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RSB Standard for Certification of Bio-Products

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Contact details: RSB - Roundtable on Sustainable Biomaterials

International Environment House 2

7 Chemin de Balexert

CH - 1219 Chatelaine (Geneva)

Switzerland

web: http://www.rsb.org email: info@rsb.org

Introduction

In November 2011, the RSB Steering Board decided to expand the vision and mission of the Roundtable on Sustainable Biofuels beyond the sector of liquid biofuels for transport. This expansion in scope would include other forms of bioenergy, as well as a number of bio-based products or bio-products that may result from the biofuels supply and production chains..

Bio-products are derived from biomass, i.e. material from biological origin produced through agricultural processes and forestry, as well as by-products and residues from the food, feed, timber, paper and other industries. Bio-products include plastics, textiles, pharmaceuticals, packaging, compostable/biodegradable tableware, cosmetics, nutritional supplements, food*, feed and many others (See a more detailed list below and in Annex I).

Similarly to biofuels, bio-products are being increasingly used as an alternative to petrol-based manufactured products. The upstream supply chain of bio-products is similar if not in most cases identical to biofuel supply chains for the upstream production of biomass. This is also the case for the conversion and processing steps. Participants in the biofuel and bio-product supply and production chains are often the same operator thereby often serving a number of market segments. Thus, similar to biofuels production, the supply chains for bio-products quite often overlap with biofuels and therefore generate the same environmental and social impacts which are covered by the RSB standard.

This standard enables producers and users of biomass, bio-chemicals and bio-products to receive RSB certification to demonstrate responsible practices throughout the supply chain.

This standard describes sustainability requirements for operators involved in the supply chain of bio-products, as well as requirements related to chain of custody and bio-based carbon content. It provides clarity with respect to claims that operators in the traditional biofuel production supply chain may make for the bio-products and co-products they may offer to alternative market sectors.

This standard is articulated around the existing *RSB certification system*, which was primarily designed for certification of biofuel supply chains. Thus this standard includes references to other *RSB Standards* and other types of *Participating Operators*. Wherever relevant, *Participating Operators*, *Certification Bodies* and other stakeholders involved in the certification process should interpret this standard and other *RSB Standards* related to bio-products in line with the vision and mission of the RSB.

* The addition of food products in the list of examples is not intended to suggest that RSB should actively certify food manufacturers. The purpose is simply to give recognition that RSB-certified operators may produce biofuels as well as various non-biofuel co-products (e.g. taste/texture enhancers, protein concentrates, flavors, emulsifiers, oil and sugar etc.) out of the same processing facilities. Since such co-products are derived from the same raw material and processing chain as biofuels, the proposed extension simply allows feedstock/products that sell into the food sector (among others) to carry an RSB sustainability claim.

Main changes from the previous version (Version 1.3)

a. The obligatory requirement for biomass producers to calculate GHG emissions has been changed to an optional requirement.

Table of contents

A. Intent of this standard

The intent of this standard is to describe the conditions under which participating operators producing, converting, processing or trading *biomass*, *bio-chemicals* and *bio-products* may receive *RSB certification* and produce associated claims of compliance.

B. Scope of this standard

This is an international standard which is valid worldwide for all *participating operators* producing, converting, processing, trading *biomass*, *bio-chemicals* and *bio-products*. It applies to producers of biomass-based products of a variety of types, including, but not limited to, bio-chemicals, bio-plastics, compostable/biodegradable tableware, cosmetics, nutritional supplements, pharmaceutical, and feed).

This standard includes requirements applying to the following *participating operators*:

- Biomass producers
- Biomass processors
- Bio-chemicals producers
- Bio-product manufacturers
- Intermediaries

(See the scope description in Annex I)

C. Status and effective date

The version 1.4 of the *RSB Standard for Certification of Bio-products* shall be effective on 17 July 2015.

D. Note on use of this standard

All aspects of this standard are considered to be normative, including the intent scope, standard effective date, references, terms and definitions, tables and annexes, unless otherwise stated.

Users implementing this standard shall ensure that the its intent is met, through implementing all of the requirements specified in this standard, and any and all additional measures necessary to achieve the intent of this standard.

E. Terms and Definitions

For the purposes of this standard, the terms and definitions given in *RSB-DOC-01-001 RSB Use of Terms* and *RSB-DOC-10-002 RSB Glossary of Terms* shall apply. Note: As of February 1, 2014, the RSB SOE is the RSB Secretariat.

Additional specific definitions are as follows:

Bio-based carbon content

Fraction of a product's carbon derived from biomass.

Biomass (based on RSB Glossary of Terms)

The biodegradable fraction of products, co-products, by-products waste and residues from agriculture, forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of industrial and municipal waste.

Biomass producers

Participating operators involved in the production of biomass (see above). In the course of auditing and certification, biomass producers are considered equivalent to *Feedstock Producers*, as per RSB Principles & Criteria (RSB-STD-01-001).

Biomass processors

Participating operators involved in biomass processing towards production of biomass-derived products, co-products, by-products and residues (e.g. starch, cellulose/hemi-cellulose, lignin, oils, proteins, etc.). In the course of auditing and certification, biomass processors are considered equivalent to *Feedstock Processors*, as per RSB Principles & Criteria (RSB-STD-01-001).

Bio-chemical producers

Participating operators involved in the production of organic compounds (e.g. sugar acids, glycerol, aminoacids, etc.), primary bio-chemicals (e.g. alcohols, glycols, polysaccharides, polyaminoacids, cetones, acrylates, olefins, furans, etc.) and secondary bio-chemicals (solvents, emulsifiers, chelating agents, polyacrylates, polyesters, amines, plastics, etc.) derived from biomass feedstocks. Bio-chemicals can be co-products or by-products from biofuel production. In the course of auditing and certification, bio-chemical producers are considered equivalent to *Biofuel Producers*, as per RSB Principles & Criteria (RSB-STD-01-001).

Bio-product manufacturers

Participating operators involved in the production of final bio-products (e.g. textiles, packaging, paints, inks, dyes, cosmetics, detergents, pharmaceuticals, nutritional supplements, etc.) derived from biomass and bio-chemicals.

Intermediaries

Participating operators involved in the transport, collection, trading, handling and distribution of biomass, biomass feedstocks, organic compounds, primary bio-chemicals, secondary bio-chemicals and final bio-products.

F. Requirements

1. Generic Requirements

Participating Operators shall comply with all relevant requirements described in Section 2, 3, 4, 5 and 6 of this standard.

Participating Operators shall comply with the RSB Standard for Participating Operators (RSB-STD-30-001).

2. Sustainability Requirements

2.1 Biomass producers

Biomass producers shall comply with all RSB Principles, Criteria, Minimum Requirements and Progress Requirements included in RSB-STD-01-001 and applicable to Feedstock Producers, with the exception of Principle 3 (Greenhouse Gas).

2.2 Biomass processors

Biomass processors shall comply with all RSB Principles, Criteria, Minimum Requirements and Progress Requirements included in RSB-STD-01-001 and applicable to Feedstock Processors, with the exception of Principle 3 (Greenhouse Gas).

2.3 Bio-chemical producers

Bio-chemicals producers shall comply with all RSB Principles, Criteria, Minimum Requirements and Progress Requirements included in RSB-STD-01-001 and applicable to *Biofuel Producers*, with the exception of Principle 3 (Greenhouse Gas).

2.4 Bio-product manufacturers

Bio-product manufacturers are not subject to the RSB Principles, Criteria, Minimum Requirements and Progress Requirements included in RSB-STD-01-001.

2.5 Intermediaries

Intermediaries are not subject to the RSB Principles, Criteria, Minimum Requirements and Progress Requirements included in RSB-STD-01-001.

3. Greenhouse Gas Requirements

In order to be entitled to use additional claims on GHG savings, the *Participating Operators* shall calculate the greenhouse gas emissions of their operations according to the RSB Greenhouse Gas Methodology (RSB-STD-01-003-01) or according to any recognized Life-Cycle Assessment (LCA) methodology in conformance with ISO Standard 14040 or the GHG Protocol standards. Specific claim may be attached under specific conditions (See Section 6 below).

4. Bio-based Carbon Content Requirements

4.1 Biomass producers

Biomass producers are not required to comply with any requirement related to the biobased carbon content of product.

4.2 Biomass processors

Biomass processors are not required to comply with any requirement related to the biobased carbon content of product¹.

4.3 Bio-chemical producers

Bio-chemicals producers shall determine the *bio-based carbon content* of their products, based on ASTM D6866, CEN/TS 16137 or any equivalent protocol. The *bio-based carbon content* shall be based on an annual average and shall not be less than 25 %.

Note: As an alternative to indicating the exact renewable carbon content (based on a 12-month average), Participating Operators may optionally use a lower (ie. more conservative) value. For example: instead of 33.8%, an operator may indicate a 30% bio-based carbon content in its documentation.

(Please see specific requirements for claims and communication in section 6)

4.4 Bio-product manufacturers

Bio-chemicals users shall determine the *bio-based carbon content* of their products, based on ASTM D6866, CEN/TS 16137 or any equivalent protocol. The *bio-based carbon content* shall be based on an annual average and shall not be less than 25%.

Note: As an alternative to indicating the exact renewable carbon content (based on a 12-month average), Participating Operators may optionally use a lower (ie. more conservative) value. For example: instead of 33.8%, an operator may indicate a 30% bio-based carbon content in its documentation.

(Please see specific requirements for claims and communication in section 6).

4.5 Intermediaries

Intermediaries are not required to comply with any requirement related to the *bio-based* carbon content of product.

5. Chain of Custody Requirements

5.1 Generic Chain of Custody Requirements

Participating Operators shall comply with all requirements included in the RSB Standard for Traceability of RSB Certified Material (Chain of Custody) (RSB-STD-20-001).

5.2 Specific Chain of Custody Requirements

 Participating Operators implementing the Identity of Product Preserved Tracking Model shall comply with all requirements included in RSB-STD-20-001

 $^{^{\}rm 1}$ By definition biomass producers and processors are engaged with solely biogenic materials.

- Participating Operators implementing the Segregation of Product Tracking Model shall comply with all requirements included in RSB-STD-20-001
- Participating Operators implementing the Mass Balance of Product Tracking Model shall comply with all requirements included in RSB-STD-20-001

6. Communication and Claims

6.1 Generic Requirements for Communication and Claims:

Participating Operators shall comply with all requirements included in the RSB Procedure on Communication and Claims (RSB-PRO-50-001).

- 6.2 Participating Operators shall indicate the bio-based carbon content of RSB compliant products in the associated documentation and on packaging, dispensers and transportation equipment.
- 6.3 Requirements for *RSB compliant product* which was produced using the "identity of product preserved" chain of custody tracking model:
- 6.3.1 For *RSB compliant product* produced using the "identity of product preserved" chain of custody tracking model the *RSB short claim* shall be: "RSB Compliant Biomass" or "RSB Compliant Bio-Chemical" or "RSB Compliant Bio-Product".
- 6.3.2 If RSB trademarks are used on packaging, dispensers and transportation equipment of RSB compliant product which was produced using the "identity of product preserved" chain of custody tracking model, one or more of the following claims shall be included in the product description (as defined in 2.4.1. of RSB-PRO-50-001 RSB Procedure on Communication and Claims):
 - RSB Compliant Biomass
 - "This biomass product originated from a production operation² certified for compliance with RSB standards."
 - "This certified biomass was kept separate from biomass of different origin."
 - "This certified biomass was tracked separately from biomass of different origin."
 - o RSB Compliant Bio-chemical
 - "This bio-chemical originated from a production operation² certified for compliance with RSB standards."
 - "This certified bio-chemical was kept separate from bio-chemicals of different origin."
 - "This certified bio-chemical was tracked separately from bio-chemicals of different origin."
 - o RSB Compliant Bio-product
 - "This bio-product originated from a production operation² certified for compliance with RSB standards."

 $^{^{2}}$ The specific operation of origin may optionally be indicated.

- "This certified bio-product was kept separate from bio-products of different origin."
- "This certified bio-product was tracked separately from bio-products of different origin."
- 6.4 Requirements for *RSB compliant product* produced using the "segregation of product" chain of custody tracking model:
- 6.4.1 For *RSB compliant product* produced using the "segregation of product" chain of custody tracking model the *RSB short claim* shall be: "RSB Compliant Bio-Chemical" or "RSB Compliant Bio-Product".
- 6.4.2 If RSB trademarks are used on packaging, dispensers and transportation equipment of RSB compliant product which was produced using the "segregation of product" chain of custody tracking model, one or more of the following claim shall be included in the product description (as defined in 2.4.1. of RSB-PRO-50-001 RSB Procedure on Communication and Claims):
 - o RSB Compliant Biomass
 - "This biomass product originated from a production operation³ certified for compliance with RSB standards."
 - "This product contains a mix of biomass products which are compliant with RSB standards."
 - "This certified biomass product was tracked separately from biomass products not compliant with the RSB standards."
 - RSB Compliant Bio-chemical
 - "This bio-chemical originated from a production operation⁴ certified for compliance with RSB standards."
 - "This product contains a mix of bio-chemicals which are compliant with RSB standards."
 - "This certified *bio-chemical* product was tracked separately from *bio-chemicals* not compliant with the *RSB standards*."
 - o RSB Compliant Bio-product
 - "This bio-product originated from a production operation⁵ certified for compliance with RSB standards."
 - "This product contains a mix of bio-products which are compliant with RSB standards."
 - "This certified bio-product product was tracked separately from bioproducts not compliant with the RSB standards."
- 6.5 Requirements for *RSB compliant product* which was produced using the "mass balance of product" chain of custody tracking model:
- 6.5.1 For *RSB compliant product* produced using the "mass balance of product" chain of custody tracking model the *RSB short claim* shall be: "**Product mix contains RSB compliant Biomass**" or "**Product mix contains RSB compliant Bio-chemicals**" or "**Product mix contains RSB compliant Bio-products**".

³ The specific operation of origin may optionally be indicated.

 $^{^{\}rm 4}$ The specific operation of origin may optionally be indicated.

 $^{^{\}rm 5}$ The specific operation of origin may optionally be indicated.

- 6.5.2 If the *RSB trademarks* are used on packaging, dispensers and transportation equipment of the *RSB compliant product* which was produced using the "mass balance of product" chain of custody tracking model, one or more of the following claim shall be included in the *product description* (as defined in 2.4.1. of RSB-PRO-50-001):
 - o RSB Compliant Biomass
 - "An equivalent mass of this biomass product originated from a production operation⁶ certified for compliance with RSB standards."
 - "This product contains a mix of biomass products which are compliant with RSB standards and other biomass products, which have not been evaluated for compliance with the RSB standards."
 - "In the associated documentation this certified biomass product was tracked separately from biomass products not compliant with the RSB standards."
 - o RSB Compliant Bio-chemical
 - "An equivalent mass of this bio-chemical originated from a production operation⁷ certified for compliance with RSB standards."
 - "This product contains a mix of *bio-chemicals* which are compliant with *RSB standards* and other *bio-chemicals*, which have not been evaluated for compliance with the *RSB standards*."
 - "In the associated documentation this certified *bio-chemical* was tracked separately from *bio-chemicals* not compliant with the *RSB standards*."
 - o RSB Compliant Bio-product
 - "An equivalent mass of this bio-product originated from a production operation⁸ certified for compliance with RSB standards."
 - "This product contains a mix of bio-products which are compliant with RSB standards and other bio-products, which have not been evaluated for compliance with the RSB standards."
 - "In the associated documentation this certified bio-product was tracked separately from bio-products not compliant with the RSB standards."
- 6.6 Requirements for non-RSB compliant products certified through a system recognized by the European Commission under the Renewable Energy Directive (2009/28/EC), which are converted, processed, blended, traded, used or otherwise handled by an RSB Participating Operator:
- 6.6.1 For products based on the conversion, processing, blending, trading, use or any handling by RSB *Participating Operators* of non-*RSB compliant products* certified through a system recognised by the European Commission under the Renewable Energy Directive (2009/28/EC), the RSB short claim shall be: "EU RED Compliant Biomass" or "Bio-chemical derived from EU RED Compliant Biomass" or "Product derived from EU RED Compliant Biomass", provided that the Participating Operators are committed to increase the share of RSB compliant products in their product mix. The Participating Operators shall discuss with the RSB

⁶ The specific operation of origin may optionally be indicated.

⁷ The specific operation of origin may optionally be indicated.

 $^{^{\}rm 8}$ The specific operation of origin may optionally be indicated.

- SOE annually how to facilitate these increases.
- 6.6.2 No on-product use of RSB trademarks and RSB compliance claims is allowed for products based on the conversion, processing, blending, trading, use or handling by RSB Participating Operators of non-RSB compliant products certified through a system recognised by the European Commission under the Renewable Energy Directive (2009/28/EC).

6.7 Additional Claim on Greenhouse Gas Savings

Participating Operators having performed a life-cycle calculation of the greenhouse gas emissions according to Section 3 are entitled to an additional claim under the following conditions:

- Greenhouse gas emissions were calculated according to the RSB GHG Methodology or any Life-Cycle Assessment method in line with ISO Standard 14040 or the GHG Protocol.
- The total life-cycle greenhouse gas emissions of the biomass/bio-chemical/bioproduct were compared to reference life-cycle greenhouse gas emissions corresponding to an equivalent product derived from petroleum or any fossil origin.
- The total life-cycle greenhouse gas emissions of the biomass/bio-chemical/bio-product demonstrate a significant (10% or more) reduction compared to reference life-cycle greenhouse gas emissions corresponding to the equivalent product it replaces (e.g. petroleum, paper, etc.).

If the above conditions are fulfilled, the following claim (or equivalent) may be included in the product description (as defined in 2.4.1. of RSB-PRO-50-001 RSB Procedure on Communication and Claims):

"Over its production life-cycle, this biomass/bio-chemical/bio-product provides [x] "greenhouse gas savings compared to an equivalent product derived from [y]" ([x] being the exact GHG savings, as calculated above; [y] being the origin of the reference product being replaced by bio-product, e.g. petroleum, paper, etc).

ANNEX I: Scope of RSB Certification for Bio-products

