ABENGOA BIOENERGY

RED Bioenergy Sustainability Assurance Scheme

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Comparative assessment between RED sustainable regime and RBSA scheme

This document summarizes the main sustainable requirements and other relevant provisions included in the Renewable Energy Directive (EC / 28 / 2009) and the way the RBSA scheme intends to accomplish them. A table format has been developed for this purpose.

Table 1. RED sustainability clauses vs. RBSA scheme provisions

Art. reference	RED Sustainable prescription	RBSA compliance	
		RBSA references final check	Compliance in RBSA scheme
Art.17.1	*Irrespective of whether the raw materials were cultivated inside or outside the territory of the Community, energy from biofuels and bioliquids shall be taken into account for the purposes referred to in points (a), (b) and (c) only if they fulfil the sustainability criteria set out in paragraphs 2 to 6:* *(a) measuring compliance with the requirements of this Directive concerning national targets;* *(b) measuring compliance with renewable energy obligations;* *(c) eligibility for financial support for the consumption of biofuels and bioliquids.* *However, biofuels and bioliquids produced from waste and residues, other than agricultural, aquaculture, fisheries and forestry residues, need only fulfil the sustainability criteria set out in paragraph 2 in order to be taken into account for the purposes referred to in points (a), (b) and (c).*	Main reference: RBSA_001 (section 3.2*).*	Only biofuels that fulfil all the criteria included in the RBSA scheme will be considered as "RED sustainable" and therefore eligible in regards the items described in the art.17.1 of the RED. Only in the case of using wastes / residues for producing biofuels, other than agricultural, aquaculture, fisheries and forestry residues, the requirements to be complied with are solely those related to GHG thresholds (according to Article 17.1 of RED. The RBSA reference 001 has an annex which includes a short list of feedstock for which only compliance with GHG thresholds is permitted.
Art.17.2	**GHG saving thresholds** *The greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the*	Main reference: RBSA_001 (section 3.3	The GHG saving under the RBSA scheme shall be at least 35%. With effect from 1 January 2017, the GHG emission saving shall be at least 50%. And from 1 January 2018, GHG saving shall be at least 60% for biofuels produced in installations in which production started on after 1

	purposes referred to in points (a), (b) and (c) of paragraph1 shall be at least 35 %. *With effect from 1 January 2017, the greenhouse gas emission saving from the use of biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph1 shall be at least 50 %. From 1 January 2018 that greenhouse gas emission saving shall be at least 60 % for biofuels and bioliquids produced in installations in which production started on or after 1 January 2017.*	and 4.3.3 and 4.3.4).	January 2017. The RBSA scheme envisages one form to state the final GHG saving of a biofuel batch; this document is called Sustainable biofuel declaration that qualifies a batch as RED sustainable when complying with all requirements of the RBSA scheme. This declaration can only be issued by validated biofuel agents when the GHG saving threshold in force is fulfilled. Additionally, the RBSA scheme also envisages a Sustainable biofuel attestation document that includes permitted distribution distance for complying with GHG saving thresholds. This form could be also used by demonstrating the RED compliant quality of a batch of biofuel (but depending on respective national regulatory developments).
	The greenhouse gas emission saving from the use of biofuels and bioliquids shall be calculated in accordance with Article 19 (1).	Main reference: RBSA_001 (section 3.3). Additional reference RBSA_003 (entire document).	GHG saving is calculated according to reference RBSA_003 and corresponding annexes and therefore RED Annex V and further EC communication (reference (2010/C 160/02) and (2010/C 160/01)). This methodology includes the use of default data, only those included in Annex V of the RED, and the observance of all those premises included for the GHG emission calculations in the RED Directive and EC subsequent communications (reference (2010/C 160/02) and (2010/C 160/01).
	In the case of biofuels and bioliquids produced by installations that were in operation on 23 January 2008, the first subparagraph shall apply from 1 April 2013.	Main reference: RBSA_001 (section 3.3, 4.3.3, 4.3.4).	RBSA scheme allows those batches of biofuel with a production pathway including facilities that were in operation on 23 January 2008 (grandfathering clause), for which the 35 % saving threshold is only applicable from 1 April 2013. No RBSA claim shall be made by any facility after this date without meeting the applicable GHG threshold. Models of attestation / declaration include the grandfathering adoption for biofuel batches. RBSA certificate for operators complying with the RBSA scheme also

			includes reference to their quality of applying grandfathering clauses.
Art.17.3	**Biodiversity criteria** *Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high biodiversity value, namely land that had one of the following statuses in or after January 2008, whether or not the land continues to have that status:* *(a) primary forest and other wooded land, namely forest and other wooded land of native species, where there is no clearly visible indication of human activity and the ecological processes are not significantly disturbed;* *(b) areas designated:* *(i) by law or by the relevant competent authority for nature protection purposes; or* *(ii) for the protection of rare, threatened or endangered ecosystems or species recognised by international agreements or included in lists drawn up by intergovernmental organisations or the International Union for the Conservation of Nature, subject to their recognition in accordance with the second subparagraph of Article 18(4);* *unless evidence is provided that the production of that raw material did not interfere with those nature protection purposes* *(c) highly biodiverse grassland that is:* *(i) natural, namely grassland that would remain grassland in the absence of human*	Main reference RBSA_001 (section 5.2.2.1.1 and 5.2.2.1.2). Additional reference: RBSA_004 (section 4.1.1).	RBSA scheme envisages two types of agricultural producers: ▪ **Agricultural production unit located in RBSA sustainable origin** This type of Agricultural production unit shall provide suitable information in order to check their cultivation origin. A RBSA sustainable origin list shall be developed entirely based on reference RBSA_004, entitled "Sustainable Maps Methodology". In order to generate and admit a RBSA sustainable origin as RED compliant, the first step of said methodology is to determine the land use with high biodiversity value in which the biomass shall not be produced from. Section 4.1 of RBSA_004 entitled "Requirement identification" literally includes the RED restrictions, and RED permitted exceptions for the figures established in Article 17.3. It additionally includes a section with the RBSA fulfilment where the following process is described for each figure referred to in RED. In addition, this RBSA scheme does not allow to use material that was obtained from land which had the status of grassland in or after 2008 – grassland in this context means a permanent status as grassland in or after 2008. Maps obtained through the methodology described in RBSA_004 are deemed to pre - qualify an origin as sustainable under the RBSA scheme. Suitable external guarantees shall be provided for the map preparation. ▪ **Agricultural production unit sourcing from a sustainable origin (through sustainability self - declaration)**

	intervention and which maintains the natural species composition and ecological characteristics and processes; or *(ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.* *The Commission shall establish the criteria and geographic ranges to determine which grassland shall be covered by point (c) of the first subparagraph. Those measures, designed to amend non-essential elements of this Directive, by supplementing it shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 25(4).*	.	This type of Agricultural production unit shall provide suitable information in order to check its RBSA sustainable claims. This check shall be carried out by certification bodies according to the RBSA document entitled Audit Protocol for Certification Bodies, reference RBSA_005. External guarantees shall be provided in all cases.
Art.17.4 and 17.5	**Carbon stock preservation criteria** *4. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land with high carbon stock, namely land that had one of the following statuses in January 2008 and no longer has that status:* *(a) wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year;* *(b) continuously forested areas, namely land spanning more than one hectare with trees higher than five metres and a canopy cover of more than 30 %, or trees able to reach those thresholds in situ;*	Main reference RBSA_001 (section 5.2.2.1.1 and 5.2.2.1.2). Additional reference: RBSA_004 (section 4.1.2 and 4.1.3).	The RBSA scheme envisages two types of agricultural producers: ▪ **Agricultural production unit located in a RBSA sustainable origin** This type of Agricultural production unit shall provide suitable information in order to check its cultivation origin. The RBSA sustainable origin list shall be developed entirely based on reference RBSA_004, sustainable maps methodology. In order to generate and admit a RBSA sustainable origin as RED compliant, the first step of the referred methodology is to determine the land use with high carbon stock in which the biomass shall not be produced from. Section 4.1 of RBSA_004 entitled "Requirement identification" literally includes the RED restrictions, and RED permitted exceptions

	(c) land spanning more than one hectare with trees higher than five metres and a canopy cover of between 10 % and 30 %, or trees able to reach those thresholds in situ, unless evidence is provided that the carbon stock of the area before and after conversion is such that, when the methodology laid down in part C of Annex V is applied, the conditions laid down in paragraph 2 of this Article would be fulfilled. *The provisions of this paragraph shall not apply if, at the time the raw material was obtained, the land had the same status as it had in January 2008.5. Biofuels and bioliquids taken into account for the purposes referred to in points (a), (b) and (c) of paragraph 1 shall not be made from raw material obtained from land that was peatland in January 2008, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil.*		for the figures established in Article 17.4 and 17.5. It additionally includes a section with the RBSA fulfilment where the following process is described for each figure referred to in RED. Maps obtained through the described methodology are deemed to qualify an origin as sustainable under the RBSA scheme. Suitable external guarantees shall be provided for the map preparation. ▪ **Agricultural production unit located in a "sustainable origin" (through sustainability self - declaration)** This type of agricultural production unit shall provide suitable information in order to check its RBSA sustainable claims. This check shall be carried out by certification bodies according to the RBSA document entitled Audit Protocol for Certification Bodies, reference RBSA_005. External guarantees shall be provided in all cases.
Art.18.1	**Verification of compliance with the sustainability criteria for biofuels and bioliquids** *1. Where biofuels and bioliquids are to be taken into account for the purposes referred to in points (a), (b) and (c) of Article 17(1), Member States shall require economic operators to show that the sustainability criteria set out in Article 17(2) to (5) have been fulfilled. For that purpose they shall require economic operators to use a mass balance system which:* *(a) allows consignments of raw material or biofuel with differing sustainability characteristics to be mixed;*	Main reference RBSA_001 (section 6). Additional reference: RBSA_002.	All players operating under the RBSA scheme have to comply with prescriptions included in Mass Balance System Requirements, reference RBSA_002. This reference includes several clauses to be observed for: ▪ The operational management of the Mass Balance system, including: ▪ Definition of scope for the control system. ▪ Definition of the timeframe for the balancing period over which the Mass Balance system operates. ▪ Assignation rules for biomass / biofuel supplied and dispatched in the control system. ▪ Balance of quantities / volumes in the control system. ▪ Sustainability information in commercial documents. ▪ Internal control of the system.

	(b) requires information about the sustainability characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture; and *(c) provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture.*		▪ The documentary control of the Mass Balance requirements: including rules for: ▪ Written instructions, and ▪ Record keeping. These requirements can be adapted for Agricultural production units as they are the starting point of the Mass Balance system, as it is possible to establish specific requirements for them to demonstrate necessary consistency of quantities produced and declared but with a reduction in the burden, as RED expressly states.
Art.18.5	**Adequate standard of independent auditing** *The Commission shall adopt decisions under paragraph 4 only if the agreement or scheme in question meets adequate standards of reliability, transparency and independent auditing.*	Main reference RBSA_005, RBSA_001 (sections 9 and 10). Additional reference: RBSA_002 (section 6), RBSA_003 (section 8) and RBSA_004 (section 7).	The RBSA scheme provides an adequate standard of independent auditing on compliance with all sustainability requirements described, and therefore the accuracy of the information provided is assured (including its traceability). The prescriptions envisaged are as follows: ▪ **General guarantees of independent auditing** ▪ Accreditation requirements: section 4 of RBSA_005 deals with all accreditation requirements that certification and auditing companies must verify when determining compliance within the scheme. ▪ Compliance audits: section 7 of the RBSA_005 deals with all clauses relating to the compliance audits within the scheme for all the economic operators operating under it. Specifically, any validated biomass supplier, Biofuel conversion unit and validated biofuel supplier willing to operate under the RBSA scheme can not do any sustainable claim prior to qualify their capabilities through a qualifying process (also described in Audit Protocol for Certification Bodies, reference RBSA_005) in order to obtain a RBSA certificate on this scheme. All RBSA certificates shall be renewed annually through a successfully external surveillance audit – full renewal needed

			each five (5) years. When using biomass or biofuel under recognized EC schemes or agreements, external guarantees shall be requested. RBSA verification of conformity is also included in this scheme, maintaining the same requirements as validated supplier but with additional criteria in order to be allowed to preserve the confidentiality. ▪ Annual report: an annual report on the overall functioning of the RBSA scheme will be generated and externally verified, specifically covering: ▪ IT systems and associated procedures usage for GHG calculations. ▪ Graphic evidence generation and update. ▪ Overall operation of the RBSA database: agents registered and validity of RBSA. ▪ Approval the modifications / new models for RBSA claims. ▪ Other relevant information (documentary control). Any other information on the proper functioning of the scheme can be also included. ▪ **Specific guarantees of independent auditing:** ▪ Mass Balance: Mass Balance requirements verification is assured through compliance with the general provisions of the scheme, and specifically section 5 of the reference RBSA_002. ▪ GHG calculation:

			The external verification of the GHG calculation is assured through: ▪ IT system and associated procedures (that includes the methodology maintenance, and the gathering of input data for IT systems usage) shall be externally verified by duly accredited auditing companies, demonstrating that requirements included in reference RBSA_003 and corresponding annexes has been observed (and thereby the rules stipulated in Annex V of the RED and relevant EC communications considered in the calculation). ▪ Proper usage of the verified IT systems, including correct inclusion of the GHG figures obtained within the traceability information, will be checked by certification bodies when determining compliance with this RBSA scheme. ▪ RBSA sustainability maps: The external verification of the sustainable maps is assured. Sustainability maps under the RBSA scheme could be used by economic operators operating under the RBSA scheme: ▪ If an independent external verification on compliance with the methodology and on the practical implementation of the methodology described in reference RBSA_004 has been completed. In this case all demonstrable outputs for the methodology are permitted, or ▪ If any maps have been approved within the framework of other Voluntary Schemes endorsed by the relevant EC agency. These maps could be totally or partially acceptable as source of graphic information.
Art.19.1	**Calculation of the greenhouse gas impact of biofuels and bioliquids**	Main reference RBSA_003. Additional	The RBSA scheme makes it possible to calculate GHG emissions using default and for actual data.

	For the purposes of Article 17(2), the greenhouse gas emission saving from the use of biofuel and bioliquids shall be calculated as follows: *(a) where a default value for greenhouse gas emission saving for the production pathway is laid down in part A or B of Annex V and where the el value for those biofuels or bioliquids calculated in accordance with point 7 of part C of Annex V is equal to or less than zero, by using that default value;* *(b) by using an actual value calculated in accordance with the methodology laid down in part C of Annex V; or* *(c) by using a value calculated as the sum of the factors of the formula referred to in point 1 of part C of Annex V, where disaggregated default values in part D or E of Annex V may be used for some factors, and actual values, calculated in accordance with the methodology laid down in part C of Annex V, for all other factors.*	reference RBSA_001 (section 7).	For validated biomass suppliers, the GHG is calculated through the methodology included in RBSA_003 that allows for the use of averages calculated for smaller geographical areas than those used in the calculation of the default values, as an alternative to actual values. This methodology also includes the option to select default values when possible. For Biofuel conversion plants, IT systems have been developed to calculate actual values for GHG emissions, including the use of inputs gathered from the conversion process. The same has been developed for the calculation of logistic emissions. In both cases, the use of proper default values can also be considered. Therefore, actual and default values can be used in the RBSA scheme.
Art.19.3	*The default values in part A of Annex V for biofuels, and the disaggregated default values for cultivation in part D of Annex V for biofuels and bioliquids, may be used only when their raw materials are:* *(a) cultivated outside the Community;* *(b) cultivated in the Community in areas included in the lists referred to in paragraph 2; or*	Main reference RBSA_003 (section 4.1).	Under the RBSA scheme, default values of biomass would only be permitted in the following cases (as prescribed in RED): ▪ Cultivated outside the European Community. ▪ Cultivated in the European Community in areas included in the lists defined in Article 19.2 of the RED. ▪ Waste or residues other than agricultural, aquaculture and fisheries residues.

	(c) waste or residues other than agricultural, aquaculture and fisheries residues. *For biofuels and bioliquids not falling under points (a), (b) or (c), actual values for cultivation shall be used.*		
Annex V	**Rules for calculating the greenhouse gas impact of biofuels, bioliquids and their fossil fuel comparators**	Main reference RBSA_003 and RBSA_003 Annex I, II and III.	The RBSA scheme has envisaged a specific document (reference RBSA _003, and corresponding annexes) in which is described all the requirements for the GHG calculations methodology, specifically referring to those parts applicable of the Annex V of the RED Directive, and further EC communication on the matter. External guarantees shall be provided in order to demonstrate that RED methodology and subsequent EC communications is observed by the IT system and associated procedures envisaged by the scheme.