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Spain's Biodiesel Standing Report

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Approved By:

Robert Hanson

Agricultural Attaché

Prepared By:

Marta Guerrero

Agricultural Specialist

Report Highlights:

This report provides an overview of Spain's biodiesel sector including MS specific policy, production supply and demand data. Spain is among the three top MS in terms of biodiesel production capacity and consumption. However, industry sources report a very low use rate of installed capacity caused mainly by stiff competition from third-country biodiesel imports to Spain. The sustainability criteria provisions within the Renewable Energy Directive (RED) have recently been transposed to national regulation by Royal Decree 1597/2011. However, a transition period is foreseen until the verification system is fully defined.

General Information:

Disclaimer: This report provides an overview of Spain's biodiesel sector including MS specific policy, production supply and demand data. Spain, as a member of the European Union (EU), conforms to EU directives and regulations on biofuels. It is therefore recommended that this report is read in conjunction with the EU-27 consolidated report.

Executive Summary:

Spain is amongst the three top MS in terms of biodiesel production capacity and consumption. However, industry sources report a very low use rate of installed capacity caused mainly by stiff competition from third-country biodiesel imports to Spain. The sustainability criteria provisions within the Renewable Energy Directive (RED) have recently been transposed to national regulation by Royal Decree 1597/2011. However, a transition period is foreseen until the verification system is fully defined.

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I. Abbreviations and definitions used in this report

Biodiesel: Fatty acid methyl ester produced from agricultural feedstock (vegetable oils, animal fat, recycled cooking oils) used as transport fuel to substitute for petroleum diesel.

BXX: Blend of mineral diesel and biodiesel with the number indicating the percentage of biodiesel in the blend, e.g. B100 equals 100% biodiesel, while B5 equals 5% biodiesel and 95% conventional diesel.

EBB: European Biodiesel Board.

APPA: Spain's Renewable Energies Association

CNE: Spanish National Energy Commission

CORES: Spanish Corporation of Strategic Reserves of Oil-based Products

IDAE: Spanish Institute for Energy Diversification and Saving

MITYC: Ministry of Industry, Commerce and Tourism

MARM: Ministry of Environment and Rural and Marine Affairs

GOS: Government of Spain

EC: European Commission

EU: European Union

MS: Member State

HS: Harmonized System of tariff codes

MY: Marketing Year

CY: Marketing Year

MT: Metric tonnes

VAT: Value Added Tax

Energy content and Conversion rates:

Biodiesel = 37.50 MJ/kg

1 Toe = 41.87 GJ

1 MT Diesel = 1,195 Liters = 1.02 Toe

1 MT Biodiesel = 1,136 Liters = 0.90 Toe

Trade figures are based on Global Trade Atlas (GTA) data HS code 3824 90 91.

II. Production Capacity

In Spain, biodiesel production capacity expanded rapidly and the number of biodiesel plants increased steadily until 2009. The pace of construction of new plants slowed down since 2009 as a result of poor market conditions.

Table 1. Number of plants and production capacity in Spain

Year	2005	2006	2007	2008	2009	2010	2011
Number of plants	7	12	24	36	45	48	49
Production Capacity (1,000 MT)	100	248	815	2,070	4,100	4,300	4,400

Sources: EBB, APPA and FAS Madrid estimates.

III. Feedstock

Spain's biodiesel sector relies heavily on raw material imports for its domestic production of biodiesel. Domestic oilseed crops other than olives, consists primarily of sunflower and rapeseed. Soybean production in Spain is virtually zero, other than a few acres planted for food purposes. Sunflower is the annual oilseed crop to which more land is devoted (865,000 hectares in 2011 according to latest MARM official estimates), but it is mainly a food use driven market. Area planted to rapeseed (29,000 hectares in 2011 according to latest MARM official estimates) follows a steady growth throughout the years; nevertheless, rapeseed production in Spain it is still negligible when compared to arable other crops.

Latest official information released on feedstock used corresponds to year 2009, in which according to the National Energy Commission's (CNE) annual report, 43 percent of the domestic biodiesel was produced out of soybean oil and 38 percent out of palm oil. Animal fats and recycled oils represented about 12 percent of the feedstock used. The remaining 7 percent was produced out of rapeseed and sunflower oil.

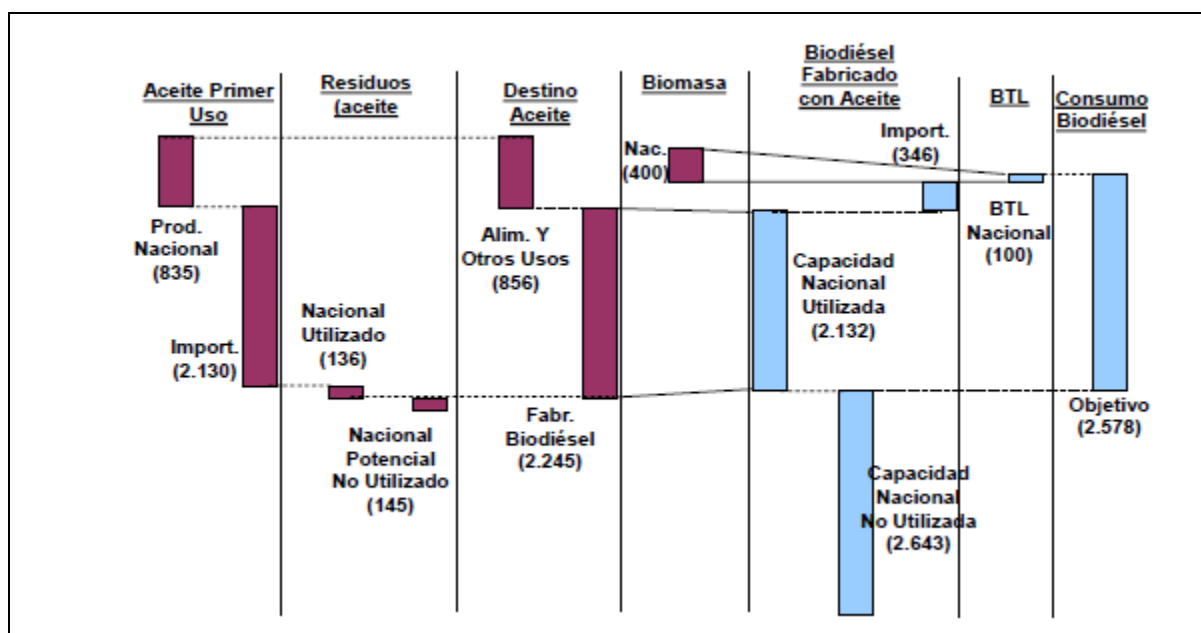
CNE data for 2009 on origin of feedstock for biodiesel consumed in Spain reveal the low importance of domestic raw materials. Considering the origin, 77 percent of the raw materials used in biodiesel production originated in third countries (primarily Indonesia, Argentina and Brazil) while only a 10 percent was sourced within the EU. Biodiesel produced out of domestic raw materials only represented 12 percent of the total and it was mainly due to the use of recycled oils and animal fats.

Data for feedstock is scarcely made available by industry or government sources; the latest official information released on feedstock used corresponds to year 2009. FAS Madrid estimates that percentages of soybean oil and palm oil use in biodiesel would remain fairly similar to 2009 in 2010 while the use of recycled oils and animal fats might have increased slightly.

The sharp decline on biodiesel production that has taken place throughout 2011 might have likely increased the share of recycled oils and animal fats at the expenses of palm oil and soybean oil. While Spain's soybean crushing industry has been operating at full capacity in 2011 (around 3.2 million

metric tons of soybeans per year), use of soybean oil in domestic biodiesel has declined.

Graph 1. Feedstock balance forecast for 2020.



Source: Renewable Energy Plan (REP). IDAE.

According to Graph 1, elaborated by the IDAE and presented in the Renewable Energy Plan, in 2020 the biodiesel consumption target is 2.578 million metric tons, which leaves 2.643 million metric tons of surplus installed capacity.

As far as feedstock is concerned, forecasted domestic production of vegetable oil (some via oilseed imports) in 2020 according to IDAE would total 835,000 MT. Forecasted food requirements for 2020 (856,000 MT) while the biodiesel industry anticipated demand (2,245,000 MT). This deficit in oil would be through imports of oils.

IV. Production

Biodiesel production grew steadily until 2010. Third country competition slowed down production throughout 2008. In 2009, after the antidumping and countervailing duties against the US biodiesel and the consumption mandates were implemented, Spain's biodiesel production rebounded; however, there is still a large part of the total installed capacity that remains unused.

In 2011 biodiesel production has dramatically declined. According to industry sources, up to 85% of the biodiesel production has been halted due to the stiff competition from imported biodiesel. Domestic processors cannot compete with imports of biodiesel from third countries.

Table 2. Biodiesel production in Spain

Year	2006	2007	2008	2009	2010	2011e
Biodiesel (1,000 MT)	99	168	207	859	925	650

Source: EBB and FAS Madrid estimates.

V. Consumption and Marketing

Biodiesel consumption follows an upward trend mainly driven by the mandates imposed since 2009. (For further details see “Biofuel use target” Section)

Table 3. Spain’s Biodiesel Consumption

Year	2008	2009	2010	2011e
Biodiesel (1,000 MT)	588	1,028	1,362	1,415

Source: CORES and FAS Madrid estimates.

Total conventional fuel consumption peaked in 2007 and has followed a downward trend since 2008 up to present. Since mandates are defined as a percentage in terms of energy of total transport fuel use, the reduction in the conventional fuel consumption contributed significantly to meet the mandates.

Table 4. Spain’s Conventional Fuel Consumption for Road Transport

Year	2006	2007	2008	2009	2010	2011e
Diesel (1,000 MT)	24,585	26,078	25,125	23,785	23,586	23,300

Source: CORES and FAS Madrid estimates.

Table 5. Spain’s Biodiesel specific mandate (percentage in terms of energy)

Year	2008	2009	2010	2011	2012	2013
Biodiesel specific mandate (%)	1.9	2.5	3.9	6	7	7
Overall mandate (%)	1.9	3.4	5.83	6.2	6.5	6.5

Source: Orden ICT/2877/2008. Royal Decree 1738/2010 and Royal Decree 459/2011.

According to CORES (Spanish Corporation of Strategic Reserves of Oil-based Products) data, nearly all biodiesel is placed in the market in blends. B100 only represents about one percent of total biodiesel consumption and follows a shrinking trend. Only about 400 petrol stations sell labelled and pure biodiesel, while in the remaining petrol stations biodiesel is being marketed only as not labelled blends.

Future perspectives described in the National Renewable Energy Action Plan (NREAP) indicate that biodiesel consumption is expected to double in 2020. The pace of increase is anticipated to be slower until 2013, and then grow steadily driven by the development of labelled blends and the standardization of B10, along with the progressively increasing consumption mandates. (For further details see “Fuels technical specifications” and “Biofuel use target” Sections)

VI. Trade

In 2008 and 2009 biodiesel imports represented over 40 percent of total biodiesel consumption. The share of imported biodiesel in domestic consumption rose to 60 percent in 2010. Available data for the first semester of 2011 indicate that total imports would cover nearly 70 percent of the country's biodiesel consumption.

While in 2008 the United States was the main extra-EU supplier of biodiesel to Spain, the anti-dumping and countervailing duties imposed on March 12, 2009 by Regulation 193/2009 and 194/2009 on U.S. biodiesel resulted in a dramatic reduction of U.S. biodiesel imports

Regulation 193/2009 and Regulation 194/2009, containing provisional anti-dumping and countervailing duty measures on imports of biodiesel from the United States were published on March 12, 2009. The duties imposed entered into force on March 13, and afterwards they were made definitive for a 5-year period. As a consequence of the establishment of the mentioned duties on U.S. biodiesel, Argentina became the main biodiesel supplier to Spain.

As a response to an EBB (European Biodiesel Board) request, in August 2010 the European Commission initiated an investigation concerning the possible circumvention of the imposed countervailing duties and anti-dumping measures. In May 2011 and European Union Member States approved the extension of import duties on U.S.-made biodiesel.

Argentina is currently the main biodiesel supplier to Spain. Its exports throughout 2009 represented over 30% of total Spain's imports and this figure increased to over 50 percent in 2010. Indonesia also became an important player in 2010, representing about 20 percent of Spain's biodiesel imports. Available data from the first semester of 2011 data show how Argentina was the source of 60 percent of the biodiesel imports.

Table 6. Spain's main biodiesel suppliers (1,000 MT)

Year	2008	2009	2010	Jan-Jun 2011
EU-27	192	341	169	70
Argentina	0	197	436	309
U.S.	98	4	0	0
Indonesia	73	36	190	125
Malaysia	6	20	16	0
India	0	9	12	12
Others	1	11	13	1
Total	370	610	825	517

Source: GTA

Official Data for consumption and trade during the first semester of 2011 show how total imports (571,000 metric tons) represented 75 percent of consumption (754,000 metric tons). Nevertheless, it should be considered that a share of Spain's imports is re-exported to other countries.

National Biodiesel Specific Measures

In a similar way to what has been done in other MS, the preparation of a draft order regarding the allocation of production quota of biodiesel was initiated by the Ministry of Industry, Trade and Commerce in 2010. This Ministerial Order, which has already been reviewed by the National Energy Commission (CNE), would establish a system to prevent unfair competition from third countries. The draft order establishes the allocation of quotas for production plants. To ensure fair competition, the total quota allocated would triple the consumption mandate. Only production under quotas would be considered to meet the national goals. The publication of this Ministerial Order, which remains pending, would hypothetically result in an increased national production and increased imports of raw materials. Industry observers are not optimistic that this quota system will be implemented.

VII. MS Specific Policy

The legal framework for biofuels promotion in Spain is based in two measures that include the hydrocarbons tax set at zero for biofuels and the consumption mandate. In addition to this, there is a national regulation on Fuels Technical Specifications that establishes the technical conditions to place biofuels blends in the Spanish market.

• Biofuel use targets

The EU Directive 2003/30 on promotion of the use of biofuels or other renewable fuels for transport, currently replaced by Directive 2009/28, had as its main goals to contribute to meet climate change commitments and to provide an environmentally friendly security of supply and promoting renewable energy sources.

Directive 2003/30 set out indicative biofuels use targets for EU Member States at two percent by the end of 2005 and 5.75 percent by the end of 2010. In Spain, Royal Decree 12/2007, published in July 2007 amending Law 34/1998, imposed mandatory biofuels blending beginning calendar year 2009. The Government of Spain (GOS) established a voluntary 1.9 percent blending of biofuels during 2008; a mandatory 3.4 percent blending during 2009 and a mandatory 5.83 percent blending during 2010.

To achieve the goals established in Royal Decree 12/2007, a Ministerial Order (Orden ICT/2877/2008) was issued in October 2008. The Order established specific minimum requirements for biodiesel and bioethanol for 2009 and 2010, maintaining the obligation to meet the overall mandate.

The targets for years 2011, 2012 and 2013 were established by Royal Decree 1738/2010 in accordance to the reference targets in the Spanish National Renewable Energy Action Plan (NREAP) and considering the CNE's related report. The mandates were later revised higher by Royal Decree 459/2011.

The amounts of transport biofuels that must be place in the market by fuel sector operators are as shown in **Table 7**. The mandates are based in energy content, not volume. The gap between the specific and the overall mandates can be fulfilled by either biofuel.

Table 7. Spain's biofuel targets.

Year	Type of mandate	Overall mandate		Biodiesel specific mandate	Bioethanol specific mandate
2008	Voluntary	1.9		1.9	1.9
2009	Mandatory	3.4		2.5	2.5
2010	Mandatory	5.83	4.78	3.9	3.9
2011	Mandatory	6.2		6	3.9
2012	Mandatory	6.5		7	4.1
2013	Mandatory	6.5		7	4.1

Source: Orden ICT/2877/2008. Ministry of Industry, Commerce and Tourism and Royal Decrees 1738/2010 and 459/2011.

The Ministerial Order ICT/2877/2008 appointed the CNE, Spain's independent regulator of the energy markets, as the authority responsible to monitor and control the amount of biofuels marketed or consumed through a certificate system.

The CNE implemented a Certification System (SICBIOS), through which parties obliged to supply biofuels must send their requests for certificates. Other agents, such as storage facilities owners and biofuels producers must provide information verifying the data reported by the obliged parties.

Based on all of this information, the CNE issues certificates in favour of each party obliged. One certificate equals one metric ton of biofuel marketed. There are biodiesel specific certificates and specific bioethanol certificates that count against each mandate. Certificates can be transferred between obligated parties and since 2010, certificates can also be transferred to the following year up to a maximum of 30 percent of the mandate of the party obliged.

At the end of each year, the CNE calculates whether the obliged parties met the mandates. Fines of 350 Euros are imposed per certificate/metric ton that the obliged party failed to market.

In 2008, bioethanol consumption in Spain totalled 1.4 percent, while biodiesel consumption amounted to 2.07 percent, resulting in overall biofuels consumption in transport of 1.94 percent.

According to the CNE annual report, while in 2009 overall biofuels consumption added up to 3.43 percent and biodiesel consumption amounted to 3.67 percent, surpassing in both cases the established mandate, bioethanol consumption fall short to meet its specific mandate reaching only a 2.49 percent versus the 2.5 required.

There is not yet any official number for 2010 biofuel use, however, in January 2011 (MITYC Resolution dated January 7th, 2011), a zero value to the penalty for breaching the biofuel target provided that a 4.78 percent in terms of energy is reached. This reduction was justified by the delay in transposing the fuel technical specifications into the national regulation, which prevented blenders from marketing higher content blends earlier in the year.

Provisional data released by CNE indicate that in May 2011, the biodiesel content in terms of energy

would add up to 6.2 percent in terms of energy, while the overall use of biofuels would represent 5.9 percent for the CY2011.

- **Hydrocarbons tax reduction for biofuels**

Article 50-bis from Law 53/2002 of 30 December reformed the Special Duties Law 38/1992 and enabled biofuels to benefit from an exemption from the Special Hydrocarbons Tax. According to the modification introduced by Article 2 paragraph, from law 22/2005, biofuels will be exempted from the hydrocarbons tax, currently set at 0.278 Euros/liter for diesel and 0.371 Euros/liter for gasoline, until 31 December 2012.

This special rate will only apply to the volume of actual biofuel, even when it is mixed with other products. If deemed appropriate, on the basis of the relative production cost of petroleum products and biofuels, the zero rate might be replaced with a positive levy which shall not exceed the tax rate applicable to equivalent conventional fuels. This exemption is provided regardless the size of the producing plant. Nevertheless, biofuels are subject of the tax on the retail sales of hydrocarbons, whose total amount varies depending on the Autonomous Region, and a VAT of 18 percent.

Article 51.3 from Law 53/2002 of 30 December introduced an exemption to the tax imposed to the manufacture or import of biofuel from pilot projects intended as automobile fuel. This exemption is granted provided that the experimental nature of a project is accredited and the maximal annual production is below 5,000 litres of biofuel. The period of exemption may not exceed five years.

While biofuel produced in pilot projects is exempted of the hydrocarbon tax, the tax is just set at zero for biofuel produced in commercial plants. As a consequence, the tax for commercial plants biofuel can be increased if deemed appropriate, while the tax imposed to pilot plants cannot be altered.

- **Fuels technical specifications**

The EU adopted Directive 2009/30 in April 2009 enabled fuel operators to market B7 and E10. Royal Decree 1088/2010 released in September 2010, transposed the mentioned Directive into national regulation and increased accordingly the biodiesel content allowed from 5% to 7% and the bioethanol content permitted from 5% to 10%.

The new national regulation requires that blends with volumetric biodiesel content over 7 percent, or volumetric bioethanol content over 10 percent, or volumetric bioethanol content over 5 percent and over 2.7 of oxygen content in terms of mass, should be labelled indicating the biofuel content. In addition, the following disclaimer should be present: "Before using this product, please make sure it is suitable for your engine".

In the case of gasoline blends, concerns about the ability of older vehicles to use higher biofuel blends have been taken into account. Spain will ensure until December 31, 2013, supply of at least the lowest octane index gasoline with less than 5 percent bioethanol in terms of volume, and less than 2.7 percent of oxygen in terms of mass in all petrol stations. This type of gasoline is known as so-called "protective petrol". Same octane index gasoline can be also available with higher oxygen or bioethanol contents. This regulation limits the quantities of bioethanol that can be marketed until 2013 in order to

protect the oldest vehicles that are not prepared to operate on higher bioethanol contents.

- **Transposition of the RED into national regulation**

The Renewable Energy Directive 2009/28 (RED) on the promotion of the use of energy from renewable sources and amending, and subsequently repealing, Directives 2001/77/EC and 2003/30/EC) aims achieving 20 percent share of energy from renewable sources in the EU's final consumption of energy and a 10 percent share of energy from renewable sources in each Member State's transport energy consumption by 2010.

The RED sets different targets for different Member States within the overall target; for Spain the target is 20 percent. The 10 percent target for renewable energy in transport is mandatory for all Member States.

Directive 2009/28, laid down sustainability requirements for biofuels, establishes restrictions on the Greenhouse Gas savings - at least 35 percent - and restrictions on land use. The reduction of emissions should add up to 50 percent from 2017 onwards and at least 60 percent in new facilities.

Sustainability requirements had to be implemented by Member States by December 5th 2010. However, Spain, as did many other Member States, failed to comply with the proposed deadline. Nevertheless, Spain met the deadlines for the submission of the forecasts document and the NREAP.

Six months before the National Renewable Energy Action Plan (NREAP) was published, as required by Article 4.3 of the Directive 2009/28, Spain presented to the Commission its forecast document indicating that the amount of renewable energy in transportation will be as follows.

Table 8. Renewable Energy in Transport according to forecasts document

Year	2012	2016	2020
Renewable Energy in transport (Ktoe)	2,073	2,786	3,500

Source: Spain's forecast document following EC methodology.

As required by Article 4 of the Directive 2009/28, Spain presented its National Renewable Energy Action Plan by June 2010 presenting how Spain intends to meet the targets. According to NREAP, in 2009 renewable energies represented 9.4 percent of total primary energy consumption and biofuels had a 0.8 percent share. These percentages are 13.2 and 1.5 respectively for 2010 according to the Renewable Energy Plan.

The NREAP increased the expectations for renewable energy use in transport compared to the forecasts document setting a goal for 2020 of 3,885 Ktoe as opposed to the 3,500 Ktoe initially established. The Renewable Energy Plan (REP), an indicative planning document approved on November 11, 2011, reduced the targets as shown in **Table 9**.

Table 9. Renewable Energy in Transport (Ktoe)

Year	2012	2016	2020
NREAP 2010	1,927	3,004	3,885
REP 2011-2020	2,331	2,586	3,216

Source: Spain's NREAP.

The NREAP proposed specific measures in the biofuel sector that included:

1. Draft technical specifications for B30 and E85 and incorporate these into the Spanish fuel quality regulation by the end of 2012.
2. Design and implement an AENOR quality assurance system for biofuel production processes.
3. Design and implement a sustainability control system throughout the entire value chain of biofuels marketed in Spain in accordance to the requirements laid down in Directive 2009/28/EC of 23 April 2009. (See "Sustainability Criteria" sub – section below)
4. Maintain and adapt the scheme for compulsory use of biofuels in transport beyond 2010. This has already been extended up to 2013. (For further details see "Biofuel use target" Section)
5. Amend special duty legislation which permits the use of biogas as a fuel for transport vehicles under the same conditions as bioethanol and biodiesel.
6. National Technological Development Support Programme in the biofuel sector: 2G and biorefineries.
7. Government administrations set an example by encouraging the purchase of vehicles designed to use labelled blends of biofuels in their fleets and in the awarding of transport concessions.

The Spain's National Renewable Energy Plan (REP), which revises down the targets for renewable energy in transport, contains the measures defined in the NREAP and proposes new additional measures to improve the biofuels market conditions. The measures proposed include the implementation of a system to achieve a harmonious development of the biofuels market and to establish mandatory marketing of labeled blends in petrol stations.

Sustainability Criteria

The Royal Decree 1597/2011 published on November 5, 2011 transposes articles 17 to 21 from the RED. This regulation, which has been prepared by the Ministry of Industry, Tourism and Trade, assessed by the CNE transposes sustainability criteria, defines Spain's National Scheme for verification of compliance and transposes those provisions related to double credit for certain biofuels.

More detailed guidelines to implement sustainability and to develop the National Scheme for Sustainability verification will need to be provided by lower level regulations. According to the Royal Decree, the CNE will be part of the national system of verification of sustainability and the Ministry of Industry, Tourism and Trade (MITYC) will oversight the system. To prove sustainability the Royal Decree maintains the three options described in the RED: voluntary schemes, national scheme or a bilateral/multilateral agreement recognized by the European Commission.

The transitory provision of the mentioned regulation establishes that a transition period will be observed until the verification system is fully in place. According to this same provision, from January

1st, 2013 information to verify sustainability will be required.