

## SUSTAINABILITY CRITERIA CRITÈRES DE DURABILITÉ

# 2BSvs a major actor ensuring sustainability as an essential condition for biofuels' long-term viability

Luis Da Silva E Serra\*

2BS association, 11 rue de Monceau, 75348 Paris Cedex 08, France

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**Abstract** – 2BSvs is one of the most important certification schemes for biofuels worldwide, covering a wide range of feedstock and is currently used in 22 countries by a large number of certified economic operators. 2BSvs covers the complete biofuel industry supply chain from the biomass producer to the final biofuel trader, from production and trading of the raw materials all the way through to biofuel production. 2BSvs has seen regular growth over the last 3 years and the consortium 2BS which manages the scheme, is striving to offer its clients a high level of trust, credibility and support through its professional services with a clear focus on cost-efficiency, and remaining in strict compliance with the requirements of the Directive 2009/28/EC on the promotion of the use of energy from renewable sources. Continuous improvement is at the heart of the management system of the 2BS Consortium, who continually reviews the scheme through regular consultation with industry experts and relevant regulatory bodies so as to ensure that it continues to provide a service that the users and the biofuel market in general can rely on.

**Keywords:** Cost efficient / professional / continual development / sustainability / chain of surveillance / risk management

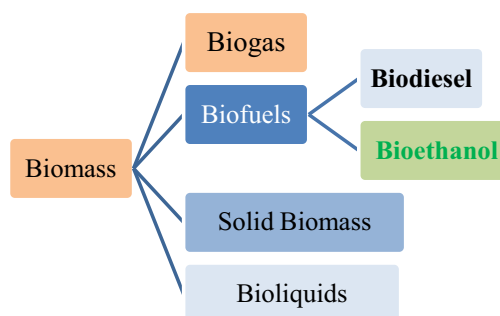
**Résumé** – 2BSvs, un acteur majeur de la certification assurant la durabilité comme une condition essentielle pour la viabilité des biocarburants. 2BSvs est l'un des systèmes de certification de la durabilité des biocarburants les plus importants à travers le monde, couvrant une large gamme de matières premières et est actuellement utilisé dans 22 pays par un grand nombre d'opérateurs économiques agréés. 2BSvs couvre l'ensemble de la chaîne d'approvisionnement de l'industrie des biocarburants du producteur de biomasse à l'opérateur de biocarburants final, intégrant la production et le commerce des matières premières tout au long de la chaîne de production de biocarburants. 2BSvs a connu une croissance régulière au cours des 3 dernières années et le consortium 2BS, qui dirige le schéma volontaire, offre à ses clients un haut niveau de confiance, la crédibilité et le soutien par le biais de ses services professionnels avec une orientation claire sur des coûts efficacité, en conformité avec les exigences de la Directive 2009/28/CE relative à la promotion de l'utilisation de l'énergie produite à partir des sources renouvelables. L'amélioration continue est au cœur du système de gestion du consortium 2BS, qui examine continuellement le schéma par le biais de consultations régulières avec les experts de l'industrie et des organismes réglementaires compétents afin de s'assurer qu'il continue de fournir un service fiable et performant pour les utilisateurs et le marché des biocarburants en général.

**Mots clés :** Efficace / professionnel / amélioration continue / durabilité / chaîne de surveillance / management du risque

## 1 Biofuels background information

Biofuels are a type of fuel derived from organic matter (broadly described as biomass) produced by living organisms *i.e.* plants and animals.

Biofuels can also be referred to as substitutes for fossil fuel sourced mainly from a range of agricultural and energy crops, forests and organic waste streams.



\* Correspondence: [luisdasilvaeserra@2bsvs.com](mailto:luisdasilvaeserra@2bsvs.com)

Biofuels are used:

- to generate electricity via steam turbines and gasifiers, or heat by direct combustion of the unprocessed biomass as the raw material;
- as fuels for transport, as is the situation with bioethanol, biodiesel or biogas converted from biomass;
- in boilers and gas turbines to generate heat and electricity, used in gas-fuelled transport as compressed biomethane or supplied to the gas grid; biomass is in this case converted to an energy-rich gas (biogas).

Biofuels can be categorised into three major types:

- 1st generation biofuels are biofuels currently on the market and are produced largely from food crops, *e.g.* corn; we will call 1st generation biofuels, conventional biofuels; the category also includes the production of vegetable oil that can be used in a pure form directly by specific engines.

The production of biogas fuel (as biomethane) obtained through a process of purification and methanation is a separate class. Both fermentable waste and energy and food crops can produce it.

- 2nd generation biofuels are those produced by utilizing the whole plant rather than just the sugar/oil component of the food crops.
- 3rd generation biofuels have only recently entered the mainstream and are derived from algae.

Biofuels date back to the late 19th century. The Ford Model T ran on bioethanol from corn and Rudolf Diesel's first engine ran on peanut oil.

Until the 1940s, biofuels were seen as viable transport fuels, but falling fossil fuel prices stopped their further development.

Interest in commercial production of biofuels for transport rose again in the mid-1970s, when bioethanol began to be produced from sugar cane in Brazil and since the 1980's from corn in the United States. The most important types of biofuels are bioethanol (made from sugar and cereal crops) as a substitute for gasoline, and biodiesel (made mainly from vegetable oils) to replace diesel.

During the 1990s, the industrialized economies of North America and Europe actively pursued policies to support domestic biofuel industries in order to secure new energy supplies, develop a substitute for fossil fuels and support rural economies.

Several governments in the Organisation for Economic Co-Operation and Development and emerging countries adopted blending targets or mandates and several more have announced biofuel quotas for the coming years and have increasingly promoted the development of conventional biofuels since 2000.

The potential of conventional biofuels to contribute to a shift into more sustainable energy systems was contested, and some scientists started to question the environmental superiority of biofuels. Some parts of civil society soon expressed concerns about the potential impact of rising production on food markets and biodiversity, and questioned the performance of conventional biofuels in reducing greenhouse gas emissions.

Because of these concerns, the motivation for setting sustainability criteria is explicitly laid down in the Directive 2009/28/EC on renewable energy, recitals 69 to 88 (RED) whose aims are in particular:

- to promote and develop biofuels and bioliquids that result in significant Greenhouse Gas (GHG) emission savings compared with fossil fuel;
- to make sure that conversion to agriculture is not harming land biodiversity and land with high carbon stock worldwide.

Therefore, ensuring sustainability became an essential condition for conventional biofuels' long-term viability and for continued public support of biofuels as part of the solution to renewable energy conversion and climate change mitigation.

In June 2014, Energy ministers from the European Union's (EU) Member States reached a consensus on a legislative proposal that would set a limit of 7% on the extent to which conventional biofuels can be used to count towards the 10% renewable energy targets in transport in 2020.

Their aim is to reduce the risk of creating climate change with biofuel production, by causing direct (dLUC) or indirect land-use changes (iLUC).

The RED has already set a target that by 2020 one tenth of energy used by the transport sector should be renewable energy. There is also a target that by 2020, 20% of total energy used should come from renewable sources.

The ministers have agreed on setting a limit on the extent to which conventional biofuel production can count towards the first of these targets – a limit of 7% of the total energy use in transport.

The ministers have also agreed on introducing incentives for the use of advanced biofuels (RED, recital 89), which would be allowed to count double towards the 7% transport target with a specific optional target of 0.5% of energy used in transport. This proposed 0.5% sub-target for advanced biofuels is likely to increase, particularly after 2020. The file will go back to the European parliament for a new reading at the end of November 2014.

Amid much disagreement over the measurement of greenhouse gas (GHG) savings from biofuel – particularly how to account for iLUC, the ministers have agreed that the European Commission (EC) will carry out iLUC reporting. Provisional iLUC factors will be introduced into the calculations of GHG savings for the RED and EU Fuel Quality Directive (FQD). A review clause will permit the later adjustment of these iLUC factors in GHG accounting for biofuels.

All EU Member States are committed to ensuring that 10 percent of transport energy comes from renewable sources such as biodiesel, bioethanol and biomethane, by 2020.

## 2 Engine performance and biofuels, namely bioethanol and biodiesel

Bioethanol-blended fuel keeps fuel systems clean for optimal performance because it does not leave gummy deposits, helping to prevent wintertime problems by acting as gas-line

antifreeze. Bioethanol is an alcohol fuel additive typically mixed with conventional gasoline in various percentages, otherwise known as blends, and it provides high quality, high octane fuel for exceptional engine performance and reduced GHG emissions.

The vast majority of commercially available petrol vehicles built since 2000 can run on a mixture of gasoline and up to 10% ethanol, also known as E10. For higher ethanol concentrations, Flex-fuel vehicles (FFVs), are capable of operating on E85 (85% ethanol and 15% gasoline, or any blend in between).

Biodiesel, an alternative or additive to petroleum diesel, is a renewable resource created from vegetable oils such as, rapeseed oil, sunflower seed oil, soybean oil and used cooking oils (UCO) or animal fats.

Biodiesel is extremely low in sulphur, and has very good lubricating qualities. It can be blended with fossil diesel fuel or used in its pure form. Tests undertaken by motor manufacturers in the European Union on blends with diesel oil up to 5–10%, or at 25–30% and 100% pure have resulted in guarantees for each type of use.

Both ethanol and biodiesel are biodegradable, making spills, accidents and disposal simple and worry-free.

The growth of biofuel consumption for use in transport in the European Union has dwindled in the past few years and finally dropped by about 1 million toe (6.8%) between 2012 and 2013 according to EurObserv'ER, to a consumption level of 13.6 million toe. Nevertheless, sustainable consumption, certified and thus eligible for inclusion in European targets increased slightly by 1.1% to 11.8 Mtoe.

### 3 The emergence of certification schemes for biofuels

In practice, the long-term viability of biofuels has been addressed through a range of biofuel certification schemes, all purporting to ensure sustainability. Yet these schemes also seem to be driven by the need to regulate the current and potentially huge future trade in feedstocks and biofuels between industrialized economies (which have high potential excess demand for energy) and developing countries (which have recognized comparative advantages in biomass production and huge potential excess supply).

The RED sets out sustainability criteria for biofuels in its articles 17, 18 and 19. These criteria are, related to GHG gas savings, conservation of land with high biodiversity value, land with high carbon stock, and, only for agricultural production in EU, compliance with agro-environmental practices (See Annex 1).

The criteria apply to biofuels and bioliquids produced in the EU and to imported products. Only certified “sustainable” biofuels are eligible for tax benefits or may be counted against biofuel use mandates. The sustainability criteria should have been applied by 5 December 2010, the application date of the RED, but was actually implemented progressively throughout 2011 and early 2012.

According to the (RED), economic operators in the biomass and biofuel chain must demonstrate to their Member

States that the criteria have been met. This compliance effort may be carried out:

- either by providing the relevant national authority with data, in compliance with requirements that the MS has laid down (a “national system”), or
- by using a “voluntary scheme” that the European Commission has recognized for the purpose, or
- in accordance with the terms of a bilateral or multilateral agreement concluded by the European Union with non EU countries and which the European Commission has recognized for the purpose (EC, 2009). No such scheme has been implemented so far.

The option to rely on a standard developed by the European Committee for Standardization had been excluded when drafting the RED because there was no such standard available.

### 4 The reasons for creating 2BSvs

There was no public or private standard available in France in 2009 and no strong governmental commitment at that time to develop a national system. This was not a situation specific to France. Indeed, at the deadline for application (5 December 2010) most Member States’ rules for verifying compliance with the sustainability criteria, were not available to private operators. The RED was finally incorporated into French law in November 2011 and the national system launched in mid-2013.

Moreover, there was no provision in RED for an automatic equivalence between national systems. Whilst French biodiesel producers were importing up to 30% of their feedstock from foreign countries, at the same time ethanol producers were exporting 30% of their production to the EU.

Therefore back in 2009, a voluntary standard seemed to be the most convenient and flexible option for the private sector, because of the tight deadlines for compliance, the RED specified that national laws adopting the Directive should be implemented by 5th December 2010 and with the constraint to manage global procurement of raw material and EU sales of biofuels. Biofuels certified under a voluntary scheme recognized by the EC get automatic access to all EU markets.

The other pre-existing sustainability certification standards were not deemed suitable for the context of French agriculture.

Moreover, the analysis of the consortium of 2BS was that bringing domestic biodiesel and bioethanol supply chains together, the French biofuel industry already had a critical mass that justified the development of a specific voluntary scheme.

Another reason for a joint standard development is that the two supply chains have mostly the same biomass providers, *i.e.* crop producers in France.

By the end of 2009 2BS consortium decided to develop a voluntary scheme that complied with RED requirements.

The 2BS consortium groups together professional bodies representing the biofuels industry in France, including biodiesel and bioethanol. It includes the following organizations:

1. the General Association of Wheat and other cereal Producers (AGPB),

2. the General Association of Corn Producers (AGPM),
3. the General Confederation of Beetroot growers (CGB),
4. the French cereal cooperatives, (Métiers du Grain) (COOP de France),
5. the Federation of Agriculture Traders (FNA),
6. the National Union of Agricultural Alcohol Producers (SNPAA), and
7. the National federation of organisations dealing with oleaginous crops (ONIDOL).

## 5 Voluntary schemes (VS)

### 5.1 The most effective way to perform the biofuel value chain analysis

The 2BSvs case demonstrates how complementary public and private sectors are in the implementation of regulatory requirements.

The 2BS consortium analyzed how the voluntary standard option complies with RED as part of this process. The Commission defines “global” criteria that address the policy issue, but leaves some flexibility to the industry to tailor a standard that fits with commodity and supply chain specificities, especially concerning management and reporting requirements.

Apart from the obvious flexibility for the industry, another advantage of the voluntary scheme hereafter vs option is that it provides individual operators with the choice of the most appropriate standard amongst those available. It seems that the objective of the [EC] was to encourage a diversity of standards in the Union, and let competition pick the winners.

In fact the vs is the most practical way to perform the biofuel value chain analysis. Each vs is similar in structure, because they need to comply with the same RED sustainability requirements:

- Biomass supply chain: biomass producers, first collectors, gathering points, intermediate biomass suppliers.
- Biofuel conversion units and supply chain.

There are 17<sup>1</sup> approved (vs), a number that is manageable by the regulator and economic operators, while allowing some competition. Standards are competing and only those that offer the best value for customers will expand to encompass conventional and recent developments of 2nd generation biofuels.

<sup>1</sup> Between July 2011 and September 2014, 17 voluntary schemes have been recognized by the European Commission: 2BSvs, (ISCC), (Bonsucro EU), Round Table on Responsible Soy EU RED (RTRS EU RED), Round Table of Sustainable Biofuels RED (hereafter RSB EU RED), RBSA (Abengoa RED Bioenergy Sustainability Assurance), Greenenergy (Greenenergy Brazilian Bioethanol verification program), ENSUS (ENSUS Bioethanol Production), Red Tractor (Red Tractor Farm Assurance Combinable Crops & Sugar Beet Scheme), SQC (Scottish Quality Farm Assured Combinable Crops scheme), RedCert, NTA 8080, RSPO (Round Table on Sustainable Palm Oil RED), BIOGRACE CHG calculation tool and HVO (Renewable Diesel Scheme for verification of compliance with the RED sustainability criteria for biofuels, GAFTA Trade Assurance Scheme and KZR INIG System.

### 5.2 Mutual recognition between voluntary schemes

One of the drawbacks of voluntary schemes is that they are not fully interoperable, because some include extra requirements on environmental and social accountability and others may be raw product-specific (*e.g.*, sugar cane for Bonsucro, soy for RTRS, feed wheat for ENSUS or cover a wide range of feedstock).

Moreover, there is no provision for automatic equivalence between vs in RED. Standard owners have to agree to mutual recognition or to unilaterally recognize a scheme as equivalent; for example, ISCC-EU has been recognized as being equivalent by 2BSvs on 12/2011. However, this should not affect sustainable biofuel trade at the end of the chain, because they all respect the core RED criteria.

Harmonizing standards encourages inter-operability and facilitates trade. However, as those standards are private, although in reality virtually mandatory in order to do business in the European biofuel industry, comprehensive discussions and negotiations on compliance points may lead to suspicions that a cartel or monopoly is being created. This explains why standard setters are very cautious with regard to harmonization.

In the second quarter of 2014 with the aim to see what lessons could be learned to improve the way schemes work together in the supply chain, 2BS stated its view to ECOFYS<sup>2</sup> and IEEP<sup>3</sup> in charge of a compilation of recommendations to the European Commission:

*“When the interfaces of a biomass supply chain are certified by different voluntary schemes and they are all recognized by the EC, the next operator should take as granted the certificate and associated delivery documents supplied from the voluntary scheme from a downstream interface.”*

*“The vs certificate number would be the compliance record for the interface concerned.”*

*“In addition, economic operators would need to demonstrate to third party auditors, that they are not using 2 schemes at the same time for the same interface. In other words, sustainable material can only be put in one mass balance.”*

In the same context, the Association in charge of developing and managing the certification scheme 2BSvs (2BS) agrees with the ECOFYS recommendation of phasing out national level voluntary schemes once an approved voluntary scheme scope covers the country demand.

To conclude, gaining certification means you can prove the sustainable production of your biofuel and if the scheme is also EC approved, it permits you to operate within the EU as the biofuels you produce or supply can count towards the EU RED renewable energy targets for member states.

## 6 2BSvs

### 6.1 Scope

Feedstock type: wide range of feedstocks (refers to those raw materials used to make ethanol, biodiesel and biogas).

<sup>2</sup> Ecofys is a leading consultancy in renewable energy, energy and carbon efficiency, energy systems and markets and energy and climate policy.

<sup>3</sup> Institute for European Environmental Policy.



Some examples of feedstock included in the voluntary scheme: sugar beet, wheat, corn, sugarcane, grape marc and wine lees, rapeseed, sunflower, soybeans, palm, grasses, waste vegetable oil, wastes and residues).

Feedstock origin and Biofuel Production geography: global (non-EU (9) and European Countries (13)).

Extent of supply chain covered: full supply chain 2BSvs covers the whole biofuel industry's supply chain, from biomass producer (farmers) to the final biofuel traders – covering production and trading of the raw materials through processing all the way to biofuel production.

Extent of international coverage: 22 countries.

Full compliance with RED articles:

- 17(2): GHG through Default or actual value,
- 17(3): High biodiversity value land except 17(3)(c), pending an official definition of “high biodiversity grassland” by the European Commission (2BS, 2012a),
- 17(4): High Carbon Stock,
- 17(4): Peatlands,
- 17(5): Mass Balance Systems.

As regards the requirements for good agricultural and environmental conditions under the common agricultural policy, it is the responsibility of the MS to cover and monitor on their territory all farmers that supply raw material for biofuels/bioliquids. Therefore, the standard “2BSvs-STD-01” only includes recommendations to first gathering entities, for example, that they should train suppliers on practices compliant with European legislation and inform them about changes in legislation.

Other recommendations concern soil, water and air protection and social accountability, *i.e.* reporting whether the country of origin for the import of raw material has ratified and implemented the applicable International Labour Organisation conventions. As both criteria are not a requirement for first gathering entities in RED, they are only suggested in the standard.

The motivations for setting sustainability criteria are explicitly laid down in RED, particularly in recitals 69 to 88 (EC, 2009): Therefore, it is mainly the environmental dimension of sustainable development that is promoted by the EU rules.

## 6.2 Profile

The development of the certification scheme (2BSvs) was initially financed by the industry represented in the 2BS consortium. The operations of 2BSvs are financed by fees paid by customers and certification bodies.

2BSvs was one the first seven voluntary schemes recognised by the EC in July 2011.

From a conceptual point of view 2BS consortium decided to develop and maintain a pragmatic cost-effective scheme that adheres to RED requirements, promoting the development of biofuels and bioliquids that result in significant GHG emission savings compared with fossil fuel, while making sure that conversion to agriculture is not harming land biodiversity and land

with high carbon stock worldwide. The scheme's key elements are:

1. no extra criteria not in RED,
2. the lowest burden for economic operators,
3. well-adapted to the domestic supply chain organization,
4. credible management information systems, accredited certification bodies and qualified auditors,
5. available to all value chain members in the world, in order to increase further the scope of the standard.

640 certificates have been delivered to economic operators in France (475) and in several other countries. Today, all French biodiesel producers and most ethanol producers are 2BSvs certified.

France represents about one third of total EU biofuels production, with biodiesel (2 Mt) and bioethanol (1 Mt).

The voluntary scheme 2BSvs is one of the most widely used vs in the EU which is compliant with RED criteria.

As far as the biomass supply chain is concerned, the 2BS certificate is granted to first gathering entities, processing units and biofuel traders, not to “individual farmers”. Therefore the first gathering entity acts as a group manager, operating as a central office with management and monitoring responsibility concerning the requirements to be fulfilled by the farmers as specified in the standard “2BSvs-STD-01”.

In the biomass supply chain first gathering entities, traders taking the ownership of the biomass, biofuel conversion units and intermediate biofuel suppliers all have to develop and document a mass balance system. Contrary to full segregation, with a mass balance system it is possible to blend material with different sustainability characteristics during processing, transport and storage, provided that movements of mixed products are documented, and that there is no more “sustainable” product leaving the system than product entering. In other words, organizations cannot sell more sustainable product than they purchase.

To make sure that at any point in time the credits withdrawn do not exceed the material added, a credit account system has been designed to monitor the positive credits of sustainable quantities of biomass and biofuel sold.

According to standard “2BSvs-STD-01”, first gathering entities are required to keep records and centralize information on inputs and outputs (*e.g.* type of feedstock, volume, sustainability characteristics, *etc.*). They have to implement procedures, to register sustainable biomass in a credit account, and ensure that sustainability claims on product sold are backed by available credit in their system.

Similar requirements for mass balance apply to downstream operators. For these operators, the standard “2BSvs-STD-02” also contains provisions on GHG emission savings and requires an internal management and monitoring system, as for first gathering entities, certified according to “2BSvs-STD-01”.

The technical standards and interpretation and guidance documents are available to the public on the dedicated 2BS internet site: [www.2bsvs.org](http://www.2bsvs.org).

2BS] services have been built on a solid foundation of technical and business understanding across the biomass and biofuel sectors in which the 2BS consortium work, set in the wider energy context.

For very specific cutting-edge technical knowledge, 2BS draw on a network of industry experts and research centers with whom 2BS collaborates on a regular basis.

### 6.3 Governance and management

#### 6.3.1 The drafting period

The 2BS consortium, was founded in April 2010 to create and manage the scheme and the first draft of 2BSvs Biomass Biofuels Sustainability voluntary scheme was issued in July 2010.

During the RED drafting process, there were frequent meetings between the French biodiesel and bioethanol industry stakeholders. French and EU administration representatives were regularly informed and consulted throughout the drafting process.

The consulting branch of Bureau Veritas (Technical Advisor) were selected via a competitive tendering process, with the mission to draft the two technical standards, “2BSvs-STD-01” and 2BSvs-STD-02”, based on the input of a working party involving representatives of the founding members and external experts. The other mission of the Technical Advisor was to develop the governance of the scheme; indeed the standard for governance is an integral part of the submission to the EC.

The EC, in July 2011, recognized 2BSv.

#### 6.3.2 The fast growth period

In September 2012, the 2BS consortium delegated to the 2BS (founded by the same members as the 2BS Consortium) the management of the scheme and of all issues and possible problems with the implementation of the 2BSv, whether the issue arose in the EU or in a non-EU country.

In a context, where vs are competing and evolving, by the end of 2012 the founding members of 2BS wished to evaluate the issues and know the options and possible outcomes for 2BSvs. A strategic study finalized in April 2013 led to decisions to focus on quality and to strengthen the governance of the scheme with a clear intention of providing 2BS with some permanently allocated staff.

From September 2012 to December 2013, 2BS and the Technical Advisor were managing the scheme in a regularly expanding market up to the third quarter of 2013.

#### 6.3.3 The consolidation period

A Secretary General was appointed in December 2013 to deal with the daily management and the interaction with interested parties of the scheme: clients, certification bodies and auditors, technical advisors, suppliers, public administration, NGO's, and the European Commission.

In addition and in line with the conclusions of the 2013 strategic review, 2BS will liaise with the EC, leading to a set of actions, to update and qualify 2BSvs for the period 2016–2021.

Drawing on the experiences gained within the audit activity carried out in the first few years, monitored by regular biannual meetings with certification bodies (CBs), 2BS and the 2BS consortium, a new step towards the harmonization of interpretation of standard requirements has been initiated on the basis of audit package reviews, 4 times a year by the Technical Advisor. The sampling of files to be reviewed is risk oriented (origin and kind of feedstock). Eight to ten files are reviewed each time. The monitoring process generates recommendations which lead to better control and improve the management systems of both entities: CBs and 2BS.

Additionally from September 2014 onwards, a third party entity audits each CB every two years. The scope of these audits encompasses the principles of auditing<sup>4</sup> the management of the 2BSvs audit programs, the way audits are performed on site, and how the competence of auditors is evaluated, while auditing against 2BSvs criteria. These audits are supported fully by 2BS. It is our firm belief that this is valuable and in line with the profile of the certification scheme: reliable, objective and efficient.

In short, 2BSvs should provide credible verification and clearly add value in addressing the user's supply chain risk needs.

#### 6.3.4 Milestones

##### 6.3.4.1 Calculation methodology for greenhouse gases (GHG)

In March 2013, the EC approved the method of calculating GHG emissions developed by 2BS. The purpose of this investment was to provide economic operators who have chosen the 2BSvs, with a reliable framework to assess compliance with GHG emission savings targets for the use of biofuels/bioliquids as set out in article 17 – paragraph 2 of the RED.

In July 2014, the calculation tools, which have been available since 2013 following the approval of the methodology by the EC, were updated. The calculation tools have incorporated the improvements arising from user “feedback” and general contextual changes one year after their introduction. Step-by-step forms show in a very clear and simple way the equation given by RED (Appendix V) regarding the calculation of GHG emissions resulting from the production and use of transport fuels, biofuels and bioliquids.

The following pathways are available:

1. bioethanol from sugar beet,
2. bioethanol from corn,
3. bioethanol from wheat,
4. bioethanol from grape marc and wine lees,
5. biodiesel from rape seed,
6. biodiesel from sunflower,
7. biodiesel from soy bean,
8. biodiesel from palm oil.

<sup>4</sup> Integrity (the foundation of professionalism), fair presentation (the obligation to report truthfully and accurately, due professional care (the application of diligence and judgement in auditing), confidentiality (security of information) independence (the basis for the impartiality of the audit and objectivity of the audit conclusions).

The tools and operating instructions are available in the reserved area to economic operators on the internet site of 2BS, [www.2bsvs.org](http://www.2bsvs.org).

An updated list of third party auditors qualified to specifically audit actual and default GHG measurements is available on the internet site of 2BS. Training sessions may be organized at the request of economic operators.

The reliability and objectivity of GHG measurements is a key factor in reassuring the different players throughout the supply chain, the biofuel market in general and the public authorities.

#### 6.3.4.2 Land use – high resolution mapping tool

In December 2013, 2BS acquired a geographical tool which provides high-resolution satellite images to give a clear picture of land use by farmers, or in other words, the geographic position record including the area and the cultivated crop type (farmer GPR).

This tool is specific 2BS software, whose main feature is to compare the farmer GPR with the environmental zoning layers, such as Natura 2000, biotope protected areas, *etc.* and the January 2008 land use of the same agricultural parcels. The detail is printed off as an output record of the screening comparison. It highlights the following crop conditions: “sustainable”, “sustainable under conditions” and “non-sustainable”. The farmer self-declaration record is then printed off.

This software tool is available at the first gathering entity, the head of the certification unit. This tool is currently only available for use in France.

The use of the geographic system is not compulsory, as 2BS believes that the quality of the service will be the best incentive for a mass deployment of the tool. One of the major benefits is the production of reliable records while increasing the efficiency of the screening process and verification of compliance. The job of internal auditors, 2BS clients and third party auditors belonging to the different certification bodies is made easier, which is consistent with the aim of 2BSvs.

#### 6.3.4.3 Certification bodies

2BS have endorsed regional and global networking CB' to respond to the requests of its clients.

Independent, unbiased, professional and authorized assessments are the key elements 2BS take into consideration when evaluating and endorsing a new certification body (CB).

CB performing audits and certification of 2BSvs shall be accredited according to the following standards: ISO 17021:2011 and 19011:2011. In addition they must comply with 2BS requirements defined in the procedure for the verification process of the scheme.

ISO 17021:2011 specifies the requirements for bodies providing audits and certification of a management system of an organization, such as quality, environment, or a specific vs scheme, as 2BSvs.

ISO 19011:2011 provides guidance on auditing management systems, including the principles of auditing, managing

an audit program and conducting management system audits, as well as guidance on the evaluation of competence of individuals involved in the audit process, including the person managing the audit program, auditors and audit teams.

The conformity assessments of CB' certification activities are carried out by:

- COFRAC audit, according to ISO 17021:2011 and 19011:2011 every year,
- 2BSvs audit package reviews, according to scheme procedures, 4 times a year by the (2BS) Technical Advisor,
- Evalianz (independent third party audit), against 2BSvs procedures, combined with ISO 17021 and ISO 19011 specific requirements, every two years.

An up to date list of recognized (CBs) is available on the (2BS) internet site.

#### 6.3.4.4 Highly biodiverse grassland definition

The proposal for the draft Regulation on defining the criteria and geographic ranges of highly biodiverse grassland has been available to the public since July 2014. This draft expected since 2010, shows that comprehensive information on geographic ranges of highly biodiverse grasslands is not available at an international level.

Therefore, this regulation provides geographic ranges only for those highly biodiverse grasslands for which information is already available. This draft is currently under scrutiny by the Council and the European Parliament. The Commission can adopt the draft only if the Council and Parliament have no objections. It is likely that there will be no objections from the Council and the European Parliament and the text should come into force on 1 October 2015.

Concerning the land criteria, any conversion of permanent or temporary grassland for more than 5 years is not recommended in the 2BSvs. This recommendation was initially specified in September 2012 in the guideline “2BSvs-INS-02-STD1” as the land use change generates GHG emissions which are too great and will not come within the limits for reduction of GHG emissions.

The add-in of the highly biodiverse grassland definition should therefore not have any practical consequences for the users of 2BSvs.

The exact location of the biomass cultivation is documented in the 2BSvs high resolution mapping tool. Permanent and temporary grassland for more than 5 years are set as “non-sustainable’ areas.

#### 6.3.4.5 Communication

With the objective of openly and clearly sharing knowledge with customers, auditors, and other interested parties, and of fine-tuning interpretations throughout the certification process, the 2BS website contains the following information in French and English:

- Public
  - Presentation of the scheme.



- Main concepts and notions in 2BSVs.
- The European Union Regulatory Framework.
- Identification of the 2BS Consortium.
- Management Organization.
- 2BSVs consortium fees.
- Scheme requirements, documents and records.
- Register of voluntary schemes recognized under the "Meta-standard" approach.
- Certified operators, suspended, cancelled and merged certificates.
- Nabisy system access.
- List of endorsed Certification Bodies.
- List of qualified auditors.
- News.
- Link to reserved area.
- Link to the geographical tool system with high-resolution satellite images.
- Reserved for / Restricted to members
  - GHG calculators (wheat, sunflower, palm oil, rapeseed, sugar beet, soy bean and grape marc and wine dregs.
  - Interpretation guidelines.
  - Change alerts.

#### 6.3.4.6 Continuous improvement

The core elements of the 2BS biofuel sustainability programme are reviewed at regular intervals and/or as required, in order to identify improvements which enhance the quality, the reliability and the sustainability of the brand "2BSVs".

The audit activity, the auditor and the back office training, the accreditation and certification protocol, the procedures and guidelines, the governance tools, and the respect of the RED requirements are the core elements upon which the 2BSVs relies to perform the biofuel value chain analysis.

#### Annex 1 - The EU Renewable energy directive (RED)

The EU introduced legislation to promote electricity produced from renewable energy sources in 2001 and to promote biofuels and other renewable fuels for transport in 2003. It adopted further provisions in 2009 enforcing mandatory targets of a 20% share of energy from renewable sources in overall EU energy consumption and a 10% minimum target for the share of renewable energy (including biofuels in transport by 2020). The 2009 renewable energy directive (RED) covers all types of energy from renewable non-fossil sources: wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, gas from sewage treatment plants and biogases. In addition, it establishes sustainability criteria for biofuels and bioliquids (liquid fuel for energy purposes other than transport), irrespective of whether the raw materials were grown inside or outside the territory of the Union.

Member States are required to meet varying national targets of energy from renewable sources so as to contribute to an overall EU consumption target of 20% by 2020. In parallel, each Member State has to ensure by 2020 that the domestic energy consumption in transport is supplied at least

10% by renewable energy. Member States have established national renewable energy action plans, so as to facilitate among other things the transfer of energy from renewable sources between countries that expect excess production and countries with insufficient production.

The primary sustainability criterion in the Directive is a GHG emission saving compared with fossil fuel of at least 35%, brought to 50% from 2017 onwards and to 60% from 2018 onwards for biofuels produced in newly launched installations. This is the only criterion that biofuels produced from waste and residues must meet. For other biofuels, additional criteria relate to the protection of land biodiversity and the preservation of land with high carbon stock. Raw materials used to produce biofuels should not be obtained from land that had a high biodiversity value in January 2008, including: (a) primary forest and other wooded land hosting native species and ecological processes not significantly disturbed; (b) areas designated for nature protection purposes, or for the protection of rare, threatened or endangered ecosystems or species, unless evidence is provided that their production does not interfere with these purposes; (c) highly biodiverse grasslands. Furthermore, raw materials used to produce biofuels should not be obtained from land that had high carbon stocks in January 2008, including wetlands and continuously forested areas with significant canopy cover, or from peatland, unless evidence is provided that the cultivation and harvesting does not involve drainage of previously undrained soil.

Agricultural raw materials cultivated in the EU and used to produce biofuels should also comply with EU environmental requirements for agriculture. Although such criteria do not apply to imports from third countries, under the Directive the EU is to encourage the development of multilateral and bilateral agreements and voluntary international or national schemes that cover key environmental and social considerations, in order to promote the production of biofuels and bioliquids worldwide in a sustainable manner. Only biofuels that comply with sustainability criteria count against biofuels targets and renewable-energy obligations, and are eligible for financial support for the consumption of biofuels and bioliquids.

In order to demonstrate compliance with the sustainability criteria, the Directive advocates the use of a mass balance system, whereby consignments of raw material or biofuel with differing sustainability characteristics can be mixed, the resulting mixture considered to have the same sustainability characteristics as the sum of all consignments added in the mixture. Other verification methods can be contemplated in the future, provided they maintain the effectiveness and integrity of the verification system without imposing an unreasonable burden on industry. Economic operators are required to submit information on their compliance with sustainability criteria. In so far as additional environmental and social aspects are concerned (including those relating to soil, water and air protection; the restoration of degraded land; the avoidance of excessive water consumption in areas where water is scarce; and social aspects as set out in the Directive) economic operators must indicate whether the consignment has been certified or accepted as fulfilling the requirements of a voluntary scheme that has been recognised by the Commission as containing accurate data on those



issues, both for biofuels produced in the EU and for imported ones. They should arrange for independent auditing of the submitted information and provide evidence that this has been done. Data contained in voluntary national or international schemes setting standards for the production of biomass products or for measuring GHG savings could be used for these information-provision purposes, if they are judged accurate by the Commission following review of the schemes' reliability, objectivity, transparency and independent auditing.

Source: Moisé and Steenblik (2011).

## References

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