



PROGRESS OF SUSTAINABILITY CERTIFICATION IN ARGENTINA

Argentina Case

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Introduction

The Global Bio Pact Project was created to further the development and harmonization of global sustainability certification systems for biomass production and conversion systems. Emphasis is made on a detailed assessment of the socio-economic impacts of raw material production as well as the impact of biomass production on food security and the interrelationship of global sustainability certification systems with the international trade of biomass and bioproducts.

It is within the framework of the Global Bio Pact Project that this report is prepared. The objective of the following report is to study and analyze the progress of sustainability certification of biofuels in Argentina.

As it will be explained, the publication of the European Renewable Energy Directive (EU RED 2009/28/EC), and its imminent implementation by European Union members has greatly influenced the increase in sustainability certification in the country.

The EU RED set forth minimum requirements to consider biomass and biofuels as sustainable. Later on, those requirements were adopted, and in some cases, complemented by different independent verification systems. Once those schemes were officially recognized by the European Commission, there was no doubt that companies had to certify the sustainability of their production if they wanted to keep the European Union as a market.

This study aims to analyze what happened during 2011 and 2012 so far with respect to sustainability certification in Argentina.

Overview of Argentina's Biodiesel Industry

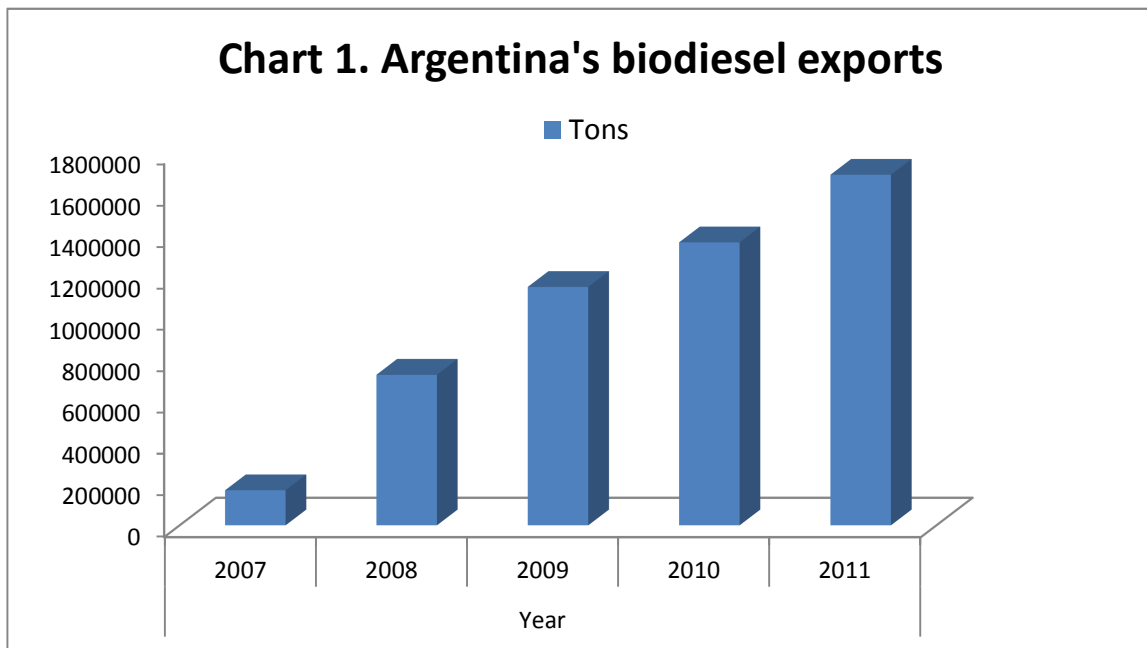
The country's biodiesel industry has developed for five years now. The first commercial biodiesel plants were officially inaugurated in 2007. Now, there are 28 operating plants with an installed capacity of nearly 3 million metric tons per year. Further, according to the Argentine Chamber of Biofuels (CARBIO, as it is known in Spanish), production is expected to increase up to almost 4 million metric tons per year by 2013.

Multinational companies like Bunge, Cargill, Louis Dreyfus and Glencore have all invested in biodiesel plants, joined by a number of local companies like Aceitera General Deheza (AGD), Molinos Rio de la Plata and Vicentin. All of these companies, either jointly or independently have integrated their biodiesel production with already existing soybean crushing mills. They took advantage of an efficient industrial complex, with big production plants, access to water transport and a soybean production of nearly 50 million tones which provided more than sufficient raw material.

There are other relevant players in the market. Companies that considered Argentina's stand as world's first soy oil exporter and decided to buy their raw material directly from the market. These independent projects are headed by Explora, Patagonia Bioenergia, Unitec Bio and Viluco. They are all stand-alone biodiesel plants.

There are a number of smaller biodiesel projects, with plants ranging from 10.000 to 30.000 tons per year, but since all of them are focused on supplying the domestic market, they are not relevant to this study. Since for the time being, sustainability certification requirements are only relevant for the European market, this study will make emphasis on aforementioned companies dedicated to the export market.

Carbio informs that during 2011, the country exported 1.69 million tons of biodiesel, up from 1.36 million tons in 2010. A 99.58% of those exports belong to Carbio Member Companies and, with the exception of a small amount destined for Peru, the European Union was the main destination. Chart 1 below further describes the industry's rapid growth since 2007.



Sustainability Certification Schemes

The European Commission officially recognized seven sustainability certification schemes last July 19, 2011. Those schemes were considered to comply in full, or at least partially, with requirements set forth in the EU RED.

However, not all approved schemes are suitable for the Argentine market. For instance, Bonsucro and Greenergy Brazilian Bioethanol can be ruled out for being specific for sugarcane ethanol (the latter is even specific for suppliers of Greenergy). Further, Abengoa RBSA was also developed by

the Spanish company to assist its suppliers willing to comply with European sustainability requirements, so it can also be left out of this study.

That leaves us with only four suitable sustainability certification schemes: RSB (Roundtable for Sustainable Biofuels), RTRS (Roundtable for Responsible Soybean), 2BSvs (Biomass Biofuels Voluntary Scheme) and ISCC (International Sustainability and Carbon Certification).

From an initial analysis, it can be stated that despite big or small differences in criteria, most of these verification systems have been adopted by the Argentine market. As it will be described later on, Argentine producers, be it farmers, oil mills or biodiesel plants; have advanced on obtaining a certificate for either one of the currently recognized schemes. In some cases they even certified more than one scheme at a time. However, this was not the case for RSB.

Even though an initial pilot audit was performed with a big farmer, no official certificates were issued, nor were results published under the RSB verification system. Therefore, this scheme will also be left out of this study as it has yet to have a tangible influence in Argentina's market.

So, going back to the three remaining certification schemes, the following Table 1 helps to understand the different characteristics of each system.

Table 1. Comparison of sustainability requirements between the schemes.

	RTRS	ISCC	2BSvs
Products	Soybean	Biomass + Biofuels in general	Biomass + Biofuels in general
Geographic focus	Global	Global	Global
Validity of Certificate	5 years	1 year	5 years
Annual audits	Yes	Yes	Yes
Field audits	Yes	Yes	No (compliance through documents and images)
Legal Obligations	Application of current legislation	Application of current legislation	Not required
	Documented Land Use	Documented Land Use	
	Continuous improvements	Continuous improvements	

Labor Requirements	Decent, healthy and safe labor conditions	Decent, healthy and safe labor conditions	Not required (Principle 8 is only a recommendation)
	Application of current labor legislation (wages and labor rights)	Application of current labor legislation (wages and labor rights)	
	No forced child labor nor slavery	No forced child labor nor slavery	
	Information and work training	Information and work training	
Social/Community Requirements	Respect and dialogue with traditional/local communities	Respect and dialogue with traditional/local communities	Not required (Principle 8 is only a recommendation)
	Application of claims and complaints procedure	Application of claims and complaints procedure	
	Resolution of land use conflict at time of audit	Resolution of land use conflict at time of audit	
	Employment and hiring benefits for local community	Not required	
Environmental Requirements	Minimization of negative environmental effects (infrastructure, emissions, waste)	Minimization of negative environmental effects (infrastructure, emissions, waste)	Not required. Principle 7 is worded as a recommendation and is indicative only
	GHG emission reduction	GHG emission reduction	

	Production should not come from high biodiversity areas and/or high carbon stock areas, but there are different criteria to identify those areas	Production should not come from high biodiversity areas and/or high carbon stock areas, but there are different criteria to identify those areas	Production should not come from high biodiversity areas and/or high carbon stock areas, but there are different criteria to identify those areas
	GAP with different depth levels	GAP with different depth levels	Not required
Approved by EU	Yes	Yes	Yes
Chain of custody	Preserved Identity, segregation or mass balance	Preserved Identity, segregation or mass balance	Mass Balance
Mass balance period	EU RED (3 months)	3 months	1 month, no deficits allowed
Certificates issued	16 Globally and for all modules	1138 (Globally)	471 (Globally)
Fees/Costs	Audit cost + 0.3 Euro/Tons of soybeans	Audit cost + Euro 0.02/tons or Euro 0.03/tons per (liquid biomass or biodiesel) sold + Registration cost + cert cost	Audit cost + FGP Euro 500/year or Conversion unit: Euro 500 to 4.000 according to volume or Traders / Export Euro 3.000
Certification bodies	6	16	7

The information referenced to above has been taken out from the schemes' technical documents and websites.

Before going into detail of what companies have certified which scheme, it should be noted that information is only available in terms of certificates issued. This has no exact relation to the volumes of certified product that can be traded. Companies certified different elements of the distribution chain. An oil mill, a biodiesel plant can receive a certificate, but only as long as it receives certified raw material, it can produce and sell certified soy oil or biodiesel.

Further, there is no way to really know how much certified raw material or even farmers are there. Only in the case of RTRS, which publishes the volumes of certified soybean, a slightest idea can be reached. In the case of ISCC or 2BSvs, farmers are gathered behind a “Central Office” or “First Gathering Plant”. This means that the certificate is under the name of the company owning the FGP, the amount of farmers or even their names are not published.

Also, as it will be described later on, a company may choose to certify under more than one scheme, creating the situation of one player being responsible for more than one certificate. Another issue to take into account is that in the case of RTRS and ISCC, if a company has more than one location, each one of them has to be audited and receive a certificate (if they wish to participate, of course). For example, Molinos Río de la Plata has its crushing mill in San Lorenzo and its biodiesel plant in Rosario. Even though they are only 30 km away, each one will receive its own certificate.

Hence, for the purpose of efficiently analyzing progress made by sustainability certification in the country, each scheme under study will be considered with respect to the number of certificates issued, the relevant element of the production chain and the name of the company.

The following paragraphs describe the specific situation of each verification system object of this report.

RTRS

As of April 2012, RTRS has issued 16 certificates at a global level. Specifically in Argentina, 9 certificates have been issued between 2011 and 2012. The situation of the Roundtable for Responsible Soybean however, should be considered taking into account that the scheme has different verification “Modules”. A soybean farmer can certify his production but it might not necessarily be taken into account for the production of biodiesel.

In most cases, agricultural producers have certified their soybean production using the “book & claim” module. This procedure means that the producer will receive “credits” for the volume of certified soy which can later on be traded independently from the beans. This technique has not been approved by the EU RED. This is why the European Commission has only recognized the EU-RED Module.

So far, one of the main drivers behind RTRS success has been soy meal buyers in Europe, especially The Netherlands. They would support the implementation and certification process and later on buy “credits” from them, without any physical transfer of product.

On the other hand, there are companies that certified their chain of custody in accordance with the EU-RED Module in Argentina. Both Molinos Río de la Plata and AGD have certified all their production facilities (including Terminal 6, a joint venture between AGD and Bunge).

Certificates issued for responsible production of soybeans under this scheme belong to:

- AGD S.A. for 14.209,5 hectares and audited by Peterson Control Union Argentina
- Adeco Agropecuaria S.A. for 9.501 hectares and audited by Peterson Control Union Argentina
- Caldenes S.A. for 9.835 hectares and audited by SGS Argentina
- Grupo Lucci (Viluco S.A.) for 13.041 hectares and audited by SGS Argentina
- Los Grobo for 20.893 hectares and audited by Peterson Control Union Argentina

All certificates were issued during the course of 2011. But considering that the RTRS certificate is valid for 5 years and every year there is an annual inspection, it can be expected that these companies continue to maintain the same amount of certified hectares, and even increase their certified production during 2012 and coming years. In a way, this means that less “new” certificates will be published in comparison to other systems for which the certificate is valid for only one year.

On the other hand, it should be taken into account that RTRS has a Progressive Entry procedure that allows farmers to plan implementation of systems requirement throughout the 5 year period that the certificate is valid. This means that the initial audit will be somewhat simpler than the revision audit for year 3 or 5. It is required, however, that farmers comply with 100% of the criteria at the end of the validity period. It is still uncertain what will happen in the next few years when producers have to comply with a larger amount of requirements.

ISCC

As of April 2012, ISCC issued 1138 certificates at a global level. Specifically, 12 of those belong to companies in Argentina. Although it is expected that at least 7 new certificates will be issued in the next month, as successful audits were performed recently at different conversion units. Moreover, as it was mentioned before, certificates under ISCC are valid for a period of 1 year. Thus, unless there is a big change in trends, this number might duplicate by next year, as all companies will be renewing their certificates.

Companies already certified under ISCC are:

- Molinos Rio de la Plata with two certificates, one for its oil mill in San Lorenzo and another for its biodiesel plant in Rosario audited by TUV Rheinland and ASG, both from Germany
- Los Grobo Agropecuaria S.A. as a farmer audited by Peterson Control Union
- Aceitera General Deheza S.A. as an oil mill audited by Peterson Control Union
- Aceitera Chabas as an oil mill (owned by AGD) audited by Peterson Control Union

- T6 Industrial S.A. as an oil mill and biodiesel plant. Since both conversion units are located on the same site and share the same legal entity, only one certificate was issued (joint venture between AGD and Bunge Argentina) audited by Peterson Control Union
- Oleaginosa Moreno Hermanos S.A. (owned by Glencore) has four certificates, two for its oil mills in Gral. Villegas and Daireaux, one for a gathering plant in Gral. Pico and one as a first gathering plant for its offices in Bahia Blanca audited by Peterson Control Union, with the exception of the FGP, which was audited by SGS Germany
- Vicentin SAIC as a biodiesel plant for its conversion unit in Avellaneda, Province of Santa Fe, audited by Peterson Control Union
- Explora S.A. as a biodiesel plant audited by Peterson Control Union

It should be noted that ISCC has a certain advantage over other certification systems due to the fact that it has been under operation for a longer period (it was officially approved by the German Government in January 2010), it was created to cover all types of biomass and biofuels (expanding its market to PME, SME, RME, sugar cane ethanol, etc.) and, more recently, it officially recognizes certificates from other schemes approved by the European Commission. This means that, for example, an oil mill may receive sustainable soybeans certified under RTRS or 2BSvs.

Further, ISCC provides a comprehensible greenhouse gas emissions calculation methodology and establishes a period of three months for mass balance calculation. During this period, companies may have certain flexibility with their inventories, as long as by the end of the mass balance period, mass balance calculation shows that they have not sold more sustainable product than the amount of sustainable raw material they have received. Both these items contrast with requirements set forth by 2BSvs system. As was described in Table 1, the latter does not allow deficits in the mass balance and does not recognize so far a GHG calculation methodology, therefore companies can only make use of the Grandfathering clause until April, 2013.

Another reason why this scheme might be expected to continue growing in the market is the fact that they have recently launched what they call "ISCC Plus". This new system aims to work as an extension of the ISCC and cover food, feed, chemical and plastics production along the supply chain. So far, the system is under public consultation until end of May 2012, but it is expected to move ahead from then on.

2BSvs

The French scheme, as it is commonly known due to the fact that it was developed by a French consortium has issued 471 certificates up to date; of which, 7 certificates belong to companies from Argentina.

As it will be described further on, most companies in Argentina obtain a certificate as a First Gathering Plant. Since this system does not necessarily require farm site audits for the time being, companies can demonstrate compliance with the sustainability requirements through carefully gathered documentation, satellite images, etc. In a way, this issue greatly facilitates the process of obtaining sustainable raw material. As it will be further explained, one of the main challenges for biodiesel producers, and even oil mills, is to obtain certified sustainable raw material.

The scheme classifies certificates in accordance to the specific standard use. Standard 01 (Std 01) is used for the verification of biomass production, while Standard 02 (Std 02) is used for the mass balance system (conversion units, traders, gathering plants outside the FGP).

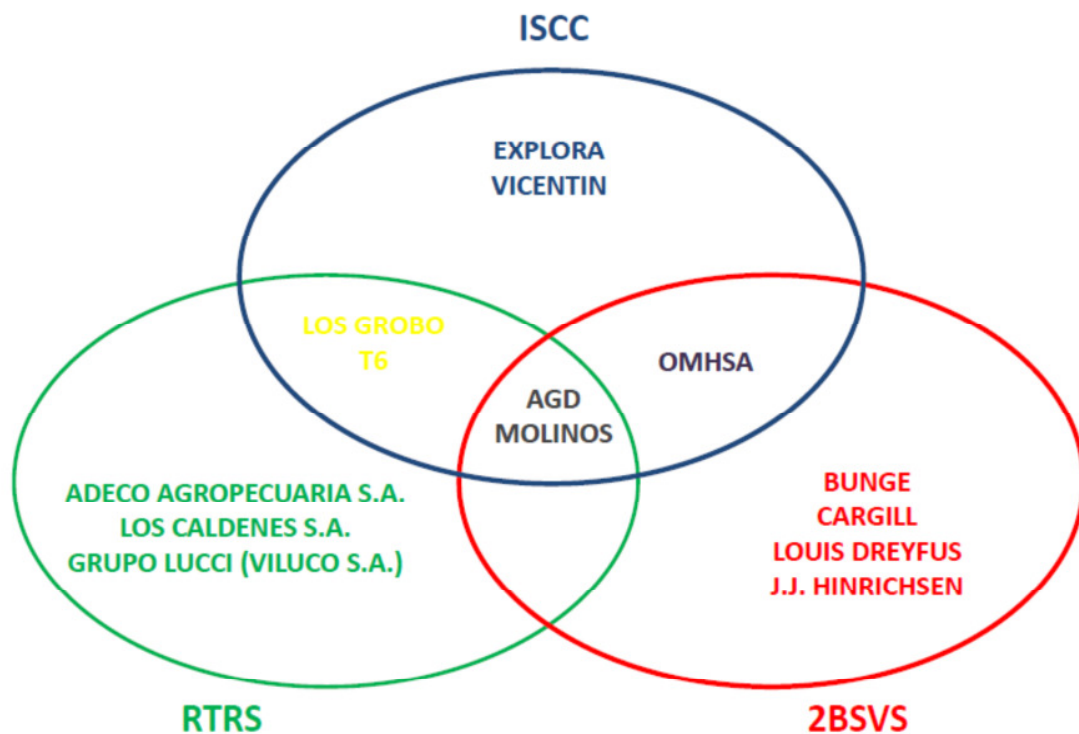
Companies already certified under 2BSvs are:

- Cargill SACI as Std. 01 and 02, audited by Bureau Veritas Argentina
- Louis Dreyfus Company as Std. 01 and 02, audited by Bureau Veritas Argentina
- Molinos Rio de la Plata as Std. 01, audited by Peterson Control Union
- J.J. Hinrichsen as Std. 01, audited by Peterson Control Union
- Oleaginosa Moreno Hnos. as Std. 01, audited by Peterson Control Union
- Bunge Argentina S.A. as Std. 01, audited by Peterson Control Union
- Aceitera General Deheza S.A. as Std. 01, audited by Peterson Control Union

Once again, it is not possible to determine with this information, the volume of certified soybeans. Any company that obtained a 2BSvs certificate under Std. 01 may keep increasing the number of producers considered sustainable after the audit. The certificate acts as an “umbrella” and the audit consist of demonstration that the procedure outlined to include farmers and to assign them a risk factor is in compliance with the requirements of the scheme. After this has been demonstrated, the FGP may continue to add new farmers to the group, always following the appropriate procedures.

As the description of companies certified under each scheme has shown, several companies decided to show their support to one or more certification systems. Therefore, Diagram 1 below shows how these situations interact among themselves:

Diagram 1. Certification systems used by each company



Experiences with Certification

Now that a general outlined of the status of sustainability certification in Argentina has been presented, a more detailed description of what entails to certify is necessary. However, considering that the schemes have relatively similar requirements and in order to avoid unnecessary repetitions, it is proposed to outline this section taking into account the focus of the audit, instead of the relevant verification scheme.

Hence, experiences can be classified as to whether the focus of the audit is: (i) sustainability (required for farmers); (ii) traceability and mass balance (other elements of the supply chain); or (iii) greenhouse gas emissions calculations (relevant for all elements of the supply chain).

Sustainability Requirements

It is common ground for all schemes that sustainability certification actually starts at farm level. Without sustainable raw material, there is no sustainable end product; and even though all certification schemes have traceability and GHG calculation requirements, the term “sustainable” is used for agricultural production.

The main requirement set forth in the RED and implemented by all schemes is to demonstrate that the land where the biomass is produced was under agricultural use before January 1st, 2008 (known as the cut-off date). Land use change from high biodiversity, high conservation value and high carbon stock areas is not allowed.

In theory, this shouldn't be a problem for Argentine producers, as main production area has been under agricultural production for decades. However, general knowledge is not enough. Farmers have to come up with objective proof. Satellite images are a good tool, but not always available nor free of charge. So, if they have to pay for those images, the cost of certification starts to add up.

They can also make use of other tools, like yield maps with gps information, soil analysis, independent official reports, like from the Secretary of Agriculture or Environment. All these options are useful; farmers just have to consider what they have at hand.

So far, this requirement is common to all schemes under use, so all farmers should have to demonstrate compliance. Now, as was seen previously, ISCC and RTRS also include requirements related to good agricultural practices, good management practices, social and labor criteria. With small exceptions, both schemes have very similar criteria. Maybe the biggest difference lies in the fact that for RTRS, all requirements are mandatory by year 5 (there's a Progressive Entry for Producers which allows for increasing partial compliance with each annual audit). ISCC, on the other hand, classifies requirements between "major musts" and "minor musts"; all major musts should be complied with, but compliance with a minimum of 60% of minor musts allows for obtaining a certificate. This means that there may be a number of requirements, considered minor that can be left out of implementation forever, without affecting the possibility of obtaining a certificate.

Nevertheless, difficult issues to be taken into account when aiming for certification of either scheme are mainly the same and can be summarized as follows:

- Information of relevant fields/farms:
 - Geographic location with GPS information
 - Hectares
 - Proof that land was under agricultural use before January 2008
 - Identification of natural water courses surrounding or within the fields, natural protected areas
 - Deeds for land or lease contracts

- Employees and contractors:
 - List of employees, tasks and responsibilities
 - Relevant trainings depending on tasks performed (for example, application of agrochemicals)
 - Signed agreements with subcontractors

- Providing protective clothing and equipment when necessary
 - A system that allows reception of claims and comments from employees and community
 - Appropriate living conditions for workers living at the farm
 - Freedom of association
 - Records of working hours
- Crop Systems:
 - Crop rotation, no till farming
 - Record keeping
 - Integrated Pest Management
 - Application of Agrochemicals (records of product use, application equipment, reason, worker in charge, climate conditions)
 - Yields for past 5 years
- Agrochemicals:
 - Storage facility for agrochemicals (both inside and outside farm)
 - Building in compliance with security and health conditions
 - Appropriate signs (identification of products)
 - Procedure in case of accidents or spills, safety conditions
 - Records of product inventory and purchase invoices
 - Different application techniques, protection of nearby communities and natural water courses
 - Maintenance of application equipment
- Empty agrochemical containers (Agrolimpio, triple-rinsing of each empty container before disposal) / Waste and residue management system)
 - Soil analysis studies
 - Availability of first aid kits near working areas
 - Good relations with the community (records of donations, trainings, employee searches, etc.)

A number of these requirements are already included in local laws or even make for good management practices. However, implementation is not always facilitated by authorities; farmers have to make an effort. From experience in implementation, it is not impossible to comply with mentioned sustainability requirements. There are already a number of farmers that can testify that it is possible. But it is true that without any assistance, many small to medium size farmers can be left out from any type of certification.

The country lacks any proper waste management system for the agricultural sector. Although there are a number of legal initiatives under discussion, it will be a while before any of them are implemented.

Record keeping is also dependent on culture. Practices range from a highly organized, precision farming oriented producer, to farmers that hate computers and keep records in their heads (as good and reliable memory is) to writing them down on scattered pieces of paper.

Another particular situation arises with trainings. A large group of Argentine farmers are educated, participate in different agricultural associations and try to keep up to date with new practices and technology. However, when it comes to having proof of any training they participated in, certificates are scarce. Once again, importance is given to knowledge, but not always to formal records.

All producers should initially embark on an implementation phase before seeking certification. At least, an initial analysis of the level of compliance with sustainability requirements should be performed in order to avoid a bad experience. The audit to obtain a certification is like any other exam, without preparation it is less likely to go without a hitch.

It is possible though, that during the official audit non-conformities are identified by the auditor. In this case, the auditor has to classify them into major or mandatory requirements or minor. Depending on the type, the arising consequences will be different in each case. Minor non conformities (or non-mandatory for Progressive Entry Level in the case of RTRS) can be overlooked until the next audit if all other requirements are in compliance with.

Major or mandatory requirements, on the other hand, have to be complied with before any issuing of a certificate. In this case, the auditor will give the company a period of 40 to 60 days (it can be less time) to comply with the relevant requirement. If during that period the producer does not show proof of improvement, then the certificate cannot be issued, and a new official audit should be performed if the producer is still intent of obtaining a certificate.

It is safe to say here that the only requirement that can never be improved or complied with if it is found as a non-conformity, is land use change. There is nothing a company can do to modify compliance if the land where the farm is located was of high conservation or biodiversity value after January 2008 and it was converted to agricultural land.

All other requirements, which range from lack of proper storage of agrochemical products, missing training records and lack of waste disposal management plan, are possible to improve or comply with, of course as long as there is willingness and, in some cases, funds available.

Traceability and Mass Balance Requirements

Argentine rules and regulations already establish that any transport of products has to be properly documented. In the case of grains for example, this is tightly regulated by the “Carta de Porte”.

This official document acts as a type of bill of lading, providing all information related to what type of product is being transported, the quantity, where is coming from and what the destination is.

Implementation of any sustainability scheme requires that specific information has to be included on said documents or, at least, the issuing of a document that complements the Carta de Porte or "Remito". Said information is related to sustainability characteristics, GHG emissions, relevant certification scheme and identification of "consignment" or sustainable "batch". This means that a company wishing to certify has to train a specific employee able to issue this document. Tasks and responsibilities should be specifically determined, as this declaration of sustainability (once the company was awarded a certificate) is what endorses the sustainable characteristics of the biomass.

In theory, this should not be very difficult to implement, considering any sale or transfer of products is usually planned ahead and organized. The issuing of the Declaration of Sustainability can even be performed by the commercial sector of the company, always using the Carta de Porte or Remito as a reliable document.

The problem arises on the other side of the supply chain: the storage facility or conversion unit that receives the sustainable biomass. In some cases, mostly when biomass is received directly from the farm, the relevant chain element should have a management system in place that allows identification of sustainable product at reception. In practice, this procedure has two possible ways of implementation, both with its own challenges. Options depend on the level of the technological information system and size of the unit. One option is to keep a "manual" reception procedure for sustainable biomass. It is possible the unit has a technological management system in place, but in some cases, programs are very difficult to modify or adapt, or even very expensive (for example, Oracle). This means that any change in the system would take longer than it is convenient; or the cost it entails makes it an obstacle. Therefore, the best option is for the employee handling reception verifying whether the incoming biomass is sustainable or not (sometimes checking through a list of already certified suppliers). If this information is verified, then biomass would be recorded as sustainable on the mass balance. This possibility though sometimes faster and cheaper to implement, requires for relevant personnel to be trained, supported and supervised once the system is running, as possible human errors should be avoided.

Another possibility, whose challenges were already explained, is to standardize the system as much as possible, making it automatic (with previously uploaded data to the system) for the personnel in charge of reception to identify biomass as sustainable or not. This is a more trustworthy system, preventing or minimizing human error, but it usually takes time and also requires some amount of training.

All of these issues are relevant because they affect the mass balance of sustainable and non-sustainable biomass.

The use of mass balance is a great tool to avoid segregation, which would not be feasible for Argentina soy industry due to volumes handled. But it is crucial to preserve its reliability to maintain a critical control point of incoming and outgoing sustainable product.

Greenhouse Gas Calculation

Both ISCC and RTRS provide a methodology to calculate GHG emissions in line with the EU RED. 2BSVs, on the other hand, does not recognize a calculation methodology. This means that companies should either use default values or rely on the exception provided by the Grandfathering Clause, at least until it expires in April 2013.

Default values for soybean biodiesel do not comply with the required 35% GHG savings. This is one of the reasons why, with the exception of a couple of companies, most conversion units preferred to certify a scheme that allows them to demonstrate GHG savings of their product. In practice, they all use a combination of default value and individually calculated value, as all of them use discriminated default value for soy cultivation. Even though it is a higher value than studies performed by INTA have shown, it allows them to greatly simplify calculation methodology and related mass balance records.

The rest of the chain would either use discriminated default value for transport and distribution or make necessary calculations for this item. As mentioned, it has been common ground for all to calculate relevant emissions from different conversion steps (first soybean into soy oil and then the latter into biodiesel).

This “technique” allowed companies to demonstrate compliance with required GHG savings. Practice makes perfect and in occasions they shared information, mainly related to emission factors and their sources. Besides, since most conversion units have a laboratory or people with chemical experience, personnel can be easily trained on the specific calculation methodology.

This shared experience made GHG calculation easier. However, not all companies have exactly the same production process, so all particularities should be taken into account. For example, not all companies refine glycerin and only those with refining process are allowed to allocate emissions to glycerin. Therefore, the auditor verifying the scheme should have knowledge of GHG calculation methodology and of production process (volumes, inputs, etc.) to better assess compliance or not with the requirements.

In case a non- conformity is found with this issue, it should be easily identified by the auditor and easily corrected by the company. Once corrections are made, this should not be a reason for denying the certificate.

Costs and Premiums

Other factors to consider when a company decides to certify the sustainability of its production are the costs related to implementation and certification and the possible premiums it can receive later on for its certified product.

When analyzing costs, it is possible to classify them according to two different aspects: (1) implementation costs; and (2) certification costs. The former, as was already described in this report, will depend on the type of element in the supply chain seeking certification and the verification scheme of choice. Requirements for agricultural production differ from those related to conversion units; and more so, when comparing 2BSvs with RTRS or ISCC.

For example, an agricultural producer wishing to certify RTRS or ISCC, will have to make sure that he or she complies with requirements regarding storage of agricultural products, protective clothing, management of residues and empty containers of agrochemicals, to name a few. Some of these requirements may even involve infrastructural improvements or hiring experts to provide adequate trainings. However, the amount of work to be done and costs involved with implementation will always depend on the level of initial compliance. Not all farmers have the same practices, it is not standardized. Therefore, they will need to have a pre-audit to establish the level of compliance before any kind of implementation. This way, they can detect non-conformities and develop a plan for compliance. The pre audit can be carried out by internal personnel (if they are trained to do so), a Certification Body (in this case, they can only provide a diagnosis, not the implementation plan), or an independent consultant. In either case, this issue can also be accounted for as costs related to implementation.

A conversion unit, on the other hand, may not have the same extensive requirements as a farmer, but it has to deal with training of personnel, possible modification or improvement of internal management systems and GHG calculation. A pre audit or possible consultancy is also recommended, but in theory it would not need to contemplate changes in infrastructure or buildings. Costs related to implementation of verification schemes for a conversion unit should be lower than a farmer implementing ISCC or RTRS.

Another imponderable factor is time. How much time does it take to implement a certification scheme? It will always depend on the company. The resources, interest, work methodology, size. These are all factors to take into account.

As for certification costs, these are easier to determine. A certification can have two different certification costs. One is related to the audit per se; while the other depends on the selected scheme. Certification bodies all manage market values; the audit cost depends on number of working days related to the audit. These involve the audit itself and extra days related to travel and preparation of audit reports. Since all schemes currently have more than one recognized certification body, a company can choose the one that offers a better proposal. Verification schemes, on the other hand, may have registration costs or certification costs. These depend on

the size or type of unit of the company wishing to certificate and are described on Table 1 on page 4.

On the other hand, a company willing to certify may consider what type of premiums or benefits it can receive from said certification. Besides corporate responsibility or even pride of being able to demonstrate in an independent and official way that it complies with sustainable requirements, the question always falls on how much money the market will be willing to pay for said certified product. So far, there are different points of view on this issue.

As far as the EU RED is concerned, companies that need to comply with biofuels quota in Europe or sell biofuels to companies that need to comply with the quota mandate, are buyers of sustainable biodiesel. This includes Shell, Gunvor, EDF Man, to name a few.

During 2011, when the EU RED was not being enforced yet and the amount of sustainable biodiesel was relatively low, certain batches of sustainable biodiesel were sold to the European Union at a premium over market price for "normal" biodiesel. Throughout 2011 and 2012 so far, this premium varied from USD 100 to USD 30. Will this tendency keep on for the rest of 2012? What will happen when the EU RED becomes mandatory in all Member Countries? These are issues that still need to be answered.

However, biodiesel is not the only product that can be sold as sustainable. Although there is no law requirement, the market has shown some interest on sustainable soy meal or even sustainable soybeans. Buyers from The Netherlands have mainly encouraged RTRS certification. Now that ISCC has created ISCC Plus (which covers soy meal for example) maybe this will change and there will be a larger offer of sustainable products. In this case, will the market pay for a premium? That is still to be determined.

Challenges and Benefits from Sustainability Certification

From experience acquired with implementation of all of the certification schemes at play in Argentina, it can be concluded that the task of obtaining a sustainability certificate brings along a number of challenges and benefits for the company involved.

As it will be described in the following paragraphs, situations vary according to the element of the supply chain aiming to obtain a certificate and the requirements they are obliged to comply.

Considering the initial stages of this process, challenges tend to be more numerous than foreseeable benefits at this point. But there is confidence that in like any other process, things will begin to ease up while experience is gained.

Challenges:

As explained before, depends which element of the supply chain is aiming at obtaining a certificate, the challenges it will have to face up:

- Due to the way biodiesel industry is designed in Argentina, the main challenge for a biodiesel producer or even an oil mill is to obtain willing and able farmers to certify their soybean production. Farmers tend to sell their soy to the best buyer, the one that offers the best price and asks for less in exchange. They have no connection to the production of biodiesel, being this a business for big companies. Therefore, the first step is to convince farmers about benefits of sustainability certification
- For any company wishing to certify, it will have to start the implementation process. Each scheme has its own specific requirements, so the challenge is to be well informed or have a trained and experience consultant to help them with implementation. Most concepts are new and innovative, so this step is the secret to a successful audit
- Not all schemes have all documents available in Spanish. Considering that those documents have to be used by people who don't always speak English, this represents a challenge. Companies have to either send out the documents for a professional translation or attempt to have them interpreted in-house.
- Human Resources. As strange as it sounds, one of the main challenges for a company looking to certify is finding the right person (or people) to handle and manage the requirements of the scheme. Since the subject is relatively new, there are not many people specialized on relevant issues, employees with other tasks end up being trained from zero and having to divide their time between previously assigned tasks and new issues related to sustainability certification
- More specifically, in the case of conversion units and storage plants, personnel working at reception of production have to be especially trained to identify when a delivery comes in as sustainable. In some cases, this process can be improved with technology, but it depends on the size of the company. Smaller more inefficient units might be left out or having to work double for the same process.
- Specifically in the case of farmers, main challenges with implementation revolve around use, storage and application of agrochemicals, lack of record keeping in some cases (for example, weather conditions while application of agrochemicals, maintenance of application elements/machinery); management and disposal of waste and residues at farm level (including empty containers); training of personnel; lack of signs in the farm.
- GHG calculation presents its own challenges, as calculation methodology is not always clear, people performing the calculation have to be trained for that purpose, always following the EU RED methodology; in some cases there is lack of reliable data bases for emission factors
- The experience and knowledge of the auditor is always relevant to the certification process. Training process varies between schemes and even if the training course is appropriate, there is always a personal criteria factor involved

Despite the long list of challenges, there is no doubt that they will start to decrease as time goes by and more experience is acquired.

Benefits

Not everything is so hard or insurmountable when speaking of sustainability certification. Actually, there are a number of benefits in obtaining a certificate:

- Argentina as a country is starting to consider concepts related to sustainability and sustainable production. Considering the industry has still a space to grow, it is a good thing that these issues arise when there is still time to improve with less effort
- Due to the fact that producers will have to buy their raw material from other certified producers, there will be an increasing trend to stabilize the supply chain and bringing longer standing relationships between sellers and buyers.
- Sustainability requirements included on each scheme help improve a company's management system, as record keeping is emphasized on as well as training of relevant personnel. It brings security to the processes.
- As long as the default value for soybean biodiesel set forth in the EU RED does not comply with the required savings of 35%, companies have been forced to calculate their own greenhouse emissions related to their production processes. This help show that Argentina's soybean biodiesel has even better savings than expected. Most certified companies, have GHG savings of between 40-55% when compared with fossil fuel. Even when using default value discriminated for soybean cultivation.
- Possibility to maintain the European Union as a main market for Argentine biodiesel
- Valorization and further development of Argentina's agro-industrial sector by demonstrating its sustainability through internationally recognized certification schemes.
- Last but not least, the possibility of obtaining a premium over market price for certified product. Although this subject is always a bit controversial, it is true that the market has been offering a premium. However, following free market rules, it is likely to disappear as more sustainable product is being offered.

Conclusion

Considering that in 2010 there were no companies certified as sustainable in Argentina and that in the last 16 months a total of almost 30 certificates have been issued, with more to come; it can be stated that sustainability certification is rapidly increasing and has a good future.

During 2011, approximately 50.000 tn of sustainable biodiesel were exported to the EU. It is expected that during 2012, this amount will multiply by 4.

As already stated, one of the main drivers for this growth has been mandatory requirements being enforced in different European countries. It is true that Germany was the first to promote sustainability certification for its blending targets, but other countries are starting to follow. It is expected that by 2013 this will spread through all of the European Union, making it a sine qua non requirement for use of biodiesel.

Besides, there is a tendency to spread these requirements to other markets besides biofuels. Verification schemes like RTRS and ISCC Plus, take into account more than what is strictly mandated by the European Directive. Food and feed are markets where sustainable process will be demanded shortly by consumers. Just like quality requirements have been so far.

However, this situation might be affected by changes in rules so far. The introduction of indirect land use change effects or changes in GHG calculation methodology might greatly affect the current course of sustainability certification.

Also, it is possible that the introduction of new certification schemes, pending EC approval modifies the current status of certificates. More schemes mean more possibilities to choose from, but consumer and market acceptance will always be a strong factor.