (section 3.5). For each non-compliance and major non-compliance, the certification body shall monitor and evaluate all actions taken by the participating operator to bring them into compliance. Major non-compliances prevent certification and should be brought into compliance within 90 days in order to avoid that a full re-evaluation audit is necessary to obtain a RSB certificate. Any non-compliance that has not been corrected by the participating operator prior to evaluation, will be considered as a major non-compliance.</td></tr>
<tr><td>2.12 Dispute resolution</td><td>The RSB STD 65-001 standard for dispute resolution provides the requirements to ensure timely, consistent, comprehensive and effective resolution of disputes. It calls for disputes to be resolved at the lowest level possible and sets a process for dispute resolution. It provides the room to receive, register and address disputes raised about any aspect related to implementation of the RSB standards and/or RSB certification systems. RSB certification systems constituents shall achieve agreement by consensus of the parties to the dispute. If consensus cannot be reached, an independent third party shall be engaged for independent external resolution of the dispute.</td></tr>
</table>

Factsheet item	Description
2.13 National and crop specific variations	RSB has adopted procedures for adaptation to crop specific conditions (RSB-STD-15-001) and to geographic conditions (RSB-STD-15-002). Any adaptation process starts with a needs assessment done by an entity with demonstrated interest in the crop specific conditions or to the geographic conditions. Recently the Hawaiian Biofuels Foundation conducted such needs assessment in the perspective of the possible adaptation of the RSB Standard to the Hawaiian context. The full report is available at www.rsb.org
2.14 Relation with EU RED	The RSB sustainability requirements are exceeding the EU RED requirements. The EU is currently assessing the RSB under the obligations set out in the EU RED. Following the recommendations of the EC, RSB has developed a consolidated RSB Standard for compliance with EU RED. The changes needed to comply with the EU are highlighted in the EU RED Market Access Standard document (RSB-STD-11-001). After receiving a first response from the EC in September 2010, RSB submitted a next version of the RSB EU RED Standard. A provisional decision from the European Commission is expected in the first half of 2011.
2.15 Entry level certification	RSB is currently discussing a 2-tiered RED certification system, which would create a lower entry level into the RSB system. The modalities of such system are still under discussion among RSB membership, in particular the requirements at the entry level and the conditions to move from tier 1 to tier 2. A 2-tiered system would facilitate market penetration and be an answer to the growing number of certification systems that already delivered an impressive number of certificates over the last few months. A 2-tiered system would enable the RSB to attract a wider number of operators, who might aspire to meet the full RSB standard but need time to make the transition. This would fulfil the RSB goal of promoting excellent performance and continuous improvement, and yet not be a "niche" standard. The proposal also included a preliminary pricing structure. The alternative to this model is a 1-tier system, which would include full RSB compliance and full EU RED compliance but this would imply that many fewer operators would be able to comply with the higher entry level, and thus might not even try.
2.16 Recognition by other standards	In July 2010, the RSB was recognized by UK regulators under the UK RTFO biofuel sustainability framework. The Hawaiian Electricity Company (HECO) recently recognised RSB certificates as proof of compliance with sustainability criteria imposed over biofuels to be used for electricity generation. On March 18, 2011, the RSB received notification from the German authorities that the RSB Standard and Certification System are provisionally recognized as qualifying under the German "Regulation on the requirements for sustainable production of biofuels" (Biokraftstoff-Nachhaltigkeitsverordnung - Biokraft-NachV).
2.17 Recognition of other standards	RSB has not yet recognised other standards. RSB has adopted a standard for adaptation to and recognition of other biomass production standards (RSB-STD-15-003) but the benchmarking system to verify that other standards meet RSB requirements is still under development. The RSB is working in collaboration with ISEAL and GIZ on a project to foster collaboration with and between other sustainability standards. One central element of this project will be to develop a joint benchmarking methodology.
3 GOVERNANCE AND ORGANISATION	
3.0 Standard setting body	Decision making on the RSB standard is done by the RSB Steering Board, which is the highest decision-making entity of the RSB. It takes decisions for example regarding the RSB strategy, any changes to the standards, approval of various options for certification. Decisions are made via consensus. The Steering Board is made up of representatives from seven stakeholder Chambers, of which the first six have voting rights: 1. Farmers and growers of biofuel feedstock; 2. Industrial biofuel producers; 3. Retailers/blenders, the transportation industry, banks/investors; 4. Rights-based NGOs (including land, water, human, and labour rights) & Trade Unions; 5. Rural development or food security organisations & Smallholder farmer organisations or indigenous peoples' organisations or community-based civil society organisations; 6. Environment or conservation organisations & Climate change or policy organisations; 7. Intergovernmental organisations (IGOs), governments, standard-setters, specialist advisory agencies, certification agencies, and consultant experts. Decisions of the Steering Board are based on positions reached by consensus within each of the seven chambers. RSB has members in all continents (more than 40 countries) and strives to have a fair balance between global north and global south organisations. RSB had 121 members as of 21 December 2010. Each version of RSB's Principles and Criteria and related documents are subjected to public consultation. All stakeholders with biofuel-related activities are welcome to participate in the RSB process.
3.1 Standard implementation body	*RSB Services* is the entity in charge of the implementation and management of the RSB standard. It provides the systems' information and compliance management database and maintain the systems' administration. *RSB Services* also manages licensing, branding, claims and training.

Factsheet item	Description
3.2 Accreditation body	RSB Services will engage an independent accreditation body which accredits certification bodies on behalf of RSB, pending compliance with the RSB standards for Certification Bodies (RSB-STD-70-001) and related standards. The requirements for the accreditation body engaged by the RSB are defined in RSB-STD-75-001: accreditation bodies need to comply with the RSB general requirements for accreditation bodies in addition to the requirements set by the ISO/IEC 17011:2004 conformity assessment standard.
3.3 Certification bodies	Certification bodies are defined as professional independent entities providing certification services. RSB has set requirements to certification bodies in order to ensure an equivalent level of performance and audit quality of different certification bodies, providing consistent services worldwide (RSB-STD-70-001 to 004 covering general requirements for certification bodies, requirements for auditor qualifications, requirements for evaluation of and reporting on participating operators, and requirements for certification bodies' risk management). Certification bodies shall demonstrate full compliance with the RSB requirements and with the ISO/IEC Guide 65: 1996 (E) General requirements for bodies operating product certification systems. The ISO/IEC Guide 65: 1996 (E) standard is widely recognized as the most appropriate international standard for certification bodies operating product certification systems. The term 'product' in this context includes processes and services, and therefore covers the certification of a wide range of products and services, including the production, transformation and trade of biomass/biofuels against specified standards and other normative documents. As of 22 April 2011, RSB had applications of the following six Certification Bodies: Control Union Certifications (The Netherlands), DQS (Germany), INTERTEK (Germany), Rainforest Alliance (USA), Scientific Certification Systems SCS (USA) and SGS (Switzerland).
4 IMPLEMENTATION AND CERTIFICATION	
4.0 Market and scheme development strategy	RSB aims to be the global standard for sustainable biofuels production. Ultimately, the Steering Board decided to broaden the scope of the standard to include other uses of biofuels besides transport, and other types of biomass use besides liquid biofuels. Currently, the EU represents one of the most important markets but RSB is also developing markets worldwide. Being able to offer recognition in the European market place under the RED provisions is an important element of the RSB Strategy.
4.1 Level of experience	No certificates issued yet. First certifications are expected in 2011.
4.2 Certified companies	There are no examples of certified companies yet. First certifications are expected in 2011.
4.3 Incentives for operators	The RSB Global Sustainability Standard offers a global, verifiable standard, providing certainty amid the growing patchwork of voluntary certification schemes. It addresses a growing demand among both the private sector and government entities for a universal standard – a seal of approval – guaranteeing a biofuels' social and environmental performance. – *One-Stop Shop*: The RSB Global Sustainability Standard provides operators with automatic access to participating markets. EU recognition is under process – *Sustainability Guarantee*: With RSB-certified fuels, buyers and users can be assured they only support sustainability-produced biofuels. – *Technical Support*: Certified producers can access technical guidance and other resources provided by the RSB. RSB provides a tool to enable the calculation of GHG emissions against different methodologies required (e.g. RSB, EU, Swiss and in future USA RFS). – *Risk Management*: The RSB standards provide producers with a means to reduce operational and reputational risk. – *Product Differentiation*: RSB-certified companies can differentiate their products with the RSB logo, visually signalling their commitment to sustainability. – *Comprehensive*: The RSB Global Sustainability Standard allows operators to certify a biofuels' sustainability at every point in the supply chain, from farm to tank.
4.4 Costs for operators	*Cost of membership:* annual membership fees range from 250 to 1,000 USD for public sector and not-for-profit organisations and from 1,000 to 10,000 USD for all other organisations, depending on the annual operating budget or revenues of these organisations. *Cost of certification:* RSB is preparing its pricing structure for the 2-tiered or 1-tier certification system. A first proposal had a license fee based on a combination of compliance level, volume (Biofuel producers), hectares under production (Feedstock Producers) or number of facilities (Blenders). RSB indicates that there will be a minimal cost of the application to administrative and licensing fees. Operators do not have to be members to obtain certificates. *Costs of auditing*: there is no information available about the financial and time resources needed for certification and audits. RSB indicates that this is greatly influenced by the size and complexity of the operation. *Cost of compliance*: there is no information available on the cost of compliance. RSB indicates that these can

Factsheet item	Description
	vary depending on the nature and size of the operation.
4.5 Pilots	Six pilot projects representing various types of feedstock and biofuels have been completed or are undergoing in different regions of the world (Australia, Brazil, Germany, Guatemala, Mozambique and Peru) in 2010. The feedstock's covered are Jatropha, sugarcane, sunflower, sweet sorghum and wheat. Biofuels covered are biodiesel and ethanol. Different certification bodies were involved in these pilots. A number of additional projects are in the planning stage to further test specific crops or features of the RSB Standard (e.g. food security, EISA process).
4.6 Guidance for operators	RSB has about 35 standards and guidance documents which are publicly available on the RSB website. There are a number of additional documents on the website such as documents for operators participating to pilots (terms of reference, reporting forms), governance documents (RSB terms of reference, meeting reports) and technical reports (GHG accounting, indirect impacts). The key documents for participating operators are the following: – the 'Principles and Criteria P&C' document (29 pages) – the 'P&C Guidance' document (25 pages) – the 'P&C Indicators' document (81 pages) – the 'P&C glossary' (33 pages) – Guidelines for the impact assessment process and related exercises (ESIA, RESA, Food Security assessment, Land Rights assessment, etc.) (269 pages) – the 'Introduction to the RSB certification systems' (38 pages). All documents are available in version 2.0. Documents are currently in English; translation of the P&C document into French, Spanish, German and Portuguese is pending. Online tools for self risk assessment and self evaluation are available on the RSB website. A tool for the calculation of GHG emission is planned. RSB foresees publishing handbooks for operators through April 2011.
4.7 Guidance for auditors	On top of the guidance for operators, the guidance for the auditors is basically formed by the 4 standards that include all requirements for certification bodies and their auditors (RSB-STD-70-001-004).
4.8 Helpdesk	There is no dedicated helpdesk but RSB's contact details are available on the website for any comments and questions about the RSB Standards, documents and membership. The RSB Secretariat tries to provide responses to any request within one week.
4.9 Support groups	So far there are no known user support groups or auditor support groups. In April 2011, RSB has held the first auditor trainings RSB schedules regular meetings and phone conferences and furthermore nurtures discussion throughout the organisation of public consultations, public outreaches and technical workshops.
4.10 Information system	RSB publishes all reports and guidelines on their website. RSB also provides updates on new developments and ongoing pilot projects publishing a digital bulletin free of charge. RSB Services is currently putting in place the internal information systems (CMS) of the RSB certification system.
4.11 User friendliness and feedback	RSB emphasizes the importance of open processes and feedback. Stakeholder recommendations from public consultations and feedbacks from pilot projects were embedded into RSB Principles and Criteria version 2.0. User satisfaction surveys and other information on user friendliness is not publicly available. It is unclear whether this is foreseen.
4.12 Implementation challenges in the year to come	2011 will see the first RSB certificates issued. Another milestone is the expected recognition by the European Union. The RSB also applied for full membership at ISEAL Alliance, which sets codes of good practices for standard-setting organisations and certification systems.

Appendix C: Information on 13 other certification schemes

This appendix aims to provide a summary of the 13 other certification schemes as presented in chapter 2. This information is taken from the schemes' websites and other reports, specifically sources [1], [2], [15], [17] and [18].

Name and website	**Short description and relevance for the study**
2BSvs www.bureauveritas.fr www.control-union.fr	The development of voluntary scheme 2BSvs was initiated by a consortium of five agricultural and industrial associations of the French biofuel industry, with help of Bureau Veritas. The scheme's objective is to demonstrate compliance, via an independent audit, with the sustainability criteria set by the RED, and to certify biofuels and biomass raw material. The scheme relies on a 2BSvs voluntary audit methodology which culminates in the issuing of a certificate. It is addressed to: 1. Farmers and agencies responsible for the collection of biomass from farms, as well as agricultural cooperatives and agribusiness companies ("biomass production" component) 2. Processors and traders of feedstock and biofuels ("mass balance system" component). The 2BSvs aims to cover all sustainability criteria required by the RED throughout the entire chain of production and processing for both the European market and for production imported from outside the EU. It was submitted to the EC for RED recognition. Certification bodies offering services for the 2BSvs system are Bureau Veritas and Control Union Certifications.
Abengoa www.abengoabioenergy.com	Abengoa Bioenergía is a producer of biofuels with production facilities in Europe, the USA and Brazil. Abengoa Bioenergía has developed the sustainability certification standard known as RED Bioenergy Sustainability Assurance Scheme (RBSA Standard) that establishes requirements for compliance with the RED throughout the whole supply chain, from agricultural production to the end consumer, with a global geographic scope. In 2010 the scheme has been submitted to the EC for RED recognition. Under the RBSA, the supply chain of raw material and the distribution of biofuel must be composed of operators who have been validated either directly or under the validation of third parties. A validated operator must pass a competency test in their field (first collector, and raw material and biofuel suppliers), receiving an RBSA certificate which authorizes them to perform operations under the RBSA Standard. This certificate is subject to renewal via the annual review of a consistent exhibition of the operations carried out. To reduce the administrative load for economic operators the scheme includes a GHG calculation tool (particularly for agricultural operations) and sustainability maps which allow the qualification of a specific region as sustainable under RED.
Biograce www.biograce.net	BioGrace is a project funded within the EU Intelligent Energy Europe Programme, aiming to harmonise calculations of biofuel greenhouse gas (GHG) emissions and thus supports the implementation of the EU RED and the EU Fuel Quality Directive. The BioGrace project is coordinated by Agency NL (Netherlands). Partner organisations are ADEME (France), BIOENERGY 2020+ (Austria), BIO Intelligence Service (France), EXERGIA (Greece), IFEU (Germany), CIEMAT (Spain) and STEM (Sweden). BioGrace aims to submit its Excel GHG tool, calculation rules and user manual to the EC for RED recognition as a voluntary scheme. This voluntary scheme is for GHG calculations only, following RED methodology and using RED conversion factors. To comply with RED/FQD sustainability criteria, BioGrace will have to be combined with other schemes because it contains neither sustainability criteria nor audit and traceability requirements.

Name and website	Short description and relevance for the study
Bonsucro BSI www.bonsucro.com	Bonsucro, the former Better Sugar Cane Initiative (BSI), is an open voluntary non profit multi-stakeholder organisation aiming to improve the social, environmental, and economic sustainability of sugar cane production. The Bonsucro Standard is operational since 2010. The standard has members in key sugarcane producer countries including Brazil, Australia, India and the Dominican Republic. In order to achieve compliance with Bonsucro Standards and therefore be entitled to Bonsucro certificates, 80% of the indicators contained in principles 1 to 5 must be satisfied: 1. Obey the Law. 2. Respect Human Rights and Labor Standards. 3. Manage input, production and processing efficiencies to enhance sustainability. 4. Actively manage biodiversity and ecosystem services. 5. Commit to continuous improvement in key areas of operator's business. Bonsucro is an Associate Member of the ISEAL Alliance, the association of leading voluntary international standard-setting and conformity assessment organizations that focus on social and environmental issues. As Associate Member, Bonsucro has committed to the ISEAL code of ethics and is in the process of meeting the ISEAL codes of good practice. Bonsucro was submitted to the EC for recognition as a voluntary scheme under the RED.
GGL www.greengoldcertified.org	The Green Gold Label (GGL) programme is a certificate system for sustainable biomass. Green Gold Label was established by Dutch energy company Essent and Skall International (now Control Union Certifications) and has been operational since 2001. The system is currently owned by the independent Green Gold Label foundation. It covers production, processing, transport and final energy transformation. Green Gold Label (GGL) offers standards for specific parts of the supply chain, as well as standards for track and trace: it aims at a track and trace system for biomass from (by-) products from the power plant (and its green power it produces) back to the sustainable source. In this system mixing or contamination with non-intrinsic or environmentally harmful materials is prohibited. In every link of the chain written proof must be available that the GGL quality system is supported, sustained and maintained. In the first 8 years, over 5 million tonnes of biomass have been certified. Currently over 25 suppliers of biomass are certified producers, verified by accredited certification body Control Union Certifications.
Greenergy www.greenergy.com	Greenergy is a major biofuel supplier in the UK supplying 10 billion litres of petrol and diesel annually, all blended with biofuel. Greenergy claims that all biofuel is meeting RED requirements. Greenergy only purchases raw materials that meet stringent sustainability requirements and can deliver great GHG savings. Greenergy is undertaking an extensive programme of audits in Brazil to understand the environmental and social performance of its bioethanol suppliers. Established in 2008 and is now in its third year, the programme has been described by the UK Government as meeting a "gold standard for sustainable biofuel." The programme covers the seven principles listed below 1. Carbon Conservation 2. Biodiversity Conservation 3. Soil Conservation 4. Sustainable Water Use 5. Air Quality 6. Workers Rights and Working Relationships 7. Land Rights and Community Relations Greenergy has submitted a voluntary sustainability scheme to the EC for RED recognition.

Name and website	Short description and relevance for the study
GLOBAL GAP www.globalgap.org	GLOBALGAP (formerly known as EUREPGAP) is a key reference for Good Agricultural Practices in the global market place. EUREPGAP started in 1997 as an initiative by retailers belonging to the Euro-Retailer Produce Working Group (EUREP). British retailers in conjunction with supermarkets in continental Europe were the driving forces. They reacted to growing concerns of the consumers regarding product safety, environmental and labour standards and decided to harmonise their own often very different standards. In 2007 the name was changed from EUREPGAP to GLOBALGAP. GLOBALGAP is a business-to-business label and is therefore not directly visible to consumers. It works as a pre-farm-gate standard, which means that the certificate covers the process of the certified product from farm inputs like feed or seedlings and all the farming activities until the product leaves the farm. GLOBALGAP certification is open to all producers worldwide and is carried out by more than 100 independent and accredited certification bodies in more than 100 countries. GlobalGAP recognises existing national or regional farm assurance schemes that have successfully completed their benchmarking process, as an equivalent to GLOBALGAP. GLOBALGAP Standards certify fruit and vegetables; flower and ornamentals, integrated farm assurance, integrated aquaculture, coffee. Broad range of crops including soy, palm oil, sugar cane, rapeseed, sugar beet, wheat, corn/maize are also certified. Requirements for members are based on agricultural practices respectful with the environmental and socioeconomic circumstances surrounding the production site.
Laborelec www.laborelec.com www.electrabel.be	The Laborelec label is a certification procedure for imported biomass developed by Electrabel, a European energy company based in Belgium, part of the GDF Suez group. It was developed in conjunction with SGS in 2005. It was developed in order to be able to inform a potential supplier of all requirements made by Electrabel concerning the sustainability criteria for being accepted within the Belgian green certificate systems and the technical specifications of the product for firing it in a thermal power plant. The requirements for biomass to be accepted according to Electrabel's standards are concentrated in a document called ''Supplier Declaration''. The standard requires full traceability of the resources that were used for manufacturing the biomass and evidence that those resources used for manufacturing the biomass are managed in a sustained way. Also the overall energy balance for the supply of each biomass feedstock must be estimated (including fossil energy and electricity for making the biomass suitable and transporting it to the biomass plant). It endorsed certification systems for biomass such as FSC, GGL, GlobalGAP and RSPO.
Neste Oil www.nesteoil.com	Neste Oil is a Finish refining company with a focus on premium-quality renewable diesel fuel. The company has operations in 15 countries. Neste Oil has put in force sustainability criteria along their supply chain. Suppliers are carefully selected and are required meet the sustainability criteria. Suppliers to Neste must always comply with all relevant national laws and statutes. In addition, Neste Oil requires its suppliers: 1. To support sustainability and be committed to the continuous improvement of the health, safety, and environmental (HSE) aspects of their operations 2. To develop their HSE performance and sustainability regulations and standards together with government and other organizations 3. To respect human rights and proactively promote occupational safety, and 4. To act in accordance with good business ethics. In 2010, Neste Oil filed a voluntary scheme for verifying the sustainability of its biofuels with the EU.

Name and website	Short description and relevance for the study
Red Tractor www.redtractor.org.uk	Red Tractor Assurance sets internationally recognised production standards that apply to various product sectors and to different links in the food supply chain. The standards cover food safety, animal welfare and environmental protection, and have become an essential prerequisite to supplying all major retailers in the UK. Red Tractor Assurance is owned by Assured Food Standards (AFS), an independent organisation that manages and promotes the Red Tractor quality mark on food packs. The Red Tractor Farm Assurance Combinable Crops & Sugar Beet scheme covers crops like wheat, barley and rye, oilseeds such as linseed and rapeseed, pulses such as peas, beans and sugar beet. Red Tractor Assurance designed an extension of Red Tractor Farm Assurance for Crops and Sugar Beet to help ensure that farmers and growers have easy means to demonstrate they comply with the mandatory requirements on land criteria of the biofuel and bioliquid markets which introduced under the EU RED. The scheme was submitted to the EC for RED recognition in autumn 2010. NSF-CMi Certification, PAI Ltd and SAI Global are the certification bodies operating the certification system for the Red Tractor Farm Assurance Crops & Sugar Beet standards on behalf of the Scheme. Participants of the scheme must meet standards set in the following key areas: 1. Literature Requirements 2. Crop Protection 3. Seed / Seed Treatment 4. Fertiliser & Crop Nutrition 5. Crop Storage & Handling 6. Hygiene 7. Transport 8. Contractors 9. GM Crops / Materials 10. Complaints 11. Fuel Storage 12. Contaminants
RSPO www.rspo.org	The Roundtable on Sustainable Palm Oil (RSPO) is an international, multi-stakeholder initiative for the development and implementation of a standard for sustainable palm oil. Its criteria were adopted in November 2005. Certification and accreditation procedures were adopted at the end of 2007, after which several certification bodies have been accredited to certify production units against the RSPO standard. In 2008 the RSPO set up a GHG working group to investigate ways to integrate the effects on carbon emissions into the RSPO's current criteria for sustainable palm oil production: • Commitment to transparency • Compliance with applicable laws and regulations • Commitment to long-term economic and financial viability • Use of appropriate best practices by growers and millers • Environmental responsibility and conservation of natural resources and biodiversity • Responsible consideration of employees and of individuals and communities affected by growers and mills • Responsible development of new plantings • Commitment to continuous improvement in key areas of activity It was decided to delay the inclusion of GHG criteria until a methodology is agreed upon. Now it is voluntary element unlike the other requirements listed above. RSPO submitted a voluntary scheme to the EC for recognition under the RED.

Name and website	Short description and relevance for the study
RTRS www.responsiblesoy.org	The Round Table on Responsible Soy Association is an international multi-stakeholder initiative that brings together those concerned with the impacts of the soy economy. RTRS was officially initiated in November 2006 by WWF Switzerland and Coop Switzerland. In 2007 the first set of draft criteria for the RTRS was published. A 'Field Testing Version' of the standard was published in May 2009. In June 2010 version 1.0 of the RTRS Principles and Criteria was approved by the General Assembly, and RTRS became operational. The standard focuses on Soy regions such Argentina, Brazil, Paraguay, and India. RTRS operates an outreach programme so members from other countries such as China, the US, Uruguay and Bolivia can enrol. In the longer term RTRS is looking to expand to Africa (South Africa, Tanzania), Australia, and Canada. Producers that are interested in obtaining their RTRS certification would have to meet the following requirements: 1. Legal Compliance and Good Business Practice. 2. Responsible Labour Conditions. 3. Responsible Community Relations. 4. Environmental responsibility. 5. Good Agricultural Practice. RTRS submitted a voluntary scheme to the EC for recognition under the RED.
SAN www.sanstandards.org	The Sustainable Agriculture Network (SAN) is a coalition of leading conservation groups that links responsible farmers with conscientious consumers by means of the Rainforest Alliance CertifiedTM seal of approval. The SAN develops, manages and owns the Sustainable Agriculture Standard. Certification by the Sustainable Agriculture Network (SAN) for farms that want to become Rainforest Alliance Certified™ is offered by Sustainable Farm Certification, Intl, a subsidiary of Rainforest Alliance. SAN has a generic standard and several crop-specific standards. It covers some 100 agricultural crops including all energy crops except Jatropha. SAN is a full member of the ISEAL Alliance and hence fully complies with the ISEAL codes of good practice. Since February 2011, SAN has a Climate Module that consists of 15 voluntary criteria that a climate-friendly farm must meet additionally to the Sustainable Agriculture Standard, if the farm chooses to become SAN Climate Module verified. The aim of the SAN Climate Module is to raise awareness about climate change and foster best management practices that can help farmers and communities to better adapt to the challenges of a changing climate and work towards a commitment across the supply chain to mitigating and adapting to its effects. The farm must annually record data about its main GHG emissions sources related to, nitrogen fertilizer input, pesticide input, fossil fuel use for machinery, methane generated in waste and wastewater treatment and animal husbandry. The farm must also map its land use and keep records of land use changes.

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Appendix E: Contacts and interviews

Control Union	Mr Tjipke Hoekstra and Mr Frank van der Velden, interview 12January 2011
Dekra	Mr Eric Evers and Mr Giovanni Wawoe, interview 12 January 2011
DNV	Ms Sigrid Brynestad, interview 16 February 2011
DQS	Mr Eric Werner-Korall, telephone interview 18 April 2011
FSC	Mr Arjan Alkema and Mr John Hontelez, review of factsheet via e-mail correspondence
GlobalGAP	Mr Frederik Callens, telephone contact 9 March 2011
ISCC	Mr Andreas Feige, review of factsheet via e-mail correspondence
NEN	Mr Jarno Dakhorst, interview 13 January 2011
REDcert	Mr Peter Jürgens, review of factsheet via e-mail correspondence
RSB	Ms Maryline Guiramand and Mr Sébastien Haye, review of factsheet via e-mail correspondence
SGS	Ms Inge Kreupeling and Ms Martine Meerburg, interview 7 February 2011

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